NATIONAL LIBRARY
OTTAWA

CANADA

BIBLIOTHÈQUE NATIONALE
OTTAWA

8106

NAME OF AUTHOR..... Joseph S. Neufeld .....

TITLE OF THESIS..... A Study of Teacher Attitudes and Open-mindedness of Prospective Teachers .....

UNIVERSITY..... University of Alberta , Edmonton, Alberta .....

DEGREE FOR WHICH THESIS WAS PRESENTED..... Ph.D. .....

YEAR THIS DEGREE GRANTED..... 1971 .....

Permission is hereby granted to THE NATIONAL LIBRARY OF CANADA to microfilm this thesis and to lend or sell copies of the film.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

(Signed) J. S. Neufeld

PERMANENT ADDRESS:

7 Woodlawn Place

Regina, Saskatchewan

DATED April 30 , 1971 19

NL-91 (10-68)

THE UNIVERSITY OF ALBERTA

A STUDY OF TEACHER ATTITUDES AND OPEN-MINDEDNESS OF PROSPECTIVE TEACHERS

BY

© JOSEPH S. NEUFELD

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE

DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA

SPRING, 1971

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read and recommend to the Faculty of Graduate Studies for acceptance a thesis entitled "A Study of Teacher Attitudes and Open-mindedness of Prospective Teachers" submitted by Joseph S. Neufeld in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Donald C. Fair

Supervisor

V. R. Myers

L. D. Stewart

L. L. Lee

J. B. Kirkpatrick

External Examiner

Date: September 25, 1970

ABSTRACT

The basic problem examined in this study was the identification of differences and similarities of three personality characteristics as exhibited by prospective teachers who were completing their teacher training programs. The personality characteristics examined were, their attitudes toward teaching, their degree of open-mindedness and their motives for selecting the teaching profession. Attitudes toward teaching were measured using the Minnesota Teacher Attitude Inventory (M.T.A.I.), open-mindedness was measured using the Rokeach Dogmatism Scale (Form E), and motives for selecting the teaching profession were examined using the Prospective Teacher Questionnaire.

The sample consisted of 445 fourth year Education students from the University of Alberta; 242 were Bachelor of Education (B.Ed.) students and 203 were Bachelor of Education After Approved Degree (B.Ed./A.D.) students. These students in the sample were grouped on the basis of: Program, Sex, Route, Academic Major and Stage of Decision.

The hypotheses, based on the relationships between the independent variables of Program, Sex, Route, Academic Major, and Stage of Decision and the three personality

characteristics mentioned above, were tested using analysis of variance and t test procedures.

When the analysis of variance and t test procedures were applied to the M.T.A.I. means obtained by each sub-group significant differences were found for the independent variables of Sex and Route. When the same test procedures were applied to the Dogmatism means obtained by each of the sub-groups, no significant differences in means were found for any of the independent variables introduced. Using Kendal's coefficient of concordance, the mean rankings of eleven given motives by the Program and Sex sub-groups were compared. No significant differences in mean rankings of motives were found for the independent variables of Program and Sex.

Findings of this study tend to suggest that the different groups of prospective teachers are more similar than they are different in the three personality characteristics examined.

Implications for further study have been suggested.

ACKNOWLEDGEMENTS

The author wishes to acknowledge the assistance given by many individuals in the completion of this dissertation. Appreciation goes to members of his supervisory committee, Dr. L. Gue, Dr. V. Nyberg, Dr. L. Stewart, Dr. D. Fair and external examiner, Dean J. B. Kirkpatrick. A special word of thanks goes to Dr. D. Fair, the chairman, for his patient guidance, encouragement, understanding and warmth. Other individuals who were instrumental in clearing channels and providing data were: Associate Dean Pilkington and staff of the Faculty of Education, Professor Hough and staff of Student Counselling Services, Peter Braun, from the Division of Educational Research Services, many professors whose class time was utilized, and above all the students who were willing to be involved in the study.

This writer also acknowledges his indebtedness to his family, Jeanette, Keith and David.

Finally, the author is grateful to the University of Alberta and Saskatchewan Teachers Federation for financial assistance.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION AND PROBLEM

Introduction

During the last decade psychologists, sociologists and educators have witnessed an increasing emphasis on change in society at large, and in the educational institutions in particular. With the increased emphasis on education, attention has been focused on professional educational personnel. This attention has motivated administrators, teachers and counselors to combine their creative resources to bring about innovations in school programs, practices and even in school architecture. Some of these innovations have been widely publicized in the news media. Terms like "modular scheduling", "team teaching", "instructional media", "non-graded teaching", "open-area teaching", etc. are no longer foreign to educators.

Public as well as professional reaction to some of these developments appears to be somewhat polarized. On the one hand educators are denounced for abandoning the traditional approaches in meeting educational objectives. On the other hand these same educators are lauded for their creative, insightful innovations. In spite of such polarization, educational practices have been under careful scrutiny by many. Numerous changes have been made and

others will continue to be made.

The teacher is central to the process of change in educational philosophy and practice. Since she has the greatest opportunity for influencing the child, it seems imperative that some characteristics of the prospective teacher be examined.

McFadden (1965) asserts that only when more complete knowledge of desirable characteristics of teachers exists can attempts be made to improve selection of teacher candidates and to develop more suitable teacher education programs for them.

Although it is conceded that specific knowledge and techniques are important, researchers and writers on the educative process also emphasize the personality of the educator as a significant variable. Getzels and Jackson as quoted by Gage (1963, p. 506) state their position with regard to this variable in the following manner:

> The educational import of an Ichabod Crane or a Mark Hopkins, of a Mr. Chips or Socrates is surely not due solely to what he knows, or even what he does, but in a very real sense to what he is.

Ratsoy (1966) asserts that the teacher's personality may be the most significant variable in the classroom. During the last fifty years teacher personality has been the object of extensive research in education. Many aspects of teacher personality have been researched.

Among these are cognitive ability, adjustment needs, values, interests and attitudes, motives and other personality factors such as open-mindedness.

Jacobs (1968) maintains that teacher education programs are designed to mold attitudes that will equip the prospective teacher to deal with the teaching role that will bring the greatest benefit to his students in terms of individual growth. Some authors suggest that students who select the teaching profession should have attitudes which indicate a genuine concern for other people and they should be able to relate well to children.

A large amount of research has been carried out by investigators interested in the attitudes and personalities of prospective and practicing teachers. A much used instrument for the measurement of teacher attitudes is the Minnesota Teacher Attitude Inventory (hereafter known as the MTAI). Gage (1963), in the Handbook of Research on Teaching, includes more than fifty research studies in which the MTAI was used. Cook, Leeds and Callis (1951, p. 3), authors of the instrument, maintain that attitudes of teachers toward their students can be measured.

The teachers' personality is also important in the communication process between teacher and child. Rokeach (1960) and Rubenowitz (1963) have carried out and stimulated a considerable amount of research on one aspect of an individual's personality, namely, the attitude or

belief system. Rokeach has labelled this dogmatism (open-mindedness - closed-mindedness). Rubenowitz (1963) has used the term "emotional flexibility", which is intended to have a similar connotation.

Evidence to indicate that prospective teachers tend to be open-minded was found by Frumkin (1961), Sawatzky (1968) and Kingsley (1968). They concluded that the degree of open or closed-mindedness seemed to be positively related to the number of years these students were exposed to a university milieu. This writer believes that the ability of the prospective teacher to dove-tail his training and experience into the educational climate today may be largely determined by his attitudes toward children and the degree of open-mindedness he possesses. Therefore, questions such as, "How open- or closed-minded are prospective teachers?", "Is their degree of dogmatism a function of their subject matter preference, curriculum preference or some other factors?" are relevant in this present study.

Personal values and motives instrumental in a person's choice of the teaching profession are also relevant when examining teacher education concerns. Motives such as prestige, security, interests and independence are but a few of the possible motives students have for choosing to teach. Studies designed to examine students' motives for occupational choice are

reviewed in Chapter II.

Another variable which is an integral part of the prospective teachers' decision to enter the teaching profession is that of commitment. Kingsley (1968) concludes that if a prospective teachers' commitment to teaching is well established, which he believes is indicated by the student having chosen the teaching profession at the outset of his university education, courses will be more meaningful; interest in the profession will be intrinsic; dedication to the goal in view will be defined and he will be self motivated in his studies.

Students committed to teaching tend to be less dogmatic, while those least committed tend to be significantly more dogmatic, according to Kingsley (1968). As a measure of openness, flexibility and acceptance of people and ideas, Kingsley used Rokeach's Dogmatism Scale, Form E.

Teacher education programs, emphasizes Jacobs (1968), are designed to mold attitudes and instil a sensitivity to children that will help the prospective teacher to deal with children.

Background to the Problem

The University of Alberta teacher education program may be completed in one of two ways. Students may select the four-year Bachelor of Education (B. Ed.) program. On the completion of three years of this program, the Faculty of Education may recommend the students for

certification which is granted by the Department of Education. Alternately, students may complete an undergraduate degree such as a B.A. or B. Sc. and then enrol in a one year Education program, referred to as the B.Ed./AD program which includes courses on methods of instruction and student teaching. Certification is recommended after completion of this year.

Since the inception of the B.Ed./AD program at the University of Alberta, professors involved in instruction of courses in that program have frequently noted differences between these students and those in the B.Ed. program. These differences tend to focus primarily in observed student attitudes, interests and apparent degree of readiness to adjust to the teaching profession.

It has also been suggested by some professors that the majority of students in the B.Ed./AD program have chosen teaching as a "stepping-stone" to another occupational field. This situation may be exaggerated by the fact that students who have earned an undergraduate degree other than education, in recent years have had difficulties in finding employment. Since this has been the case for some of these B.Ed./AD students, the additional "professional year" in education has given more utility to the previously earned degree. Thus, it has been suggested that students following the B.Ed./AD program do not really possess similar attitudes, interests and motives to those

in the B.Ed. program but to date this matter has not been researched.

These observations led this writer to examine some characteristics of the B.Ed. and B.Ed./AD groups in particular, as well as other sub-groups of teachers.

Purpose of the Study

The purpose of this study was three-fold. First, to examine and compare teacher attitudes, open-mindedness and motives for choosing the teaching profession of prospective teachers completing the B.Ed. teacher education program with those completing the B.Ed./AD teacher education program. Second, to examine and compare teacher attitudes, open-mindedness and motives for choosing the teaching profession of prospective male and female teachers and third, to examine teacher attitudes and open-mindedness for prospective teachers when grouped according to route, academic major and state of decision to enter teaching.

The Problem

The specific problems investigated in this study were:

1. Are there significant differences in teacher attitudes, open-mindedness and motives for selecting the teaching profession between B.Ed. and B.Ed./AD prospective teachers?
2. Are there significant differences in teacher

attitudes, open-mindedness and motives for selecting the teaching profession between prospective teachers grouped on the basis of sex?

3. Are there significant differences in teacher attitudes and open-mindedness among prospective teachers grouped on the basis of route (Elementary, Secondary)?
4. Are there significant differences in teacher attitudes and open-mindedness among prospective teachers grouped on the basis of major field of study (Humanities, Natural Sciences, Social Sciences, Physical Education, and Early Childhood Education)?
5. Are there significant differences in teacher attitudes and open-mindedness among prospective teachers grouped on the basis of stage of decision to enter teaching (1. Prior to graduation from Grade XII; 2. After graduation from Grade XII; 3. During first year university; 4. During second year university; 5. During third year university; 6. After completing an undergraduate degree)?

CHAPTER II

REVIEW OF LITERATURE

The literature reviewed focuses primarily on teacher attitudes, as measured by the Minnesota Teacher Attitude Inventory developed by Cook, Leeds, and Callis, open-mindedness as related to the personality of the teachers, measured by Rokeach's Dogmatism Scale (Form E), and motives that influence students to select the teaching profession, as measured by the ranking of given variables.

No attempt was made to examine all the existing sources of research on teaching and teacher characteristics. However, three major sources were used to provide the survey particularly relevant to teacher attitudes. These sources were: Mitzel's survey of fifty years of research on teachers, contained in the Encyclopedia of Educational Research (1960); Gage's (1963) Handbook of Research on Teaching (Especially pertinent was the chapter entitled, "The Teachers Personality and Characteristics" edited by Getzels and Jackson); and Ryans' (1960) Characteristics of Teachers.

The primary sources that provided the theoretical background, and some research data on open-mindedness, were: Adorno's (1950), The Authoritarian Personality; Rokeach's (1960) The Open and Closed Mind; and Vacchiano, Strauss and Hockman's (1969) well documented review on

dogmatism.

The Minnesota Teacher Attitude Inventory Studies

Research studies on teacher personality, abilities, interests, and attitudes have long been of prime concern to educators involved in the training of teachers. It is assumed that many variables will have some effect on the teacher's behavior in the classroom. Giebink (1969) emphasizes that the teacher's characteristics and behavior have a marked influence on the child in the classroom. If indeed, then, one can measure such attributes as attitudes that relate to teaching effectiveness it is possible that educators could use these measurements to discriminate between potentially effective and ineffective teachers and eventually screen out those student teachers who failed to qualify.

A popular instrument used in the measurement of teacher attitudes is the Minnesota Teacher Attitude Inventory (MTAI).At least fifty research studies have been included by Gage (1963) in Getzels and Jacksons' review of research on this instrument. Cook, Leeds and Callis (1951) developed the Inventory at the University of Minnesota. The purpose and potential of the instrument is stated in the manual (Cook, Leeds & Callis, 1951, p. 3) in the following manner:

> Investigations carried on by the authors over the past ten years indicate that the attitudes of teachers toward children and school work can be

> measured with high reliability, and that they are significantly correlated with the teacher-pupil relations found in the teachers classrooms. The Minnesota Teacher Attitude Inventory has emerged from these researches.

The MTAI manual states the instrument was "designed to measure those attitudes of a teacher which predict how well he will get along with pupils in interpersonal relationships". Leeds (1952) maintains that this instrument is capable of differentiating between teachers who get along well with pupils in interpersonal classroom relationships and those who do not. The rationale underlying the construction of the Inventory, according to Leeds (1952), includes the assumption that the attitudes of a teacher toward pupils and their behavior express certain personality reactions directly involved in teacher-pupil relationships. Measurement of these attitudes thus affords a key to the nature of the social-emotional atmosphere that a teacher will likely maintain in the classroom. Leeds (1952) further asserts that if attitudes provide an index to personality reactions, an attitude-measuring instrument such as the MTAI should prove useful in identifying those individuals who meet, or do not meet, one of the most insistent demands of successful teaching; the ability to maintain harmonious relationships with pupils.

Those teachers, states Giebink (1967), who rank high on the MTAI are expected to be capable of establishing cooperative and mutual relationships with their students

while those who rank low are likely to be more dominating and authoritative in their behavior. The low-scoring individuals also tend to be more subject and self oriented than the high scoring individuals according to Giebink. Scott and Brinkly (1960) expand the above by concluding that teachers scoring high on the MTAI tend to establish classroom personal relations customarily described as "democratic" while low scoring teachers tend to establish relations usually characterized as "undemocratic".

Leeds has continuously rethought, reworded and revised the Inventory ever since it was published in 1951. The instrument has been frequently criticized from various points of view but in a recent predictive-validity study Leeds (1969, p. 55) concluded that "Nevertheless, it is felt that as one measure of teacher acceptance of pupils and children, the MTAI performs an important function in the prediction of teaching potential".

The studies singled out for inclusion in this brief review are considered representative of the numerous studies that have been conducted with the MTAI, and are intended to provide background information on the Inventory and its use. It should be mentioned at the outset that most studies that have utilized student teachers as subjects have been attempts to measure change of subjects' attitudes during practice teaching. Several studies have been selected for the review of literature relating to the MTAI.

Kearney and Rocchio (1956) used the MTAI in counseling prospective teachers. The authors endeavoured to discern what effect the type of teacher training institute attended might have on the MTAI scores obtained by students. The subjects were 291 prospective elementary teachers who had earned a bachelor's degree from one of the following types of institutions: liberal arts college (N=51): teacher's college (N=88); and university (N=152). Respective MTAI mean scores for the three groups were: 34, 51 and 56. These differences were significant at the .05 level. Since these were American institutions it may be somewhat difficult to equate them with the University of Alberta. Kearney and Rocchio (1956, pp. 704-706) concluded:

> It seems reasonable to expect that a teacher who is educated in an institution endorsing the viewpoint that a thorough background in liberal arts is essential for effective teaching will differ from one educated in an institution which emphasizes that knowledge alone does not guarantee that the teacher will manifest a desirable pattern of behavior in the classroom.... The MTAI is the only known instrument that discriminates between teachers educated in various types of institutions -- liberal arts colleges, teachers colleges, and universities. It will be to the advantage of both prospective teachers and their pupils if these institutions find it possible to build curriculums in reference to improvement on MTAI scores.

Cook, Leeds and Callis (1951), in the process of norming, used a random sample of 384 freshmen. These students represented the Arts and Sciences, Agriculture, Education and Engineering colleges. MTAI means for those groups were: 8.59, -5.07, 14.67 and 4.90 respectively.

The same investigators further suggested, on the basis of the studies referred to above, that scores on the MTAI give a measure of a most important factor in the cluster of characteristics that go to make up a good teacher.

Scates (1956) reports a study conducted at the University of Minnesota, by Cook, Kearney, Rocchio and Thompson. Among other factors in teacher's classroom attitudes, they examined the relationship between teacher-pupil attitudes of 162 secondary school teachers and the pupil-failure rates. The above mentioned authors compared the attitudes of secondary school teachers who failed many pupils with attitudes of those who failed few students. After examining the data the investigators concluded that differences among teachers in failing their pupils could not be ascribed to differences in the teachers age, sex or subject failed but in terms of the measured attitudes towards pupils. That is, teachers with high MTAI scores tended to fail fewer students than teachers with low MTAI scores. Scates (1956) postulates that teachers who scored low on the MTAI would have failed even more pupils if they had not been restricted by the "continuous promotion" policy of the school district. In the above study the investigators also permitted students to evaluate their teachers on the basis of "best liked" and "least liked". The 50 "best liked" teachers made MTAI scores more than

twice as high as 50 teachers liked least.

In another study, Stein and Hardy (1957) examined the validity of the MTAI in the province of Manitoba. They investigated the need to establish local norms for this inventory. They examined the relationships between teacher attitudes toward children and other teacher personnel factors such as age, teaching experience, religion, choice of grade level, academic qualifications, personality ratings, intelligence, leadership and professional training. The subjects were student teachers randomly selected from the Manitoba Provincial Normal School and the Faculty of Education, University of Manitoba. The MTAI was administered prior to student teaching. After three weeks of practice teaching evaluations from supervisors and pupils were obtained from both the elementary and secondary level teachers. MTAI scores correlated .39 and .51 respectively with pupil ratings in elementary and secondary schools. The Normal School's student teacher's MTAI scores correlated .17 and .43 with the advisors rating assigned to them on their student teaching in elementary and secondary schools. Faculty of Education ratings were combined and then correlated with MTAI scores with the resultant elementary and secondary school correlations of .39 and .56. In the test-retest procedure the correlations were .88 and .92 for the Faculty of Education and the Normal School groups. The researchers found that performance on the MTAI measures

teaching attitude in the desired manner as evident when correlated with "Our Student-Teacher" rating scale. Also, MTAI performance differentiated significantly between teachers of different grade levels so as to suggest possible development of separate norms for different grade levels. No relationship was found between intelligence and MTAI measured teacher attitudes. Stein and Hardy were also concerned about possible faking of the MTAI. They investigated this problem. Three random samples of 25 Education students were drawn at the University of Manitoba, and the MTAI was administered to these prospective teachers before and after mid-year recess. The first testing was based on standard instructions for all three groups. In the second testing the control group was given standard instructions. The second group was given instructions to fill out the Inventory as if "you might be applying for a teaching position" in a "pupil centered" school system. The third group was given instructions based on the "traditionalist" point of view. Correlations between scores for the two testings for the three groups were significantly different, however, the authors concluded that the test may reveal a "prejudiced attitude toward children from either extreme position" (Stein & Hardy, 1957, p. 329). To demonstrate further that the MTAI is not susceptible to faking the investigators replicated Callis' experiment. Their conclusions were that instructions to fake results only

served to confuse the subjects.

By means of a longitudinal approach spanning a period of approximately fifteen years, Leeds (1969) attempted to re-assess the predictive validity of the MTAI. Between 1952 and 1967 the MTAI was administered to approximately twelve hundred Furman University education students at three different stages: (1) at the beginning of teacher training, (2) at college graduation, (3) after one or more years of training. Longitudinal data were presented for one hundred teachers who served as subjects from beginning of teacher training through graduation to their experience as full-time employed teachers. The mean of the MTAI scores for the one hundred teachers, at the initial administration was 19.8 with a standard deviation of 28.6. A mean MTAI score of 38.5 and a standard deviation of 29.7 was obtained after graduating from the teacher training program. The third administration of the MTAI to the sample of one hundred teachers resulted in a mean MTAI score of 31.2 with a standard deviation of 36.3. Substantial correlations among the three MTAI administrations were obtained, indicating a fairly high degree of stability in response to the items of the instrument. On the basis of Leeds' study there was a concurrent validity coefficient of .51 with experienced teachers which was raised to .59 by slight modifications of the scoring key. Leeds states that although his study has limitations he concludes that

as one measure of teacher acceptance of pupils and children the MTAI performs an important function in the prediction of teaching potential.

Teacher education centers, such as the University of Minnesota, are searching continuously for new methods of selecting teachers and for predicting teacher success. Fuller (1951) reports one study conducted in the above mentioned university in which a measure of teacher-pupil attitudes, along with measures of general ability and self rating, was examined as another useful method of pre-service selection of kindergarten and elementary teachers. Since the MTAI was found to correlate positively (+.60) with combined ratings of principals, observations by its authors and rating of pupils in evaluating teacher performance in the classroom, it was selected to measure teacher-pupil attitudes. The subjects in this study included 74 senior female students who were registered in the nursery school-kindergarten-primary teacher training curriculum at the University of Minnesota. Of these 74 students, 60 were enrolled in the regular four-year curriculum (NKP) and the remaining 14 were enrolled in a special one-year teacher training program (IC) designed for students who already had earned an undergraduate degree. The means obtained on the MTAI by these two groups were then compared with the means obtained by a group of pre-selected experienced superior teachers, unselected teachers and

inferior teachers. Fuller (1951) reports that the MTAI means obtained by the subjects in this experimental group compare favorably with means obtained in normative investigations (Cook, Leeds, Callis, 1951) where the mean for experienced superior teachers was 131.0, the mean for unselected teachers was 77.6 and the mean for inferior teachers was -32.0. The mean for the present group as a whole was 102.2 with the NKP group obtaining a mean of 103.7 and the IC group obtaining a mean of 95.8. Fuller concluded that the group as a whole rated very high in teacher-pupil attitudes as measured by the MTAI. On the basis of his findings, Fuller states that the MTAI may "serve a highly useful purpose in selecting students from the general population for training in early childhood education" but he cautions that this instrument does not identify the ablest or weakest teachers. Fuller does consider a measure of teacher-pupil attitudes to be another among several methods that may be employed in the pre-service selection of teachers.

In another study using the MTAI in counseling prospective teachers, Downie and Bell (1953) administered the MTAI to more than three hundred college freshmen and sophomore students in education at the State College of Washington. Biographical information available indicated that students who scored high on the MTAI had an interest in teaching and were rated as good prospects by their instructors. Students who scored low tended to show the

opposite of these traits. In addition, each student was asked to complete a personal data sheet. Included as one of the items was a query regarding the pupil's occupational preference. The mean MTAI scores obtained by those seniors who chose teaching as an occupational objective and those who chose "other" occupations were then compared. An application of the t test indicated the differences in MTAI means to be significant at the 1 percent level. The authors conclude that the results of the study "strongly suggest that scores on the MTAI give a measure of a most important factor in the cluster of characteristics that go to make up a good teacher". They state that the MTAI "may serve a useful purpose in the hands of counselors and guidance workers" especially when counseling students who may be interested in the teaching profession.

Getzels and Jackson (1963, p. 515) refer to a study conducted by Cook, Kearney, Rocchio and Thompson (1956) in which the relationship between MTAI scores and the "amount of education" of teachers. They reported that elementary school teachers (N=238) with two years of teacher education obtained a mean MTAI score of 21; those with four (N=291) obtained a mean of 51 and those with five or more (N=73) obtained a mean of 66: secondary school teachers with four years of teacher education (N=287) obtained a mean of 52. During the development and standardization of the MTAI it was observed that elementary teachers (N=118) with two years

of education scored a mean of 29.2, those with four years (N=102) scored a mean of 37.0: secondary teachers (N=264) teaching academic subjects with four years of teacher education scored 24.7 and those (N=218) with five years scored 40.8.

Authors of the Inventory also discovered that beginning Education Juniors in the elementary route obtained an MTAI mean of 59.5 compared to 77.4 for graduating Education Seniors who were also in the elementary route: beginning Education Juniors in the Secondary academic route obtained an MTAI mean of 48.3 compared to an MTAI mean of 67.8 for graduating Education Seniors. Cook, Leeds and Callis (Manual, 1951, p. 7) also refer to one of their previous studies which indicated that men and women graduate students in general have mean MTAI scores which are not significantly different.

Sandgren and Schmidt (1956) were interested in determining to what extent teacher attitudes correlated with ratings of teaching proficiency. The MTAI was administered to each subject before and after student teaching to ascertain whether there was an attitude change. The researchers divided a sample of 393 senior student teachers into upper, middle, and lower groups on the basis of their MTAI scores. The results showed both men and women had a significantly positive attitude change toward teaching after having experienced practice teaching. Those students in the

elementary curriculum had a higher mean MTAI score than secondary curriculum students both before and after practice teaching. No apparent relation between MTAI scores and critical teacher ratings was evident from this investigation.

Although the MTAI has been used in many studies both as an independent and dependent variable and has been examined from a test construction point of view, Giebink (1969) believes that its behavioral correlates remain limited to those used in the original standardization. The MTAI does not distinguish high and low level students in their teaching performance once they have survived the academic competition to achieve senior status in the teacher training program. The MTAI does not identify the ablest or weakest student teachers. Nevertheless, it has continued to remain the most frequently used instrument for assessing teacher attitudes, over the past fifteen years.

Summary and Conclusions of MTAI Studies Reviewed

This brief summary and conclusions are based on the literature reviewed.

1. The MTAI has been widely used for the study of teacher attitudes and personality. Several investigators have recommended the instrument for selecting prospective teachers. Leeds (1969) however, asserts that this instrument is intended primarily for use with professional,

practicing teachers.

2. The MTAI tends to help in identifying those teachers who will likely establish a democratic atmosphere in the classroom and will likely relate well to children. Those teachers scoring high on the MTAI are the ones who may tend to establish the democratic atmosphere, while those who score low on the MTAI are the ones who may establish an authoritarian atmosphere in the classroom.

3. The MTAI appears to measure teacher acceptance of pupils (Leeds, 1951).

4. Fuller's (1951) research seems to indicate that the MTAI may be considered useful as an instrument for early vocational selection of teachers from the general population and from College of Education students in particular. However, the MTAI does not identify the ablest or weakest student teachers.

5. Teacher training programs tend to help raise the MTAI scores in prospective teachers. Furthermore, the amount of formal education also affects student teachers attitude toward teaching. Those who acquire more training tend to score higher on the MTAI. Kearney and Rocchio (1956) for example, found that students with five years of university experience tripled the MTAI scores of those who had only two years of university experience.

6. Several findings suggest that when student teachers are classified on the basis of sex, the females, particularly in the elementary route tend to score higher than males on the MTAI.

7. When student teachers are classified on the basis of a major field of study, there are generally significant difference in MTAI scores. Early Childhood Education majors tend to score higher on the MTAI than do student teachers with Academic majors or Special Field majors.

8. There is some evidence which suggests that teachers with low scores on the MTAI consistently tend to have high rates of pupil failure; students tend to prefer those teachers who have high MTAI scores. Teachers rated as "superior" tend to score significantly higher on the MTAI than those teachers rated "inferior".

9. Although the MTAI has been available since 1951 most studies reported in journals deal with attitude change of teachers. Few studies reported deal with the use of the MTAI as an instrument for descriptive of predictive purposes.

Theory Underlying Open-mindedness

In reviewing the literature dealing with open-mindedness (degree of dogmatism), it has been observed that the crystallization of the concept has undergone several changes; several terms have been used with similar

connotations and inferences. Rubenowitz (1963) states that, in early studies in this general area, the term "perseveration" was used. This was considered a secondary function in the nervous system; the tendency for the process to continue spontaneously after the cessation of a stimulus. Rubenowitz (1963) refers to research done by Otto Gross in 1902. Spearman (1927, p. 52) supported Gross's concept when he stated that "with some persons there is a tendency for mental processes to persist in activity long after the cessation of conditions to which they were actually due". Spearman labelled this concept his "p" or perseveration factor.

Studies dealing with the concepts of rigidity and authoritarianism as related to personality seemed to follow a natural and chronological sequence during the late forties and early fifties. Much of the research in this area was done by Adorno, Frenkel-Brunswick, Levinson and Sanford (1950), and Allport (1954).

Both dogmatism and rigidity refer to forms of resistance to change, but, according to Rokeach (1954), dogmatism is conceived to represent a relatively more intellectualized and abstract form than rigidity. Whereas "dogmatism refers to total cognitive organization of ideas and beliefs into relatively closed ideological systems, rigidity, when genotypically conceived, refers solely to the degree of isolation between regions" (p. 196) or to a

"property of a functional boundary which prevents communication between neighboring regions" (p. 196). Dogmatism is seen as a higher order and more complexly organized form of resistance to change. Rigidity may be defined in terms of the way a person solves specific problems or learns specific tasks. Rokeach (1954) asserts that "rigidity refers to a person-to-thing ... relationships, dogmatism is manifested in situations involving person-to-person communication" (p. 196). That is, a person may be rigid in his manner of solving an arithmetic problem but a teacher may express himself dogmatically. Rokeach (1960) defined rigidity as the inability to produce novel or changed responses, while dogmatism refers to the inability to utilize novel responses which have been produced.

Furthermore, the construct of dogmatism is frequently associated with that of authoritarianism and intolerance. Rokeach (1954) is quick to differentiate. He states that dogmatism is assumed to involve both authoritarianism and intolerance but that much of the research on authoritarianism has a political setting and thus has "right authoritarianism" connotations. In fact, research on the authoritarian-personality was launched at a time when the problems of Fascism and anti-Semitism were a grave concern for social scientists. Adorno et al (1950, p. 16) looked upon attitudes toward politics, economics and

society as manifestations of the total personality. Their position is summarized as follows:

> Conventionality, rigidity, repressive denial and the ensuing break-through of one's weakness, fear and dependency are but other aspects of the same fundamental personality pattern, and they can be observed in personal life as well as in attitudes toward religion and social issues.

Rokeach views personality as an organization of beliefs or expectancies having a definable and measurable structure and he conceives man's cognitive activities, thinking, remembering and perceiving as processes and changes that take place within a person who has already formed a system of beliefs.

Basic to Rokeach's theoretical framework, around which he builds the concepts of open and closed-mindedness, is man's belief system. We have to infer, says Rokeach (1960, p. 33), what a person really believes from all the things he says and does. Rokeach, therefore, uses the term "belief" and the "total belief-disbelief system" as "an organization of verbal and nonverbal, implicit and explicit beliefs, sets or expectancies". A person may reject or accept another person's system depending upon the similarity of the two.

Rokeach (1960), in discussing the concept of belief systems and how they relate to open-mindedness, assumes that all people have belief-disbelief systems that can be

described in terms of the structural arrangements of their parts. He maintains that a belief system represents a total framework for understanding the universe of a person's beliefs about the physical world, the social world and the self. This system is conceived as an organization of verbal and nonverbal, implicit and explicit beliefs. This system, according to Rokeach's views, has three major dimensions: a belief-disbelief dimension, a central-peripheral dimension and a time perspective dimension.

The belief-disbelief dimension is based on the assumption that a person's beliefs are organized into two interdependent parts; a belief system and a disbelief system. On this continuum a system is defined by Rokeach (1960, p. 61, p. 63, p. 64):

> ... to be closed to the extent that there is a high magnitude of rejection of all disbelief subsystems, an isolation of beliefs, a high discrepancy in degree of differentiation between belief and disbelief systems, and little differentiation within the disbelief system.

With respect to the central-peripheral dimension:

> ... the more closed a person's belief system, the more he should evaluate others according to their agreement or disagreement with his system; also, the more difficult should it be to discriminate between and separately evaluate a belief and the person holding that belief. Conversely, the more open the belief system, the less should beliefs held in common be a criterion for evaluating others, and the more should others be positively valued, regardless of their beliefs.

Finally, on the time-perspective dimension:

> ... a narrow, future-oriented time perspective, rather than a more balanced conception of past, present, and immediate future in relation to each other, is also seen to be defining characteristics of closed systems.

The three major dimensions of belief-disbelief systems are not independent but Rokeach (1960, p. 55) indicates that there is a "common psychological thread running through them all". This "thread" gives the total belief-disbelief system a unity. Varying dimensions and attributes of the three dimensions may be tied together theoretically, states Rokeach (1960) to produce a mind which may vary in the degree to which it is an open or closed (dogmatic) mind.

Much of Rokeach's research has been done in an endeavour to measure the extent to which a person's mind is open or closed.

According to Rokeach (1960, p. 55, p. 56) the highly dogmatic or closed-minded person would be characterized by "a relatively great discrepancy in the degree of differentiation between belief and disbelief systems", and by "relatively little differentiation within the disbelief system". For the low dogmatic or open-minded person the discrepancy in degree of differentiation between belief and disbelief systems would be less and the disbelief system would be more differentiated. That is, a highly dogmatic person might possess a good deal of factual information consistent with his attitude toward an issue but very little factual

information that is inconsistent with his attitude. This person would likely have many arguments supporting his position but few opposing it. The low dogmatic or open-minded person would not exhibit such obvious differences.

The more open the belief system, the more should the person be governed in his actions by internal self-actualizing forces and less by irrational inner forces. That is, the more open the person's belief system, the more strength should he have to resist externally imposed reinforcements or rewards or punishments. Furthermore, the more closed the belief system the more difficult should it be to distinguish between information received about the world and information about the source. The more closed the system, the less cognitive discrimination we will expect between two sets of information, beliefs and consequent actions.

Rokeach (1960, p. 60), in his effort to crystalize the characteristic of openness-closedness, states that "the fundamental basis is the extent to which there is reliance on absolute authority".

The more closed the system, the more is the acceptance of a belief assumed to depend on irrelevant internal drives and/or arbitrary reinforcements from external authority. On the other hand, the more open the system, the more should the person address himself to objective structural requirements -- that is logical relationships --

and the more should he resist irrelevant motivational or reinforcement pressures. Isolation, maintains Rokeach (1960, p. 62), is shown to be a defining characteristic of openness-closedness.

> Defining characteristics of openness-closedness: degree of rejection of disbelief subsystems, degree of differentiation of belief system as compared with disbelief system, and degree of differentiation within the disbelief system.

This suggests that the more closed a persons' system, the more the world will be seen by him as threatening; the greater the belief in absolute authority; the more he will evaluate other persons according to their position of authority.

In closed systems, the power of authority does not depend on cognitive correctness, but on the ability of authority to mete out reward and punishment. The closed person is forced to accept all or reject all in a "package deal".

The more open the system, the more the immediate future should be in the service of confirming or not confirming predictions about the present. The narrow, future-oriented time perspective, rather than a more balanced conception of past, present and immediate future in relation to each other, is also seen to be a defining characteristic of closed systems, according to Rokeach (1960, p. 64).

Although Rokeach (1960) draws careful distinctions

between the open and closed-minded person he also is careful to emphasize that real people have systems that are neither completely open nor completely closed. It is a matter of degree, shifting on a continuum from "completely" open to "completely" closed.

In presenting his theory of belief systems, Rokeach (1960, p. 67) makes the assumption that "all belief-disbelief systems serve two powerful and conflicting sets of motives at the same time: the need for a cognitive framework to know and understand and the need to ward off threatening aspects of reality". That is, every person can be driven by both rational and rationalizing forces. There is the need to know and the need to defend against threat. These jointly determine the extent to which a belief system is open or closed.

Rokeach's (1960, p. 57) position is that every person must be able to evaluate adequately both the relevant and irrelevant information he receives from every situation. A person is open- or closed-minded to the extent to which he can "receive, evaluate and act on relevant information received from the outside on its own intrinsic merits". "Open" individuals differ from "closed" individuals in the way they think, perceive, remember and feel, evaluate, and react.

The lower dogmatic subjects are considered more flexible, adaptive, and receptive to new ideas. This is important for teachers who need to be innovators. Tosi (1968) concludes that open-minded prospective teachers prefer democratic leadership in the classroom.

Relevant Research on Dogmatism

Many educators believe that the teacher's personality is important in teacher effectiveness and research seems to support that belief. One personality characteristic that has received increasing attention in the past few years is dogmatism or the degree of open and closed-mindedness within the belief system. Charters (1929), Weir (1963) and Emlaw (1963) have suggested that open-mindedness is one of the most important variables in promoting a good instructional climate at all levels of learning. Soderbergh (1964, p. 245) is emphatic about stating that dogmatism is adversely related to teacher effectiveness. He states that:

> ... some veteran public school teachers are excessively and for the most part unwittingly, dogmatic.... In teaching, such a condition could well prove fatal to both the afflicted teacher and the exposed pupil.

In fact, Kemp (1962) concludes that the inner-directed "high dogmatic" individual is characterized by a lack of "open-mindedness" and cannot "easily tolerate ambiguity".

Johnson (1969) was interested in the effect supervising teachers may have on the degree of open-mindedness of student teachers. Using a pre- and post-test research

design he administered the Rokeach Dogmatism Scale (Form E) to the eighty student teachers and their respective supervising teachers. The initial administration took place prior to the first of ten weeks of student teaching and the last administration at the conclusion. It was hypothesized that those student teachers who scored lower on the pre-test of dogmatism than did their supervising teacher would show a gain in dogmatism scores on the post-test and that those who scored higher than their supervising teacher on the pre-test would show a loss in dogmatism scores on the post-test. The results supported the hypothesis. Johnson states that the results provide clear evidence that the change in the degree of open- and closed-mindedness of prospective teachers may be a function of the strength of dogmatism possessed by their supervising teacher. Johnson (1969) asserts that his findings tend to support the findings of other investigators who have examined the relationship of the change in student teacher personality to the personalities of their cooperating supervising teachers. Another interesting finding in Johnson's study was the fact that those subjects who scored higher than their supervising teacher on the pre-test of dogmatism did not show as significant mean shift as did the group of subjects who scored lower initially.

A study was conducted by Johnson (1966) in an effort to explore the relationship of personality structure

to ratings of success in student teaching. He examined the relationship of open- and closed-mindedness to success in student teaching. The subjects involved were 130 student teachers, 104 supervising teachers and 20 college supervisors. Rokeach's Dogmatism and the MTAI were used. He conclused that the degree of open- and closed-mindedness as indicated by the scores on the Dogmatism Scale cannot be used as a predictor of success in student teaching if the ratings of university supervisors and cooperating school supervising teachers are used as the criterion.

Soderbergh (1968) seems convinced that many of the veteran teachers are "quite resistant to change and tend rigidly to compartmentalize their ideas and attitudes". On the other hand Rabkin (1966) is not as emphatic in this position on the basis of his own feelings. He cautiously concluded that experienced teachers are not necessarily more closed-minded than any other comparable group.

Frumkin (1961) found that as students advance in college they become less dogmatic; juniors and seniors are less dogmatic than freshmen and sophomores. He also indicated that the educational experience helps to decrease dogmatism. Frumkin's findings were supported by Sawatzky's (1968) study. In his comparison between graduates and undergraduates on the Rokeach Dogmatism Scale, graduate students scored significantly lower on dogmatism than did undergraduates.

The relationship between dogmatism and student teacher perceptions of ideal classroom leadership was investigated by Tosi, Quaranta and Frumkin (1968). Forty fourth-year student teachers were administered the Rokeach Dogmatism Scale and an instrument designed to measure styles of leadership. Of the forty students sixteen were found to be open-minded (Rokeach scores ranging from 89 to 120) and thirteen were found to be closed-minded (scores from 151 to 202). The open-minded students significantly preferred the democratic style of leadership. Tosi (1968) sums up Pearson and Frumkin's position in which they emphasize that a critical, open mind is vital to preserving and perpetuating the democratic way of life. If that, indeed, is an educational objective, Tosi (1968) and others suggest that perhaps in selecting prospective teachers we should not only consider their academic records but also whether their minds are open enough for them to strengthen the democratic orientation of our society.

Studies have been attempted in an effort to relate the "open-ness" variable to the rating of the effectiveness of school teachers. One such study was conducted by Musella (1967). He was interested in how open and closed minded school principals would differ in their rating of teachers. The Rokeach Dogmatism Scale was administered to ninety elementary school principals. Those scoring in the upper 22.7 per cent of total range of dogmatism scores were

identified as closed-minded principals. Similarly those scoring in the lower 22.7 per cent were identified as open-minded principals. All teachers under the jurisdiction of those principals completed the Rokeach Dogmatism Scale. The principals thus identified were asked to select their most and least effective teachers. The results indicated that closed-minded principals tended to rate high dogmatic teachers as most effective and low dogmative (open-minded) teachers as least effective. On the other hand, no significant differences were found between dogmatism scores of those teachers rated as most effective and least effective by the open-minded principals. The open-minded principals displayed more differentiation and variability than did the closed-minded principals. It appears on the basis of the Musella (1967) study that the real differences exist between open and closed minded principals in their selection, description and rating of teachers.

It also appears that there is some relationship between the commitment of a prospective teacher to his profession and the extent of his open-mindedness. Kingsley (1968) compared the degree of commitment to teaching in prospective teachers to their measure of openness, flexibility and acceptance of people, using the Rokeach Dogmatism Scale, Form E. His findings suggested that the committed students tended to become less dogmatic while the ambivalent and not committed tended to become more dogmatic.

Correlates of Dogmatism

Kleck and Wheaton (1967) ascertained that highly dogmatic undergraduate students showed less recall of inconsistent information and a greater tendency to evaluate consistent information more positively than did low dogmatic students. Furthermore, closed-minded students also showed a greater preference for information that was consistent with their opinions than did open-minded students. It was also observed that closed-minded students could think of many more arguments in favor of their own attitude regarding an issue than arguments inconsistent with their attitude.

Although Rokeach (1960) reports that he has found no correlation between scores on the Dogmatism Scale and intelligence, a number of studies indicate possible relationships between level of education and dogmatism. Sawatzky (1968), in a study to investigate, among other things, relationship between open-mindedness and accurate interperson perception, found that graduate students scored significantly lower on the Rokeach Dogmatism Scale than did undergraduates and the more open-minded the student was, the more accurate was his interperson perception.

Alter and White (1966) report a 1964 study by Marcus in which 143 college freshmen had a mean score of 146, 52 first year medical students had a mean score of 138, and 54 fourth year medical students had a mean score of 126. Dogmatism scores obtained by students decreased with each additional year of educational experience. In other words, the results tend to suggest that when a student's exposure to a college environment increased, he will become more open-minded. Kemp (Rokeach, 1960), in a ten year longitudinal study with 129 students, found that half of his least dogmatic group changed their original vocational preferences in a direction that seemed more demanding from an intellectual standpoint. This was not true of the most dogmatic group.

Although Rokeach does not report sex differences in levels of dogmatism, a major study by Alter and White (1966), using 1,000 males and 1,000 female students at the University of Utah, found that men scored consistently higher than women, and the difference was significant at the .01 level. That is, men appeared to be more dogmatic than women.

Studies Investigating the Relationship Between Teacher Attitudes and Open-mindedness

Studies designed to investigate the relationship between teacher attitudes and the personality trait of open-mindedness of teachers are limited. The majority of studies reviewed in the literature are concerned with the

authoritarian personality structure. In Chapter I reference was made to the developmental process involved in clarifying the meaning of the term "open-mindedness". Terms such as rigid personality, defensiveness, authoritarian personality were used. Prior to the 1960's Allport, Adorno, Frenkel-Brunswick, Levinson and Sanford concentrated their research in the areas of prejudice and the authoritarian personality. Since 1960, Rokeach has broadened and re-defined the concept of authoritarianism. The terms dogmatism, open and closed mindedness are used interchangeably by him. Reference will be made to studies involving the concept of authoritarianism. This will be followed by studies involving the concept of dogmatism as defined by Rokeach.

Del Popolo (1960) was specifically interested in the authoritarian personality structure. He investigated the relationship between a student teacher's personality structure, his opinions and attitudes toward teacher-pupil relationship and his overt classroom behavior. The MTAI and a test of authoritarianism adapted from Webster, Sanford and Freedman (1955) were the instruments used. The results supported the hypothesis that a significant relationship does exist between an individual's personality structure and his attitudes toward teacher-pupil relationships and his overt classroom behavior. Del Popolo concluded that authoritarian prospective teachers score low on an inventory of attitudes and opinions about pupil-teacher relationships.

Getzels and Jackson (1963) briefly cite a study by Piers (1955) in which teachers were given both the MTAI and F scale. A correlation of -.38 was reported, thus confirming the hypothesis that

> ... authoritarian tendencies in teacher-pupil relationships are related to the so-called antidemocratic or authoritarian personality type in general, and that more permissive tendencies are related to the more liberal or democratic personality types (p. 522).

Research on Rokeach's concept of dogmatism is reviewed and structured into ten areas by Vacchiano, Strauss and Hochman (1969, p. 261). One of those areas investigated relates to dogmatism and teacher attitudes. The above authors state that a significant relationship between dogmatism and negative attitudes toward teaching as measured by the MTAI have been reported for: groups of counselor trainees, Rosen (1968); female teachers, Johnson (1967); and teacher interns, Vacchiano, Schiffman and Cromwell (1966). Further, in the Vacchiano, Schiffman and Cromwell (1966) study the investigators undertook to determine changes in attitude toward teaching children, following an intensive six-week teacher training program, for fifty-five graduate students. Using the pre- and post-test research design, the MTAI (Cook, Leeds and Callis, 1951), Dogmatism Scale (Rokeach, 1960) and the California F Scale (Adorno, et al, 1930) were administered. Results indicated that there was a significant relationship between the Dogmatism Scale and

the California F Scale ($r=.46$, $p < .01$). The correlation between the scores on the California F Scale and initial MTAI scores was ($r=.46$, $p < .01$), suggesting an inverse relationship between authoritarianism and attitudes measured by the MTAI while the relationship between performance on the MTAI and on the Dogmatism Scale was ($r=-.40$, $p < .01$).

Johnson (1966) examined the relationship of open and closed-mindedness to success in student teaching. He noted a significant relationship between the degree of open-mindedness of student teachers and their expressed attitudes toward teaching and teacher-pupil relationships. He also concluded that there was a significant change in the degree of open-mindedness and closed-mindedness of the total group of 130 student teachers as related to the dogmatism of the supervising teacher. The supervising teachers appeared to serve as models of degrees of dogmatism which the student teachers seemed to imitate.

McCaw (1967) was concerned whether it was possible for a prospective teacher to be closed-minded (dogmatic) in terms of personality structure and yet profess an attitude of permissiveness in a teaching situation. A correlation of the MTAI and the F scale was run. Results indicated negative correlations for each of the student teacher groups.

Rosen (1968) refers to a study by Super and Kaplan (1967) in which a sample of Peace Corps and Counselor

teacher trainees were tested. They hypothesized that trainees who scored high on the Rokeach Dogmatism Scale (Form E) would score low on the Minnesota Teacher Attitude Inventory. The hypothesis was upheld at a significant level.

Using a sample of seventy-six female elementary teachers, Johnston (1967) tested Rokeach's formulation of open and closed belief-systems as a basic dimension of personality by utilizing the scores on the Dogmatism Scale and the Minnesota Teachers Attitude Inventory. His results also lent support to previous findings that subjects who scored high on dogmatism scored significantly lower on the MTAI.

Curriculum, Teaching Majors and the MTAI

The MTAI was used by Callis (1950) to examine the possible differences in teacher attitudes when student teachers were classified into three major curricular groupings: Early Childhood Education; Academic Field majors; Special field majors (art, home economics, industrial, music and physical education). Getzels and Jackson (1964) in reporting this study indicate that there were significant differences among the three groups with student teachers majoring in Early Childhood Education scoring highest on the MTAI and Special Field majors lowest. This trend was evident at both junior and senior levels.

Ratsoy (1965) reports that the MTAI has also successfully distinguished between curricular grouping of

teachers. Elementary teachers obtained scores significantly higher than secondary teachers.

Kearney and Rocchio (1955) studied differences in MTAI scores between 587 elementary school teachers who taught all subjects to the same pupils and fifty-two teachers who taught different pupils in art, home economics, industrial arts and physical education. Getzels and Jackson (1963) in quoting the above study, indicate that the respective MTAI scores for the two groups were 41 and 28, differing significantly at the .01 level. It appears that teachers choosing to teach special subjects tend to have different attitudes from other teachers. The above finding was previously noted by Callis (1950).

Cook, Kearney, Rocchio and Thompson (1956, p. 275) described a study investigating the relationship between MTAI scores and the amount of education of teachers. It was learned that elementary teachers with four years of university education tended to score significantly higher on the MTAI than those with two years of education. Secondary school teachers with five or more years of university education scored the same as elementary school teachers with four years of training.

Major Fields of Study and Dogmatism

Feldman and Newcomb (1969) report that various scales purporting to measure degree of dogmatism (authoritarianism, prejudice and related characteristics) of students in the humanities (English, literature, languages,

fine and creative arts) were less dogmatic than students in other disciplines. Those students in the social sciences were also in the middle and lower third. Both the natural sciences and business majors ranged across the three rankings but students majoring in education and engineering were higher in dogmatism than students in any other fields.

Cappelluzzo and Brine (1969, p. 149, 151), in their study, focused particularly on the prospective teacher. The authors were interested in ascertaining the degree of open-mindedness among students preparing to teach. They were also interested in comparing the degree of open-mindedness expressed by prospective teachers with the degree of open-mindedness expressed by experienced teachers. Furthermore, Cappelluzzo and Brine (1969) were interested in ascertaining whether the student's choice in subject areas of specialization would reveal differences in their open-mindedness. Their hypotheses were designed to attempt to answer the following questions; Are prospective teachers dogmatic? Is their degree of dogmatism a function of subject matter preference? The authors administered the Rokeach Dogmatism Scale to a sample of 254 undergraduate students at the University of Massachusetts who were planning to complete their teacher education program. The obtained means were then compared to those obtained by the University of Washington students in Rabkin's (1966) study and the University of Ohio students in Rokeach's (1965) study.

Rabkin's subjects were experienced teachers while Rokeach's subjects were general university students. The means obtained by the University of Massachusetts students (Capelluzzo and Brine, 1969) were similar to the means obtained by the University of Ohio students (Rokeach, 1965) but significantly higher than the experienced teachers in Rabkin's sample. The authors (1969, p. 151) concluded that prospective teachers as a group are neither more or less dogmatic than other university students in general, although prospective teachers in this study were more dogmatic than the inservice teachers examined by Rabkin (1966). Next the authors examined the dogmatism means of their own sample by grouping the prospective teachers according to their academic major. The subject areas of specialization were: English, mathematics, natural sciences, social studies, special education and other. Results indicated that mathematics and other groups had slightly higher mean scores (149.2 and 147.9 respectively) than the English, natural sciences, social studies, and special education groups. However, these differences were not significant. It is, however, important to note that students with various subject preferences tended to show different levels of dogmatism.

Summary and Conclusions of Studies on Dogmatism (Open- and Closed-mindedness)

Several conclusions based on the review of the

literature on Rokeach's concept of dogmatism are as follows:

1. Rokeach's concept of dogmatism (open- and closed-mindedness) has stimulated a considerable amount of diversified research which has led to a more complete understanding of the open and closed belief system. Research has demonstrated that dogmatism is a concept of general authoritarianism independent of ideological content. General authoritarianism or dogmatism is conceptualized as openness or closedness of belief systems. The emphasis is on structure -- how a person believes rather than what he believes.

2. A central proposition of Rokeach's (1960) theory of organization of belief-disbelief systems is that the cognitive system of closed-minded (dogmatic) persons is highly resistant to change or the acceptance of new ideas.

3. Research reviewed gave some indication that the personality factor of open-mindedness is an important characteristic of the effective teacher.

4. Open-minded student teachers seem to prefer and practice the democratic style of classroom leadership while closed-minded (dogmatic) student teachers seem to prefer and practice the undemocratic (authoritarian) style of classroom leadership.

5. Prospective teachers as a group are neither more nor less dogmatic than university students in general.

6. University students with various subject preferences tend to display different levels of open-mindedness.

7. Senior or graduate students at university tend to be more open-minded than freshmen or sophomores when the Rokeach Dogmatism Scale is used for purposes of comparison. Open-mindedness seems to be a function of the level of education achieved by individuals.

8. Students scoring high on the Rokeach Dogmatism Scale generally score low on the MTAI.

Variables Which Influence the Decision to Choose the Teaching Profession

What variables influence a young person to choose teaching as a profession? What motivates a person to select that particular profession in preference to others? No effort has been made in this study to discuss a theory of occupational choice or the effect of unconscious motivation (Stern, et al, 1960) that may be operational in a persons' choice of teaching as a profession. Rosenberg (1957) reacts to the above questions in the following manner, "The individual choosing an occupation must do so with reference to a whole host of subsidiary wants which the intrinsic rewards of work can potentially satisfy" (p. 2).

How does the individual choose from among the many fields which are open to him? It is necessary, states Rosenberg (1957), to consider some of the basic internal

characteristics of the individual -- his values, attitudes, self concept and personality needs in order to see how they bear on the occupational decision process.

Rosenberg (1957) further believes that when an individual makes a selection from a given number of choices, it is likely that there is some value that motivates his decision. An occupational choice, according to Rosenberg, is made on the basis of values.

The values, states Dipboye (1959, p. 121), held by an individual constitute "an essential and important element of his motivational structure and if understood, can give us invaluable insights into his decision making processes".

On the basis of a nationwide study, Rosenberg (1957) concluded that when confronted with the prospect of making an occupational choice, one type of student tends to say, "What rewards will I get for my work?" A second type poses the question, "Will it be a challenging, creative experience?" and a third type will ask, "Will I enjoy working with people?" In Rosenberg's (1957) study teachers were found to have similar occupational values to those of other occupational groups who chose "people orientated" occupational values. In essence, they said, "Give me an opportunity to work with people rather than things and give me an opportunity to help others."

Relevant Studies of Factors Influencing the Decision to Become a Teacher

Gue (1965), Ryans (1960) and Getzels and Jackson (1963) have compiled numerous studies relating to factors influencing individuals to select the teaching profession. Only a few representative studies will be discussed.

Best (1948) in his study found that the persons who chose the teaching profession in preference to other professions did so on the basis of the following factors: (1) teaching provides security, (2) teaching is not oversubscribed, (3) teaching requires less physical strain than some other professions, (4) teaching provides more opportunity for home life, and (5) there is less opposition from parents and friends than if they had chosen certain other professions. The numerous changes in social attitudes during the last twenty years in America may have affected some or all of the reasons given by students in Best's study.

Another study analysing the various influences associated with the selection of teaching as a vocation was conducted by Fox and Ricky (1948). They found that variables such as; security, chance for advancement, good working conditions, pleasing environment, chance to serve society, work with young people, prestige, personal satisfaction and social contacts were considered as advantages by prospective teachers.

Fielstra (1955, p. 663-4) conducted an analysis of those variables which influenced young students to choose

teaching as a profession. His sample of 230 was made up of representatives from four grade levels at the University of California at Los Angeles. Ages of the men ranged from 19 to 43, with a median of 22 years; and ages of the women ranged from 18 to 33, with a median of 20 years. Subjects were asked to rate ten statements which could be described as possible opportunities in teaching. Those ranked from one to four in order were: "To help youngsters develop sound values of living"; "To work with children and adolescents"; "To work in a profession which makes possible . . . growth . . ."; "To work in a subject-matter field of interest . . .". Factors such as prestige and salary were ranked low. When asked what factors influenced them to make a decision to become a teacher, the three highest rankings were: "An inspiring teacher"; "A friend or relative"; and "Influenced by newspaper accounts of needs".

Dipboye and Anderson (1959) undertook a study with a sample of 358 grade twelve students. They were asked to rank a list of nine occupational values important to people when choosing a job. Results showed that girls tended to give higher rankings than boys to the values of "prestige", "interesting work", "working conditions" and "relations with others". Boys gave higher rankings to "salary", "advancement" and "independence".

Jantzen (1959, p. 14) was involved in a longitudinal study in which investigations were carried out in 1946, 1948

and 1956. The primary question asked was, "Why do young men and women choose to teach?" A teacher recruitment committee prepared a list of sixteen statements of possible factors which might have influenced the college student to choose teaching as a profession. A total of 520 college men and 458 college women were involved in the three studies. Factors receiving the top four rankings were: "Interest in children"; "Reasonable assurance of adequate income"; "Life-long opportunity to learn"; and "Summer for study, travel, and relaxation". Factors least often mentioned were: "Parents" and "Family members are teachers".

Nelsen and Giebink (1968, pp. 74-77) conclude that a considerable amount of research involving personal reasons for choosing teaching as a profession indicates that prospective teachers are influenced or motivated by: "Interest in children and young people"; "Opportunity to work in one's field of interest"; "Opportunities for life long learning"; "A chance to serve humanity" and "Opportunities for creative expression".

Lang's (1960) study included 101 female elementary and 87 female secondary teachers, 21 to 29 years of age. He sought to determine the motives in these subjects selecting elementary and secondary school teaching. Subjects were asked to complete a rating scale which included 25 reasons that had influenced each to choose teaching. The instrument measured the degree to which each reason had

"least", "slightly", and "most" influenced their choice. The subjects were asked to check the three reasons which were most influential and three reasons that were least influential. Elementary teachers emphasized reasons like, "I like working with children", while secondary teachers emphasized the reasons, "I like the continuous opportunity to learn". Motives for teaching emphasized by elementary teachers related to the "mothering" role, concludes Lang (1960, p. 103); those stressed by secondary teachers involved the "director of learning" role. Both groups were similar with regard to the socially acceptable reasons perceived as influential in their choice of teaching.

Gue (1965) has compiled a rather impressive list of studies relevant to students choosing the teaching profession but he seems to lament the fact that while numerous studies on this topic have been done in American colleges, there is still a paucity of Canadian studies with Canadian samples.

Conclusions re Motives for Selecting the Teaching Profession

A few of the more relevant findings of those studies examined are:

1. Teachers, in Rosenberg's (1957) study, were similar in their occupational values to other occupational groups who chose "people oriented" occupational values.

2. Both young men and women expressed an interest

in working with children.

3. While it is important to help children, prospective teachers were also concerned about their income and security.

4. Girls tended to give higher rankings than boys to the values of prestige, interesting work, working conditions and relations with others. Boys tended to give higher rankings to salary, advancement and independence.

CHAPTER III

DEFINITIONS AND HYPOTHESES

Definition of Terms

The following definitions have been adopted for the purposes of this study.

Open-mindedness. Rokeach (1960, p. 57) defines open-minded as:

> ... the extent to which the person can receive, evaluate and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from within the person or from the outside.

Rokeach tends to equate "open-mindedness" with Roger's (1951) concept "open to experience".

Dogmatism. Dogmatism is defined by Rokeach (1954, p. 194),

> ... as a relatively closed cognitive organization of beliefs and disbeliefs about reality ... which ... provides a framework for patterns of intolerance and qualified tolerance toward others (p. 194).

Attitude. The definition utilized for this study is formulated by Rokeach (1968, p. 112) in the following manner:

> An attitude is a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner.

Democratic teacher. The democratic teacher, for purposes of this study, is defined as the teacher who is able to create a classroom climate in which the child has a vital part to play in classroom decisions and is helped to express his feelings in healthy ways. The teacher who is able to function in this manner is considered to be an effective teacher.

Research Hypotheses

The following are research hypotheses tested in this study:

A. Hypotheses Related to Grouping by Program

1. Fourth year Bachelor of Education (B.Ed.) students will score significantly higher on teacher attitudes, as measured by the Minnesota Teacher Attitude Inventory (MTAI), than will Bachelor of Education After Approved Degree (B.Ed./AD) students.
2. Fourth year Bachelor of Education students will be significantly more open-minded, as measured by the Rokeach Dogmatism Scale, than Bachelor of Education After Approved Degree students.
3. There will be a significant difference in the ranking of motives for choosing the teaching profession between the Bachelor of Education and Bachelor of Education After Approved Degree students.

B. Hypotheses Related to Grouping by Sex

4. Prospective female teachers will score significantly higher on teacher attitudes, as measured by the MTAI, than will prospective male teachers.
5. Prospective female teachers will be significantly more open-minded, as measured by Rokeach Dogmatism Scale, than prospective male teachers.
6. There will be a significant difference in the ranking of motives for choosing the teaching profession between male and female prospective teachers.

C. Hypotheses Related to Grouping by Route

7. Prospective teachers registered in the Elementary Route will score significantly higher on teacher attitudes, as measured by the MTAI, than those prospective teachers registered in the Secondary Route.
8. Prospective teachers registered in the Elementary Route will be significantly more open-minded, as measured by Rokeach Dogmatism Scale, than prospective teachers registered in the Secondary Route.

D. Hypotheses Related to Grouping by Subject Major

9. Prospective teachers majoring in the Humanities

(e.g. art, music, philosophy) will score significantly higher on teacher attitudes, as measured by the MTAI, than those majoring in the Social Sciences (e.g. history, sociology, anthropology), the Natural Sciences (e.g. chemistry, biology, mathematics), Physical Education and Early Childhood Education.

10. Prospective teachers majoring in the Humanities will be significantly more open-minded, as measured by Rokeach Dogmatism Scale, than prospective teachers majoring in the Social Sciences, Natural Sciences, Physical Education, or Early Childhood Education.

E. Hypotheses Related to Grouping by Stage of Decision to Enter Teaching

11. Prospective teachers whose decision to enter the teaching profession was made at the First Stage, (1) prior to graduating from high school, will score significantly higher on teacher attitudes, as measured by the MTAI, than will those students whose decision was made at the subsequent Stages, (2) after graduating from high school; (3) during first year university; (4) during second year university; (5) during third year university; (6) after completing an undergraduate degree.

12. Prospective teachers who chose to enter the teaching profession at the Sixth Stage (after completing an undergraduate degree) will be significantly more open-minded, as measured by Rokeach Dogmatism Scale, Form E, than prospective teachers who chose to enter the teaching profession at any of the other five previous Stages.

CHAPTER IV

EXPERIMENTAL DESIGN AND PROCEDURES

This investigation was designed to examine and compare three characteristics of prospective teachers: namely, teacher attitudes, open-mindedness and the motives which influenced them to choose the teaching profession. Subjects for this study were University of Alberta Education students who had a minimum of four years of exposure to a university milieu but who had no teaching experience outside of student teaching.

The five independent variables introduced in this research were:

(a) Program:	Bachelor of Education; and Bachelor of Education After Approved Degree.
(b) Sex:	Male and female subjects.
(c) Route:	Elementary and Secondary Education.
(d) Subject Major:	Humanities (e.g. art, music, philosophy), Natural Sciences (e.g. chemistry, biology, mathematics), Social Sciences (e.g. history, sociology, anthropology), Physical Education, and Early Childhood Education.

(e) Stage of Decision to Enter Teaching:	(1) Prior to graduation from grade XII;
	(2) After graduation from grade XII;
	(3) During first year university;
	(4) During second year university;
	(5) During third year university;
	(6) After completing an undergraduate degree.

The Population

During the 1969-70 academic year the University of Alberta offered two programs which lead to teacher certification. One required students to initially register in the four-year Bachelor of Education (B.Ed.) program. In the second, students who had completed an undergraduate degree such as a Bachelor of Arts Degree, transferred into the two year Bachelor of Education After Approved Degree (B.Ed./AD) program. In the fall of 1969, 388 students registered in the fourth year of the above mentioned B.Ed. program and 390 students registered in the B.Ed./AD program. This group of 778 prospective teachers was the population for the study. Table I provides the breakdown of the total population into sub-groups on the basis of the

TABLE I

GROUPS WITHIN POPULATION

Respective Groups	B.Ed. N	B.Ed. %	B.Ed./AD N	B.Ed./AD %	Total N	Total %
1. Program:						
(1) B.Ed.					388	49.9
(2) B.Ed./AD					390	50.1
Total					778	100.0
2. Sex:						
(1) Male	156	40.2	196	50.2	351	45.1
(2) Female	232	59.8	194	49.8	427	54.9
Total	388	100.0	390	100.0	778	100.0
3. Route:						
(1) Elementary	130	33.5	97	24.8	227	27.9
(2) Secondary	258	66.5	293	75.2	551	72.1
Total	388	100.0	390	100.0	778	100.0
4. Subject Majors:						
(1) Humanities	68	17.5	87	22.3	155	19.9
(2) Social Sciences	136	35.0	104	26.7	240	30.9
(3) Natural Sciences	117	30.2	154	39.5	271	34.8
(4) Physical Education	23	5.9	40	10.3	63	8.1
(5) Early Childhood Educ.	27	7.0	0	0.0	27	3.5
(6) Unknown	17	4.4	5	1.2	22	2.8
Total	388	100.0	390	100.0	778	100.0

independent variables of program, sex, route and academic major. Figures 1, 2 and 3 provide comparisons between the B.Ed. and B.Ed./AD groups when the population was classified on the basis of sex, route and academic major. From Figure 1, it is evident that the sexes were almost equally represented in the B.Ed./AD group whereas in the B.Ed. group the proportion of females (59.8%) was substantially larger than that of males (40.2%). Inspection of Figure 2 reveals that, in comparison to the B.Ed. student group fewer B.Ed./AD students are in the Elementary Route and a larger portion are in the Secondary Route. When compared by major field of study (see Figure 3) B.Ed./AD students are found in higher proportion than B.Ed. students in the Humanities, Natural Sciences and Physical Education. A higher proportion of B.Ed. than B.Ed./AD students majored in the social sciences. No B.Ed./AD students majored in Early Childhood Education while 7.0% of the B.Ed. students did. On further examination of Figure 3 it will be noted that the highest percentage (34.8) of the population majored in the Natural Sciences, followed by Social Sciences (30.9%), Humanities (19.9%), Physical Education (8.15) and Early Childhood Education (3.5%). No information in regard to choice of subject major was available for 2.8% of the population.

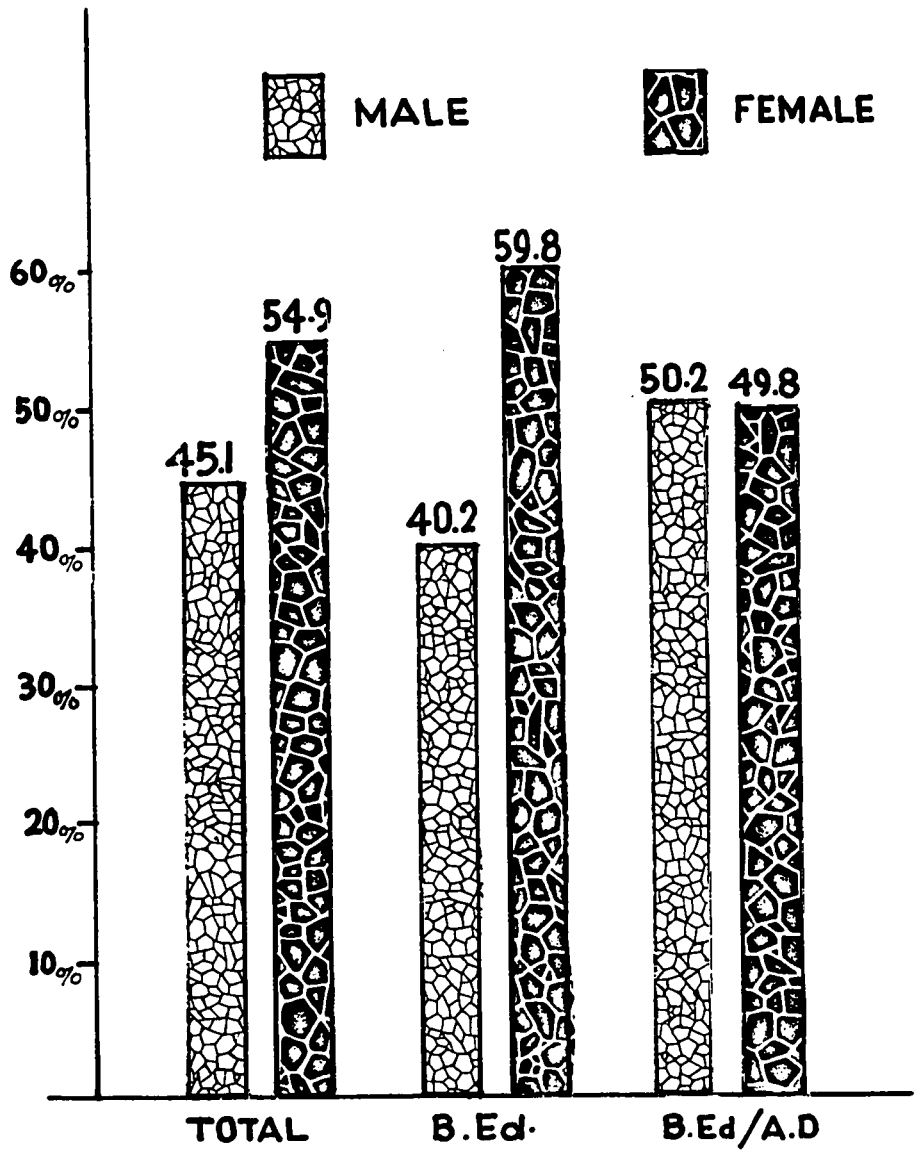


Figure 1. Distribution of B.Ed. and B.Ed./A.D. Prospective Teachers by Sex

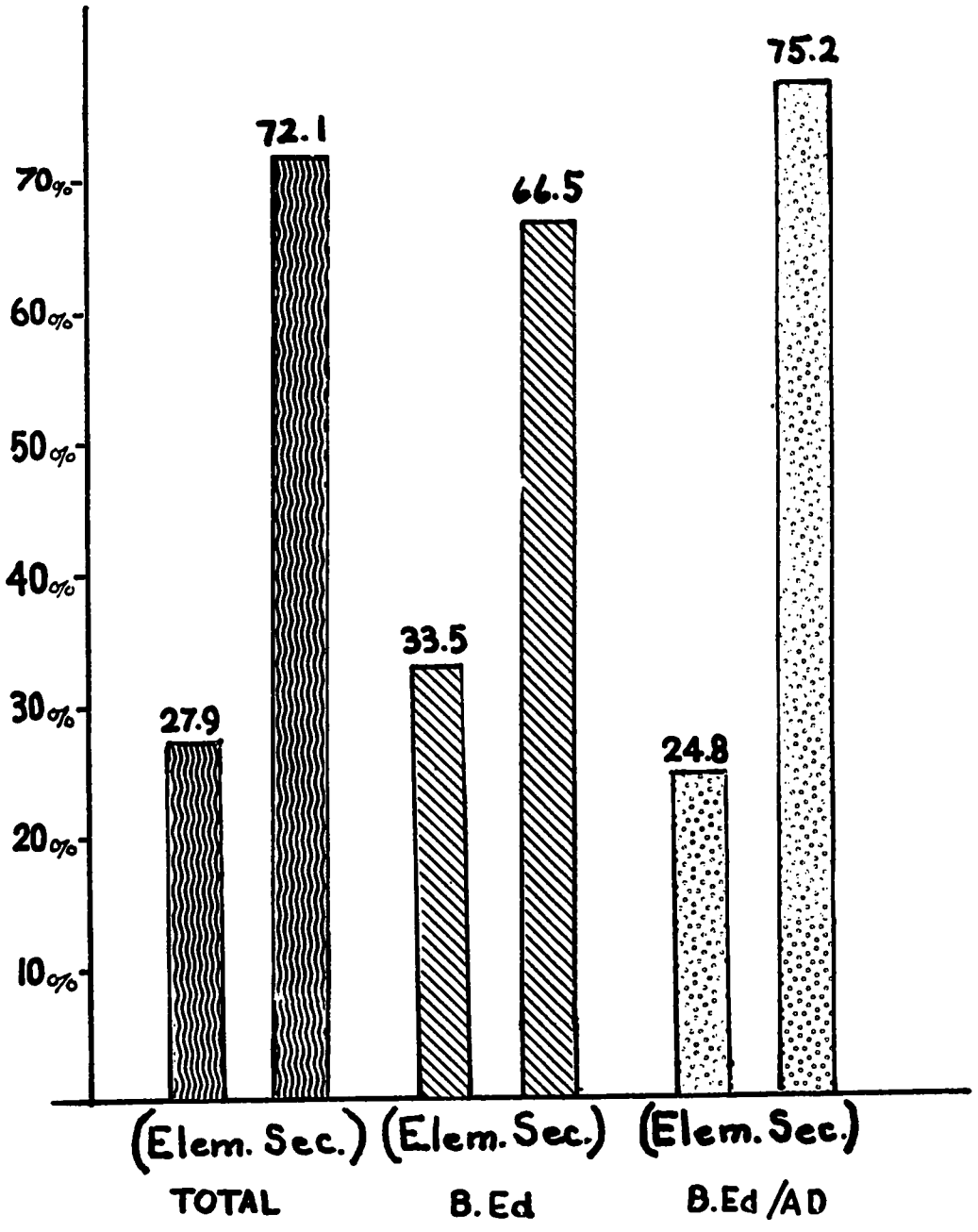


Figure 2. Distribution of B.Ed. and B.Ed./A.D. Prospective Teachers by Route

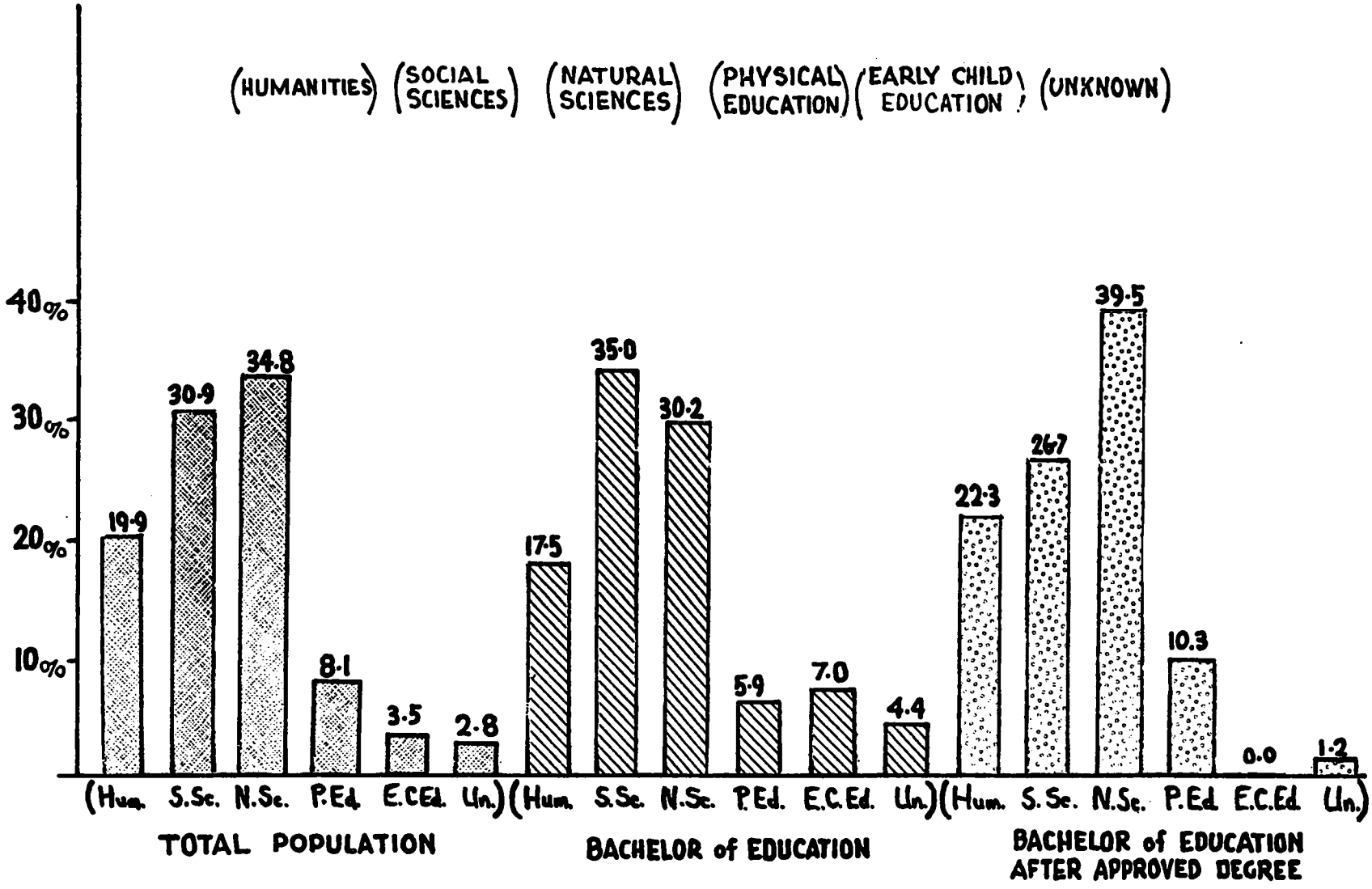


Figure 3. Distribution of B.Ed. and B.Ed./A.D. Prospective Teachers on the Basis of Major Field of Study

Sample

Originally, it was the intention of the writer to include the entire population of fourth year B.Ed. and B.Ed./AD prospective teachers in the study. In an effort to obtain as large a sample as possible, students were approached in their compulsory teacher education classes. Professors teaching those classes were briefed on the study and their cooperation was sought. Approximately one, fifty-minute class period was needed to complete the three instruments used in the study. Unfortunately, a few professors refused to cooperate in this phase of data collecting, several students refused to complete the instruments, and a substantial number of students were not in attendance on the days that their classes were canvassed. It is evident that sampling procedures were such that this is not a random sample. A total of 242 students, 62.3% of the B.Ed. population and 203 students, 52.5% of the B.Ed./AD population completed the instruments. This combined total of 445 subjects was the sample for the study. A breakdown of the sub-groups within the sample is illustrated in Table II.

Groups within the population and the sample were compared to meet the criteria of proportionate representation. A close examination of the comparisons made on the basis of program, sex, route and subject major (see Figures 4, 5, 6 and 7) will indicate that this criterion has been

TABLE II

GROUPS WITHIN SAMPLE

Respective Groups	N	%
1. Program:		
(1) B. Ed.	242	54.4
(2) B. Ed./AD	203	45.6
Total	445	100.0
2. Sex:		
(1) Male	193	44.3
(2) Female	252	55.7
Total	445	100.0
3. Route:		
(1) Elementary	143	32.8
(2) Secondary	302	67.2
Total	445	100.0
4. Subject Major:		
(1) Humanities	84	18.3
(2) Social Sciences	135	31.0
(3) Natural Sciences	167	38.4
(4) Physical Education	41	9.4
(5) Early Childhood Education	18	2.9
(6) Unknown	0	0.0
Total	445	100.0
5. Stage of Decision:*		
(1) First	183	42.4
(2) Second	76	17.5
(3) Third	23	4.0
(4) Fourth	22	3.6
(5) Fifth	30	7.0
(6) Sixth	111	25.5
Total	445	100.0

*Further details on Stage of Decision are provided in Table VII.

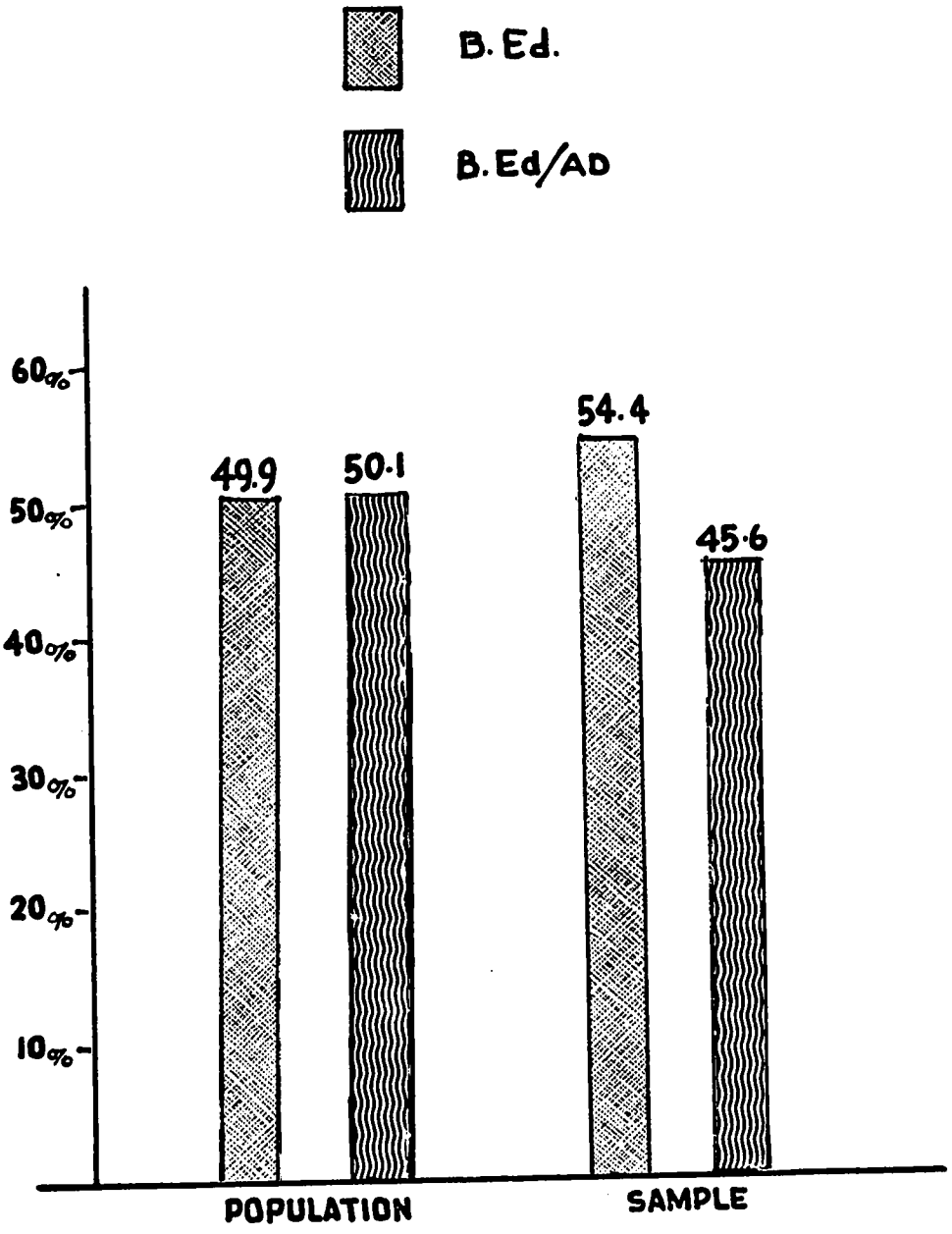


Figure 4. A Comparison of the Population with the Sample When Grouped by Program

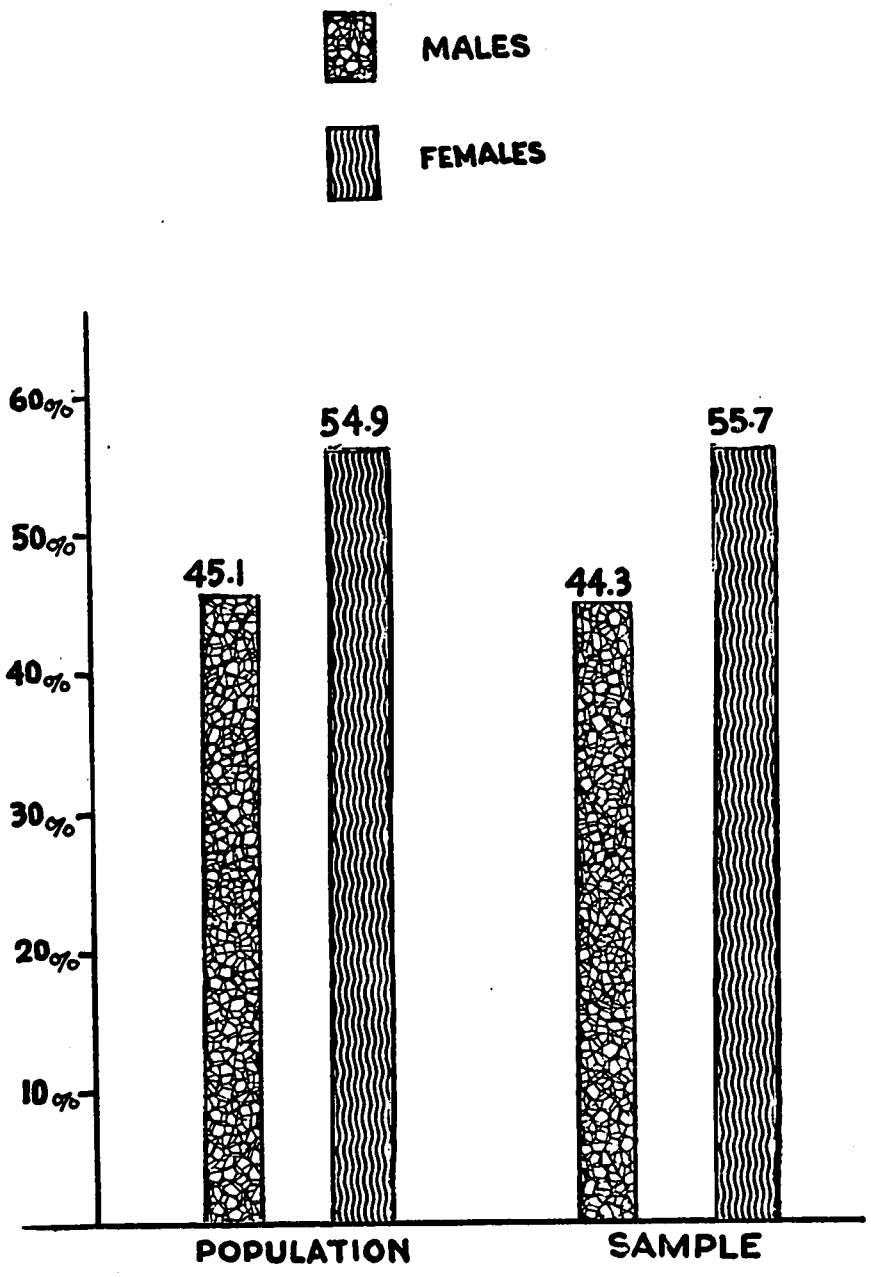


Figure 5. A Comparison of the Population With the Sample When Grouped by Sex

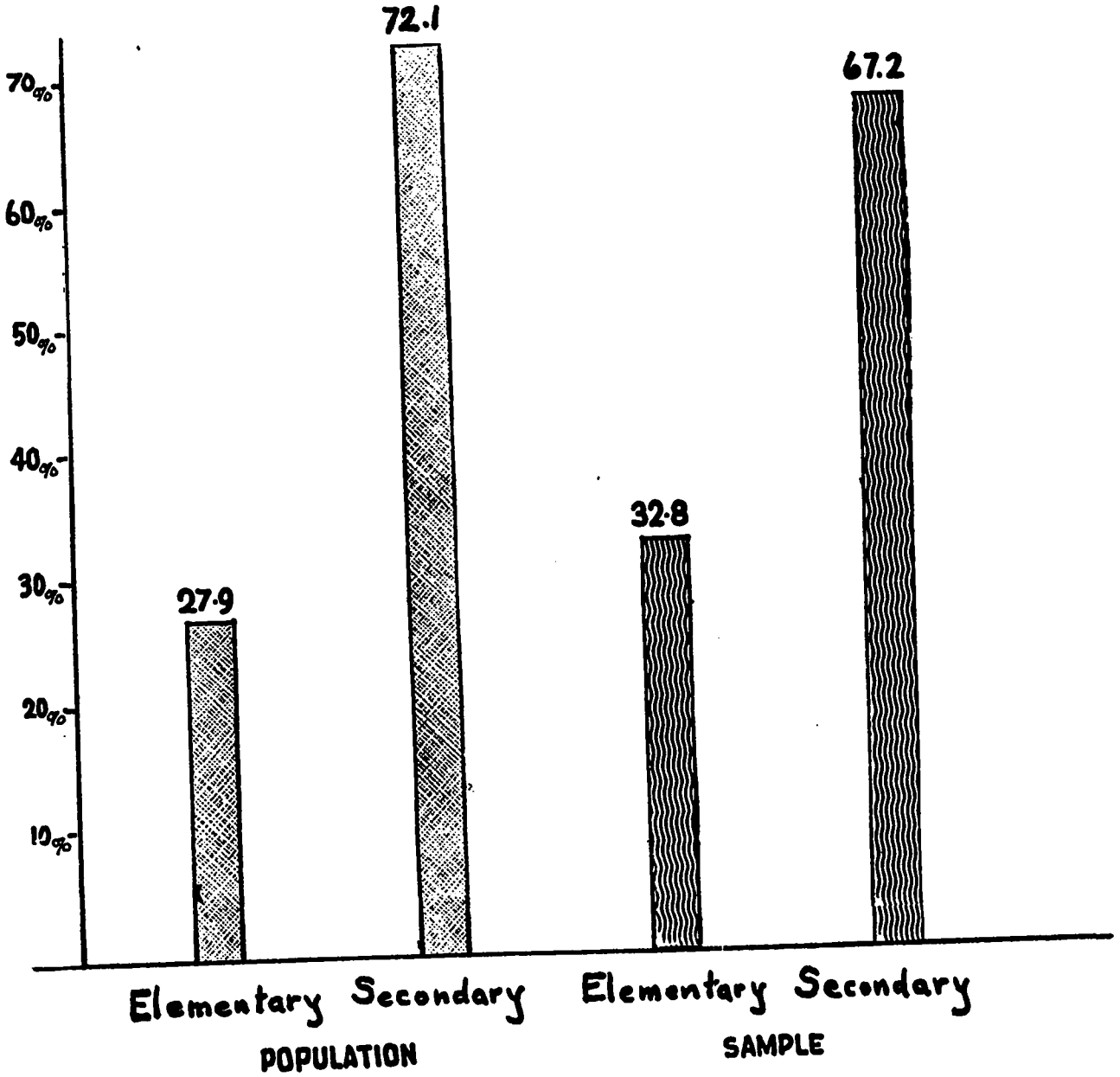


Figure 6. A Comparison of Population with the Sample in Each Route

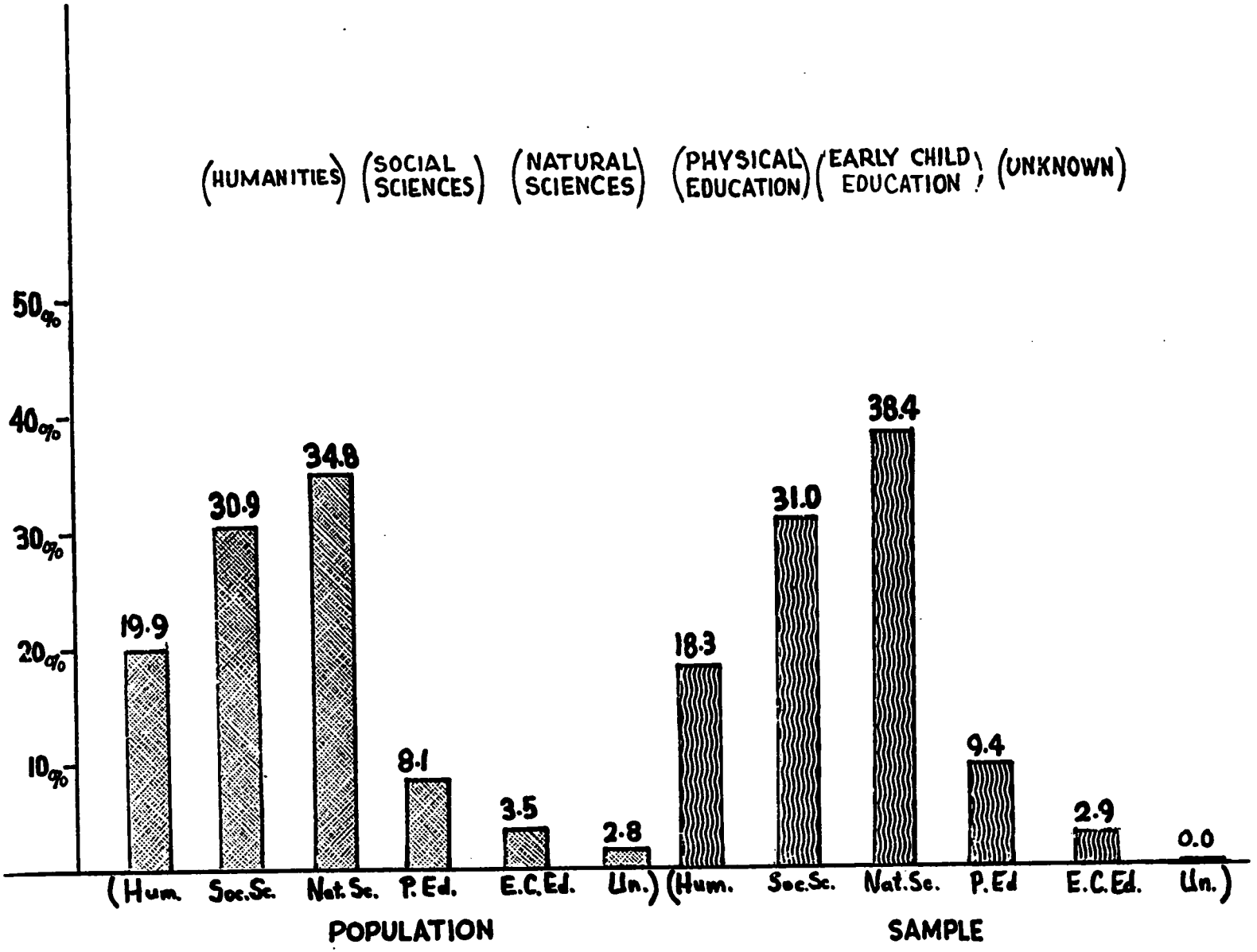


Figure 7. A Comparison of Population with the Sample in Each of the Five Subject Majors.

met. (Comparisons of population with sample for the Stage of Decision sub-groups were not made since this information was available for the sample only.)

Specific Characteristics of Population

Specific personal data about the subjects such as: age, place of birth, Cooperative Academic Ability Test scores and Grade XII matriculation averages, whenever available, were obtained from the Faculty of Education Student Records office and from the University of Alberta Student Counseling Services office.

Mean Age. The mean age for the B.Ed. students was 22.8 years, while the mean age for the B.Ed./AD students was 24.1 years. This difference in age is significant at the $p < .001$ level ($F=11.48$). The age difference may be accounted for by the fact that many of the B.Ed./AD students have been employed for varying periods of time, in some cases utilizing their previously earned undergraduate degree. The B.Ed. students have not had occasion to utilize their teacher training, consequently, they as a group are, on the average, 1.3 years younger than the B.Ed./AD students. See Table III for further details.

Place of Birth. The majority of students enrolled in the B.Ed./AD program at the University of Alberta were from the province of Alberta. Although no analysis was carried out to ascertain at what age they came to Alberta.

TABLE III

COMPARISON OF MEAN AGE FOR BACHELOR OF EDUCATION AND BACHELOR OF EDUCATION AFTER DEGREE PROSPECTIVE TEACHERS

Group	Number	Means*	Standard Deviation
Bachelor of Education	388	22.84	5.55
Bachelor of Education After Approved Degree	390	24.16	5.37

*The difference of mean ages between the two groups is significant at .001 level (F=11.48).

Examination of Table IV reveals that the majority (66.0%) of students come from Alberta. Seventy-three percent of the B.Ed. students and 57.0% of the B.Ed./AD students come from Alberta. The second largest percentage of the total population have come from the United States.

All of the ten Canadian provinces, with the exception of Prince Edward Island and Newfoundland have some representation in the population. Figure 8 provides a comparison of both B.Ed. and B.Ed./AD groups and their respective places of birth.

Cooperative Academic Ability Test (CAAT). Since the CAAT provides three scores for each individual; verbal, numerical and total, all three were compared between the B.Ed. and B.Ed./AD groups of subjects. On none of the three scores were significant differences found. The means for the verbal scores were slightly different (Bachelor of Education = 31.51; Bachelor of Education After Approved Degree = 32.12); means for the numerical scores were (Bachelor of Education = 37.11; Bachelor of Education After Approved Degree = 37.12) almost identical; since the total scores are a combination of the two mentioned above, these means were almost the same (Bachelor of Education = 68.78, Bachelor of Education After Approved Degree = 69.25). However, scores on the CAAT were available for only 253 (65.0%) Bachelor of Education students and 80 (23.0%) Bachelor of Education After Approved Degree students.

TABLE IV

A SUMMARY OF PLACE OF BIRTH OF B.ED. AND B.ED./AD POPULATION

Place of Birth	Population					
	B.Ed.		B.Ed./AD		Total	
	N	%	N	%	N	%
Alberta	285	73.0	221	57.0	506	66.0
British Columbia	14	4.0	12	3.0	26	3.0
Saskatchewan	23	6.0	39	10.0	62	8.0
Manitoba	11	3.0	11	3.0	22	3.0
Ontario	5	1.0	21	5.0	26	3.2
Quebec	2	.5	2	.5	4	.5
New Brunswick	-	-	2	.5	2	.3
Nova Scotia	-	-	4	1.0	4	.5
British Isles	5	1.0	13	3.0	18	2.0
U.S.A.	30	8.0	48	13.0	78	10.0
Other	13	4.5	17	4.0	30	3.5

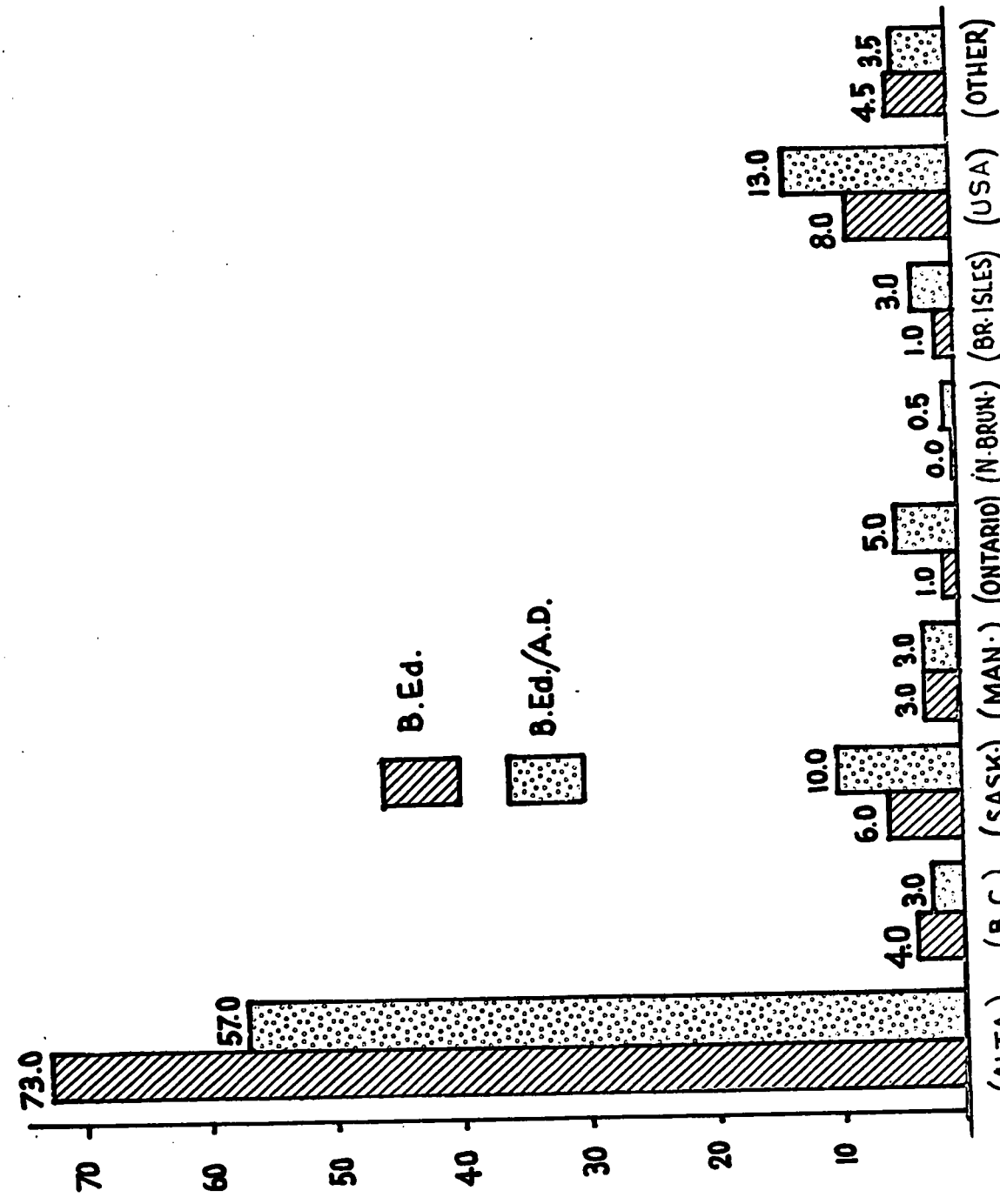


Figure 8. Distribution of Subjects on the Basis of Place of Birth for Total Population

Table V provides a summary of these comparisons.

Grade XII Matriculation Averages. Contrary to some speculation that students who major in the Arts and Sciences have higher grade XII matriculation averages than do those majoring in Education, it was found that when applying the analysis of variance test to these means, there were no significant differences (F=2.62). It may, therefore, be concluded that the matriculation averages of these two groups of prospective teachers are the same. Table VI provides means and standard deviations.

Stages at Which Teaching was Chosen by Subjects

The design of the study called for the introduction of the following variables: program, sex, route, academic major and stage of decision. Data for the last variable mentioned could only be obtained after the subjects had completed the instruments. Therefore, this information could be dealt with in Chapter V where the results are discussed. However, it serves a better purpose in this section where the sample is described.

Stages at which prospective teachers chose to enter the teaching profession varied considerably between the two groups as can be seen in Table VII. Student responses seem to indicate that the largest percentage of the Bachelor of Education group made their decision to enter the teaching profession while still in high school; 63% of the subjects

TABLE V

COMPARISON OF COOPERATIVE ACADEMIC ABILITY TEST MEANS FOR B.ED. AND B. ED./AD PROSPECTIVE TEACHERS

Subtests	Group Means*	
	B.Ed.	B.Ed./AD
Verbal	31.51	32.12
Numerical	37.11	37.12
Total	68.78	69.25

*There were no significant differences between means on Verbal, Numerical, and Total scores for the two groups of prospective teachers.

TABLE VI

COMPARISON OF GRADE XII MATRICULATION AVERAGES FOR THE BACHELOR OF EDUCATION AND BACHELOR OF EDUCATION AFTER APPROVED DEGREE PROSPECTIVE TEACHERS

Groups	Number of Observations	Means*	Standard Deviations
Bachelor of Education	371	66.18	6.43
Bachelor of Education After Approved Degree	284	67.05	7.24

*There were no significant differences between means (F=2.62).

TABLE VII

STAGES AT WHICH PROSPECTIVE TEACHERS IN THE BACHELOR OF EDUCATION AND BACHELOR OF EDUCATION AFTER APPROVED DEGREE CHOSE TO ENTER THE TEACHING PROFESSION

Stages*	Groups					
	B.Ed.		B.Ed./AD		Total	
	N	%	N	%	N	%
First	150	63.0	33	16.0	183	42.0
Second	63	25.0	13	7.0	76	17.0
Third	16	7.0	7	3.0	23	5.0
Fourth	8	3.0	14	7.0	22	4.0
Fifth	4	1.5	26	13.0	30	7.0
Sixth	1	.5	110	54.0	111	25.0
Totals	242	100.0	203	100.0	445	100.0

*Stages:

First: Prior to graduation from high school.
Second: After graduation from high school.
Third: During first year of university.
Fourth: During second year of university.
Fifth: During third year of university.
Sixth: After completing an undergraduate degree.

made this decision while still attending high school. An additional 25% made their decision after graduating from high school but before registering at the university. Twelve percent of the Bachelor of Education subjects made their decisions at the remaining subsequent four stages, the numbers decreasing at each stage.

In contrast to the Bachelor of Education subjects, the majority (54.0%) of the Bachelor of Education After Approved Degree subjects made their decision to enter the teaching profession at the sixth stage, although the distribution for the other five stages ranged from 3.0% at the fifth stage to 16.0% at the first stage. While 88% of the Bachelor of Education subjects made their decision at stages one and two, only 23% of the Bachelor of Education After Approved Degree subjects made their decision at the same two stages. In contrast to the .5% of Bachelor of Education subjects who made their decision at stage six, 54% of the Bachelor of Education After Approved Degree subjects did so at that stage. Table VII provides a detailed summary and Figures 9 and 10 present the data in histograms, showing the comparisons between the B.Ed. and B.Ed./AD prospective teachers and the stages at which they chose the teaching profession.

The Instruments

The three instruments utilized in obtaining the required data were:

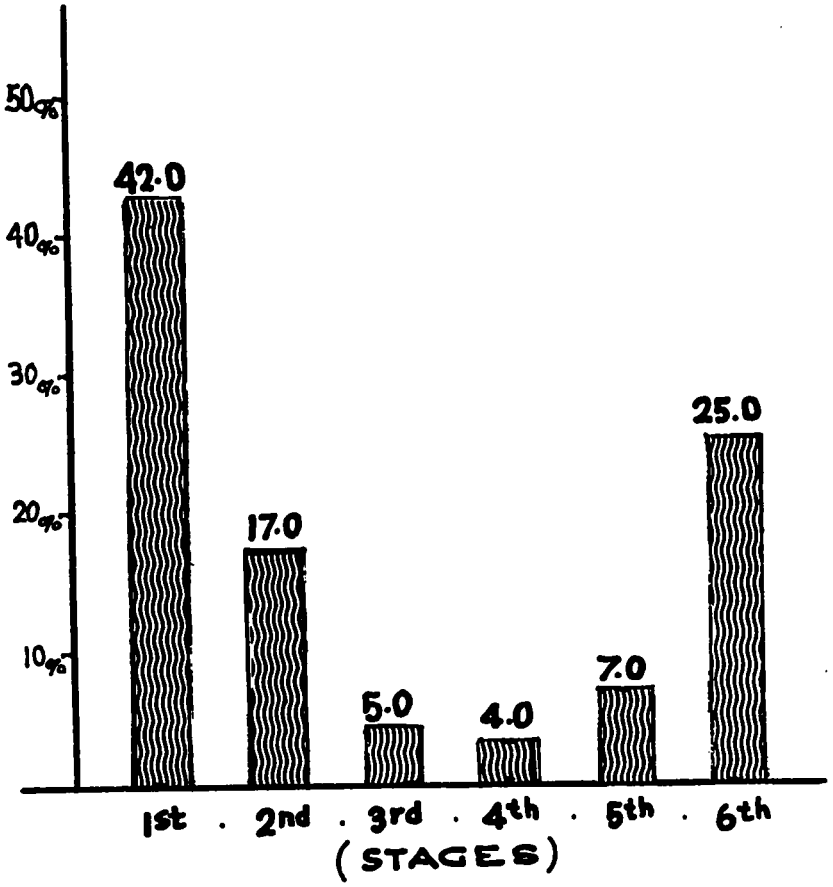


Figure 9. A Comparison of Percentages of Students in Sample Having Chosen the Teaching Profession at Various Stages

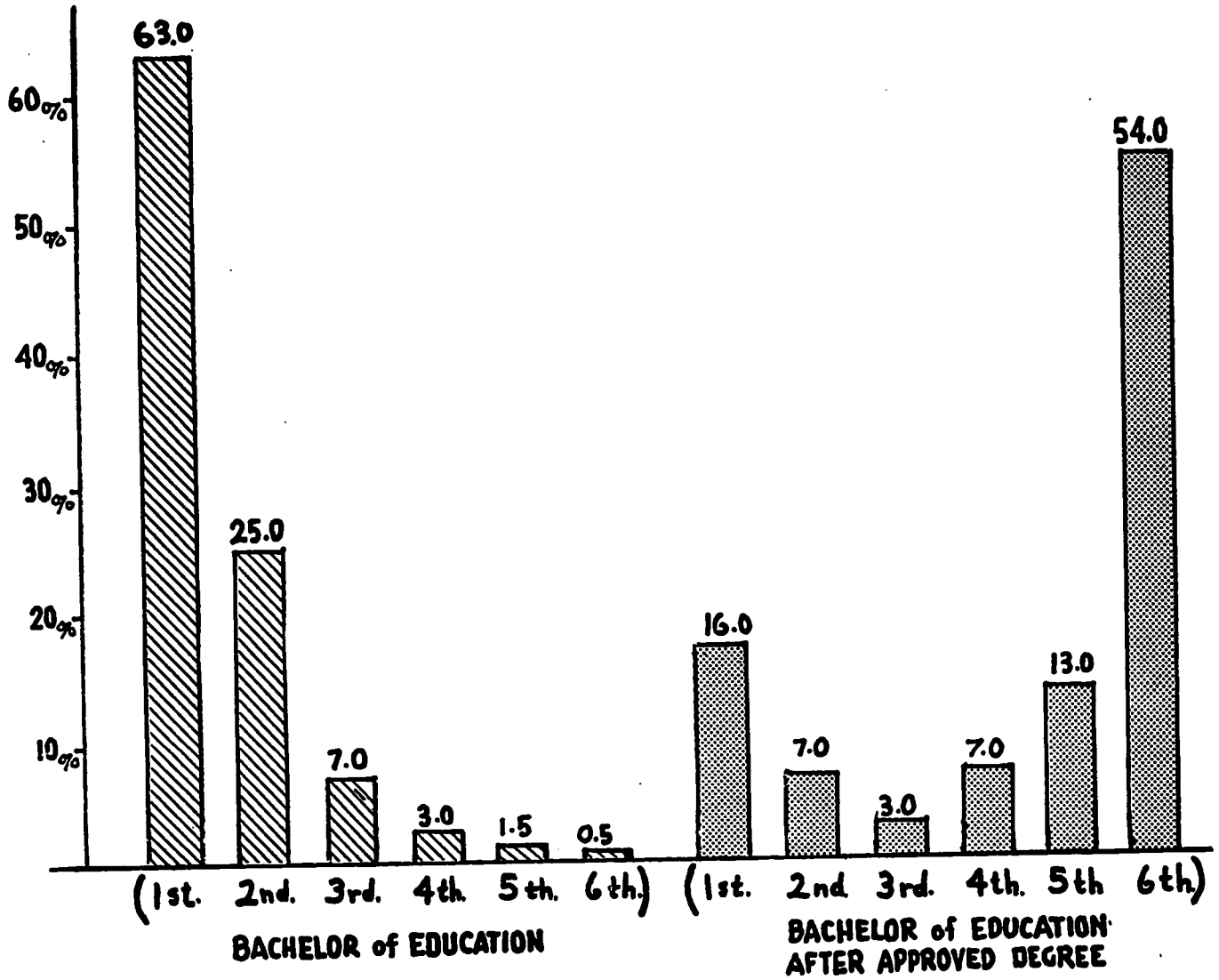


Figure 10. A Comparison of Stages at Which Prospective Teachers Made Their Decision to Select the Teaching Profession

1. Minnesota Teacher Attitude Inventory (1955)
2. Rokeach Dogmatism Scale, Form E (1960)
3. Prospective Teacher Questionnaire

Minnesota Teacher Attitude Inventory. The MTAI was developed by Cooke, Leeds and Callis (1951, 1955). It consists of a series of 150 statements concerning the nature and behavior of children. The possible range of scores is from plus 150 to minus 150.

The MTAI is a measuring instrument designed to measure the social-emotional climate that a teacher is likely to maintain in the classroom. On the basis of his extensive research on the instrument, Leeds (1952) asserts that it is capable of differentiating between teachers who get along well with pupils in inter-personal classroom relationships and those who do not. Leeds (1952) also states that the rationale underlying the construction of the Inventory includes the assumption that the attitudes of teacher towards pupils and their behavior express certain personality reactions directly involved in teacher-pupil relations. Measurement of these attitudes thus affords a key to the nature of the social-emotional atmosphere that a teacher will likely maintain in the classroom.

The MTAI has been widely used in differentiating between various types of teachers, particularly with a view toward selecting appropriate teacher-student personnel for selected positions and curricula (Callis, 1955; Downie

& Bell, 1953; Kearney & Rocchio, 1955, 1956; Tanner, 1954). More recently Evans (1966) and Leeds (1969) have used this instrument in assessing and predicting student-teacher success. Cook, Leeds and Callis (1951) carried out research on teacher attitudes for a period of over ten years before considering the MTAI to be reliable and valid instrument for the selection of students for teacher preparation and the selection of teachers for teaching positions. The authors of the MTAI further maintain that it is designed to measure those attitudes of a prospective teacher which may help to predict how well he will get along with the pupils in interpersonal relationships and indirectly how well satisfied he will be with teaching as a vocation.

The authors assumed that a prospective teacher ranking at the high end of the scale should be able to maintain a state of harmonious relations with children and express understanding and openness to them. Research conducted by Cook, Leeds and Callis (1951) indicated that teachers scoring high on the MTAI tend to establish class-room personal relations customarily described as "democratic" (open-minded) while low scoring teachers tend to establish relations usually characterized as "undemocratic" (closed-minded). Recent studies by Rosen (1968), and Johnson (1967) have been conducted to investigate the relationship between dogmatism and teacher attitudes (MTAI). They

found negative correlations. That is, a person with a high MTAI score tends to score low on dogmatism tests.

The MTAI is also purported to measure, indirectly, how well satisfied a teacher will be with teaching as a vocation, according to Vacchiano, Shiffman and Cromwell (1966).

The MTAI has been validated using criterion ratings by students, teachers, principals and observers. The authors of the instrument have obtained test-retest reliabilities of up to .87.

The validity of the MTAI for predicting the ability of teachers to create and maintain harmonious relationships with their students has been established, according to Scates (1956). When correlated with such criteria as:

1. pupil's ratings of the teacher,
2. expert's ratings of the teacher, and
3. principal's ratings of the teacher,

the MTAI has consistently produced validity coefficients between .50 and .63.

A copy of the MTAI is included in the Appendix A.

Rokeach Dogmatism Scale, Form E (1960). The Rokeach Dogmatism Scale, Form E, was used to measure student's receptivity to new ideas, their degree of open-mindedness, and the intensity of their authoritarianism. This Scale consists of forty statements to which subjects

respond by means of a six-element "agree-disagree" key (Rokeach, 1966, pp. 73-80). The scale is scored by the summated ratings method. Subjects respond to each item by means of a six-element key ranging from "I agree very much with the statement" marked as a +3 to "I disagree very much with the statement" marked -3. The zero point is excluded in order to force responses toward agreement or disagreement. For scoring purposes, this scale is then converted to a 1 to 7 scale by adding a constant of 4 to each item score. The values then range from +7 to +1. If there is no response to an item it is assigned 4 points. The total score on the scale is the sum of the points on all items of the scale. Total scores could conceivably range from a low of 40 to a high of 280. A high score would represent extreme closed-mindedness and a low score would represent open-mindedness. High scorers are assumed to be dogmatic, closed minded and unresponsive to new ideas. Low scorers are assumed to be flexible, adaptive and receptive to new ideas. Rokeach (1960, p. 89) reports test re-test reliability figures ranging from .68 to .93. This is further substantiated by Ehrlich (1961) who reports split-half and six-month re-test reliabilities of .75 and .73 respectively. Sawatzky (1967) conducted a test-retest study with twenty subjects and found a reliability coefficient of .83.

The primary purpose of this Scale is to measure

individual differences in openness or closedness of belief systems (Rokeach, 1960, p. 71). By virtue of the way open and closed are defined, this scale also purports to measure general authoritarianism and intolerance (Rokeach, 1960, p. 96). A copy of the Rokeach Dogmatism Scale is included in the Appendix B.

The Prospective Teacher Questionnaire. The Prospective Teacher Questionnaire, developed by the writer, was in part, patterned after research conducted by Fox (1948), Best (1948), Stern et al (1960), Ringness (1961), Rocchio (1961), Nelson (1968), Chabassol and Thomas (1968) and Fielstra (1965). A test-retest study with 40 students was carried out on the Questionnaire. It resulted in a reliability coefficient of .87.

Purposes of the Questionnaire were two-fold: (1) to obtain reactions to specific questions related to the teacher education program as experienced by prospective teachers at the University of Alberta; (2) to ascertain which motives were of prime importance to prospective teachers choosing the teaching profession. Reactions to the teacher education program are not reported in this study. Only the results of item (9), (see Appendix C) from the Questionnaire, are reported in this study. Students were asked to rank eleven motives which were presented in item (9) of the Prospective Teacher Questionnaire.

Analysis of Data

The data were coded in preparation for key-punching on IBM cards. The IBM cards were then used in conjunction with the suitable DATRAN programs prepared by the Division of Educational Research Services Division of the Department of Educational Psychology, The University of Alberta.

CHAPTER V

ANALYSIS AND DISCUSSION OF RESULTS

Analysis of the results is presented in five parts. Results in Part A deal with the hypotheses related to attitudes, open-mindedness and motives of prospective teachers when grouped on the basis of Program. Results in Part B deal with the hypotheses related to attitudes, open-mindedness and motives of prospective teachers when grouped on the basis of Sex. Results in Parts C, D and E deal with the hypothesis related to attitudes and open-mindedness of prospective teachers when grouped on the basis of Route, Subject Major and Stage of Decision, respectively.

The mean MTAI and dogmatism scores obtained by subjects in the above mentioned groups were compared using the analysis of variance and t test procedures.

The mean rankings of the eleven motives were compared for the groups involved by applying Kendal's coefficient of concordance.

A. Program

1. Teacher Attitudes. The MTAI mean for the subjects in the B.Ed. group was 46.17 and that for the B.Ed./AD group was 43.55. However, the means are not significantly different (F=.81). Table VIII provides a summary of these results.

TABLE VIII

MTAI MEANS FOR PROSPECTIVE TEACHERS GROUPED ON THE BASIS OF PROGRAM

Groups	Number of Observations	Means*	Standard Deviations
Bachelor of Education	242	46.17	28.67
Bachelor of Education After Approved Degree	203	43.55	32.65
Total	445	44.97	30.51

*Differences between means are non-significant.

Contrary to the hypothesis, the B.Ed. prospective teachers did not have significantly higher MTAI scores than did the B.Ed./AD prospective teachers. This result is similar to that of Leeds (1955) with his graduate student norms.

Results of Testing Hypothesis 1. No significant difference was found between the MTAI means scores of the B.Ed. and B.Ed./AD groups. Therefore, the hypothesis was rejected.

2. Open-mindedness. The comparison of means obtained by the B.Ed. and B.Ed./AD subjects on the Rokeach Dogmatism Scale are summarized on Table IX. The analysis of variance test showed that the differences between the means are non-significant (F=1.88).

Results of Testing Hypothesis 2. Differences in mean Dogmatism scores were not significant between B.Ed. and B.Ed./AD student teachers. Similar results were obtained when comparing MTAI means between the same two groups. The hypothesis was rejected.

3. Motives. In Item (9) of the Prospective Teacher Questionnaire respondents were provided with a list of eleven possible reasons for choosing the teaching profession and were asked to rank them in order of importance to them. The items were:

A. Opportunity to pass on to the younger generation the heritage of the past.

TABLE IX

DOGMATISM MEANS FOR PROSPECTIVE TEACHERS GROUPED ON THE BASIS OF PROGRAM

Groups	Number of Observations	Means*	Standard Deviations
Bachelor of Education	242	138.78	23.35
Bachelor of Education After Approved Degree	203	135.42	28.37
Total	445	137.25	25.75

*Differences between means are non-significant.

B. Opportunity to have desirable working conditions such as the five-day week and the long summer vacation for study and travel.

C. Opportunity to get as good a salary as you can probably earn.

D. Opportunity to creatively express and utilize your talents, skills and interests.

E. Opportunity to work in a subject-matter field of great interest and to help youngsters gain knowledge in that field.

F. Opportunity to do research which will contribute to the improvement of teaching.

G. Opportunity to hold a respected and prestigious position in the community.

H. Opportunity to help children and young people develop sound attitudes and values for living.

I. Opportunity to have the assurance of steady employment, little risk of losing one's job.

J. Opportunities for advancement and promotions as an educator.

K. Opportunity to work with children and young people and be an encouragement to them.

In order to compare the rankings of the B.Ed. and B.Ed./AD groups, the average rank was calculated for each of the eleven motives, separately for both groups. These means were then ordered by size. In this manner, the relative importance of each motive could be established for the two groups. As can be seen from Table X both groups ranked motives A, B, D, F, in identical fashion. The only noteworthy difference occurred with motives E and

TABLE X

MEAN RANKING OF ELEVEN MOTIVES FOR CHOOSING THE TEACHING PROFESSION BY PROSPECTIVE TEACHERS GROUPED BY PROGRAM

	Bachelor of Education		Bachelor of Education After Approved Degree	
Rank	Motive	Mean Rank*	Motive	Mean Rank*
1	K	2.59	K	2.79
2	E	2.99	H	3.31
3	H	3.13	E	3.62
4	D	3.70	D	3.62
5	B	6.96	B	6.01
6	F	7.01	F	7.05
7	A	7.07	A	7.44
8	I	7.82	C	7.70
9	J	7.87	I	7.89
10	C	8.22	J	8.04
11	G	8.64	G	8.59

*Differences in mean rankings were non-significant.

A - Opportunity to pass on to the younger generation the heritage of the past.
B - Opportunity to have desirable working conditions such as the five-day week and the long summer vacation for study and travel.
C - Opportunity to get as good a salary as you can probably earn.
D - Opportunity to creatively express and utilize your talents, skills and interests.
E - Opportunity to work in a subject-matter field of great interest and to help youngsters gain knowledge in that field.
F - Opportunity to do research which will contribute to the improvement of teaching.
G - Opportunity to hold a respected and prestigious position in the community.
H - Opportunity to help children and young people develop sound attitudes and values for living.
I - Opportunity to have the assurance of steady employment, little risk of losing one's job.
J - Opportunities for advancement and promotions as an educator.
K - Opportunity to work with children and young people and be an encouragement to them.

H, which were ranked 2 and 3 in the B.Ed. group but 3 and 2 in the B.Ed./AD group. However, when applying Kendal's coefficient of concordance to the ranked means of the two groups these differences were not significant. Thus, one may conclude that the rank order of importance of these eleven motives is not different for the B.Ed. and B.Ed./AD groups.

Results of Testing Hypothesis 3. The hypothesized difference of ranking between B.Ed. and B.Ed./AD prospective teachers of these motives was not supported.

B. Sex

4. Teacher Attitudes. Male subjects had a mean of 38.67 on the MTAI in contrast to the female subjects who had a mean of 49.80. The analysis of variance test showed that this difference in MTAI means is significant. Table XI provides a summary of the data.

When the inventory was used by Leeds (1955) for purposes of establishing norms, the females also tended to score higher than males on the MTAI. Hence, the above finding is in accord with results for the norming population.

Results of Testing Hypothesis 4. The hypothesis that female subjects would score higher on the MTAI than males was supported.

TABLE XI

MTAI MEANS OF PROSPECTIVE TEACHERS GROUPED ON THE BASIS OF THEIR SEX

Groups	Number of Observations	Means*	Standard Deviations
Male	193	38.67	33.42
Female	252	49.80	27.23
Total	445		

*Significance of difference ($F=14.96$; $p < .001$)

5. Open-mindedness. Male subjects obtained a mean dogmatism score of 139.32 and females a mean of 135.66. When applying the analysis of variance test no significant differences with respect to dogmatism were found. Table XII provides data regarding the above findings.

Results of Testing Hypothesis 5. The hypothesis that prospective female teachers will be significantly more open-minded than prospective male teachers was not supported.

6. Motives. The manner in which male and female prospective teachers ranked the eleven motives for choosing the teaching profession also showed no difference. Male and female subjects ranked motives A, B, C, D, F, G, and K identically. Motives E and H, as well as I and J were reversed in rank. On examination of Table XIII it is noted that the mean rank of the first four items varies from 2.60 to 3.57 for males and 2.77 to 3.71 for the females, which shows very little difference of how these items were ranked; they are virtually equally important. Similarly, an inspection of the Table XIII shows that the remaining items are roughly equal in importance, since their mean ranks differ only slightly.

An inspection of the mean rankings of the eleven motives as presented in Table XIII reveals that the motives tend to be clustered into two groups. Motives K, H, E and D form the top cluster of four of seven at the lower series

TABLE XII

DOGMATISM MEANS FOR PROSPECTIVE TEACHERS GROUPED ON THE BASIS OF SEX

Groups	Number of Observations	Means*	Standard Deviations
Male	193	139.32	26.07
Female	252	135.66	25.50
Total	445		

*Difference between means are non-significant.

TABLE XIII

THE MEAN RANKINGS OF ELEVEN MOTIVES FOR CHOOSING THE TEACHING PROFESSION BY MALE AND FEMALE PROSPECTIVE TEACHERS

	Male		Female	
Rank	Motive	Mean Rank*	Motive	Mean Rank*
1	K	2.60	K	2.77
2	H	3.05	E	3.33
3	E	3.18	H	3.39
4	D	3.57	D	3.71
5	B	6.90	B	6.14
6	F	6.93	F	7.11
7	A	7.03	A	7.43
8	J	7.81	I	7.55
9	C	8.17	C	7.75
10	I	8.17	J	8.16
11	G	8.62	G	8.64

*Differences in mean rankings are non-significant.

A - Opportunity to pass on to the younger generation the heritage of the past.
B - Opportunity to have desirable working conditions such as the five-day week and the long summer vacation for study and travel.
C - Opportunity to get as good a salary as you can probably earn.
D - Opportunity to creatively express and utilize your talents, skills and interests.
E - Opportunity to work in a subject-matter field of great interest and to help youngsters gain knowledge in that field.
F - Opportunity to do research which will contribute to the improvement of teaching.
G - Opportunity to hold a respected and prestigious position in the community.
H - Opportunity to help children and young people develop sound attitudes and values for living.
I - Opportunity to have the assurance of steady employment, little risk of losing one's job.
J - Opportunities for advancement and promotions as an educator.
K - Opportunity to work with children and young people and be an encouragement to them.

of rankings.

On the basis of Kendal's coefficient of concordance there are no significant differences between the mean rankings of the eleven motives by male and female prospective teachers.

Results of Testing Hypothesis 6. Male and female prospective teachers did not differ significantly in their rankings of the motives for choosing the teaching profession as presented in the questionnaire. Therefore, the hypothesis was rejected.

C. Route

7. Teacher Attitudes. The MTAI mean for the prospective teachers in the Elementary Route was 50.13 and for those in the Secondary Route it was 42.58. Upon applying the analysis of variance procedures the differences in means were significant at the $p < .01$ level. A summary of the results is provided in Table XIV.

Results of Testing Hypothesis 7. Differences in MTAI means obtained by these two groups of prospective teachers were significant. Therefore, the hypothesis which stated that the prospective teachers registered in the Elementary Route will score significantly higher on teacher attitudes, as measured by the MTAI, than those registered in the Secondary Route was supported. These results support previous research findings (Nolan, Rocchio, 1955; Condell

TABLE XIV

MTAI MEANS OF PROSPECTIVE TEACHERS GROUPED ON THE BASIS OF ROUTE

Groups	Number of Observations	Means*	Standard Deviations
Elementary	143	50.13	26.73
Secondary	302	42.58	32.00
Total	445		

*The differences in means are significant at the $p < .01$ level.

and Tonn, 1965 and Leeds, 1952) which indicated that prospective teachers selecting the Elementary Route do tend to score higher than those in the Secondary Route when using the MTAI to measure teacher attitudes.

8. Open-mindedness. Subjects were grouped on the basis of Route to examine Dogmatism means between the Elementary and Secondary groups. An examination of Table XV reveals that subjects in the Elementary Route obtained a mean of 137.03 while those subjects in the Secondary Route had a mean of 137.14. On the basis of the analysis of variance test there were no significant differences between means on the Dogmatism Scale.

Results of Testing Hypothesis 8. No significant differences between Dogmatism means were found when subjects were classified on the basis of Route. The hypothesis was rejected.

D. Academic Major

9. Teacher Attitudes. The multiple t test procedures were applied to compare the MTAI means for the Humanities group to the MTAI means obtained by each of the other four groups (Social Sciences, Natural Sciences, Physical Education and Early Childhood Education). An examination of Table XVI indicates that the MTAI mean obtained by the Humanities group was not significantly different from the MTAI mean obtained by the Social Sciences

TABLE XV

DOGMATISM MEANS OF PROSPECTIVE TEACHERS GROUPED ON THE BASIS OF ROUTE

Groups	Number of Observations	Means*	Standard Deviations
Elementary	143	137.03	24.75
Secondary	302	137.14	26.14
Total	445		

*Differences between means are non-significant.

TABLE XVI

MTAI MEANS OF PROSPECTIVE TEACHERS GROUPED ON THE BASIS OF ACADEMIC MAJOR

Groups	Number of Observations	Means	Standard Deviations
Humanities	84	52.79	27.81
Social Sciences	135	47.39*	28.76
Natural Sciences	167	41.47**	31.91
Physical Education	41	38.78**	35.11
Early Childhood Education	18	37.05**	24.28
Total	445		

*The differences between means are non-significant.
**The differences between means are significant at $p < .01$ level.

group but was significantly different from the MTAI means obtained by each of the other three groups at the $p < .01$ level.

Results of Testing Hypothesis 9. Since the hypothesis predicted that the prospective teachers majoring in the Humanities would score significantly higher on teacher attitudes as measured by the MTAI, than those prospective teachers majoring in each of the other major fields (Social Sciences, Natural Sciences, Physical Education and Early Childhood Education) the hypothesis was rejected.

10. Open-mindedness. When the sample was grouped on the basis of subject major (Humanities, Social Sciences, Natural Sciences, Physical Education, Early Childhood Education) means of Dogmatism scores were compared. Table XVII provides a summary of these findings.

Subjects with the Early Childhood Education major had the highest Dogmatism mean of 147.67 while subjects with the Humanities major obtained the low Dogmatism mean of 134.63. On the basis of the analysis of variance test, there were no significant differences among the means ($F=1.68$).

Results of Testing Hypothesis 10. Contrary to the hypothesis, no significant differences among Dogmatism means were found when subjects were grouped on the basis of academic major. The hypothesis, which predicted that

TABLE XVII

DOGMATISM MEANS OF PROSPECTIVE TEACHERS GROUPED ON THE BASIS OF ACADEMIC MAJOR

Groups	Number of Observations	Means*	Standard Deviations
Humanities	84	134.63	28.55
Social Sciences	135	134.85	24.75
Natural Sciences	167	139.89	25.29
Physical Education	41	135.41	25.09
Early Childhood Education	18	147.67	23.87
Total	445		

*Differences between means are non-significant.

prospective teachers majoring in the Humanities will be more open-minded than those prospective teachers majoring in Social Sciences, Natural Sciences, Physical Education or Early Childhood Education, was rejected.

E. Stage of Decision

11. Teacher Attitudes. The differences among MTAI means for subjects grouped according to Stage of Decision were non-significant when the analysis of variance test was applied. Table XVIII provides a summary of means. The means for subjects in each stage were as follows: First Stage = 47.38, Second Stage = 41.38, Third Stage = 40.56, Fourth Stage = 50.13, Fifth Stage = 43.10, and Sixth Stage = 43.88.

Results of Testing Hypothesis 11. The differences among MTAI means for subjects grouped on the basis of Stage of Decision were found to be non-significant. That is, students who decided to enter the teaching profession while still in high school did not score significantly higher on the MTAI than those who chose to enter at any of the other five stages. This hypothesis was, therefore, rejected.

12. Open-mindedness. Subjects were grouped on the basis of Stage of Decision (First - prior to completing grade XII; Second - after graduating from high school; Third - during the first year of university; Fourth -

TABLE XVIII

MTAI MEANS OF PROSPECTIVE TEACHERS GROUPED ON THE BASIS OF STAGE AT WHICH THE DECISION TO ENTER THE TEACHING PROFESSION WAS MADE

Groups	Number of Observations	Means*	Standard Deviations
First Stage	183	47.38	31.64
Second Stage	76	41.38	24.53
Third Stage	23	40.56	26.82
Fourth Stage	22	50.13	35.44
Fifth Stage	30	43.10	31.95
Sixth Stage	111	43.88	30.51
Total	445		

*Differences between means are non-significant.

during second year of university; Fifth - during third year of university; Sixth - after completing an undergraduate degree). Dogmatism means (see Table XIX) ranged from a low of 129.36 for those students grouped in the Fifth Stage to a high of 145.60 for those in the Third Stage. An application of the analysis of variance test revealed that the differences among Dogmatism means were non-significant.

Results of Hypothesis 12. This hypothesis, which predicted that prospective teachers who made their decision to enter the teaching profession at the sixth stage would be more open-minded than those who made this decision at any of the other five stages, was not upheld, therefore, this hypothesis was rejected.

Summary of Results

The results of analysing these data indicated that there were significant differences in teacher attitudes as measured by the MTAI among prospective teachers when grouped on the basis of sex and route, but there were no significant differences when prospective teachers were grouped on the basis of program, academic major, and the stage of decision at which they chose to enter the teaching profession.

Secondly, the results indicated that there appeared to be no significant differences in open-mindedness as measured by the Rokeach Dogmatism Scale when prospective

TABLE XIX

DOGMATISM MEANS OF PROSPECTIVE TEACHERS GROUPED ON THE BASIS OF STAGES AT WHICH THE DECISION TO ENTER THE TEACHING PROFESSION WAS MADE

Groups	Number of Observations	Means*	Standard Deviations
First Stage	183	136.81	24.50
Second Stage	76	139.93	21.20
Third Stage	23	145.60	29.20
Fourth Stage	22	143.27	21.23
Fifth Stage	30	129.36	25.45
Sixth Stage	111	135.35	30.15
Total	445		

*Differences between means are non-significant.

teachers were grouped on the basis of program, sex, route, academic major, and stage of decision.

And thirdly, the results also indicated that there appeared to be no significant differences in ranking eleven motives for choosing the teaching profession when prospective teachers were grouped on the basis of program and sex.

CHAPTER VI

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter includes a brief statement of the purpose and problem in the study, a brief description of the sample, the results of the research, several conclusions and recommendations.

The Problem

The problem was to examine teacher attitudes, open-mindedness and motives of prospective teachers when grouped on the basis of:

Program (B.Ed., B.Ed./AD); Sex (Male, Female); Route (Elementary and Secondary); Subject Major (Humanities, Social Sciences, Natural Sciences, Physical Education, Early Childhood Education); Stage of Decision to Select Teaching Profession [(1) Prior to graduation from grade XII, (2) After graduation from high school, (3) During first year of university, (4) During second year of university, (5) During third year of university, (6) After completing an undergraduate degree].

Purpose of the Study

The purpose of this study was three-fold: (1) to examine and compare teacher attitudes, open-mindedness and motives for choosing the teaching profession, of

prospective teachers grouped on the basis of program; (2) to examine and compare teacher attitudes, open-mindedness and motives for choosing the teaching profession of prospective teachers grouped on the basis of sex; and (3) to examine and compare teacher attitudes and open-mindedness of prospective teachers grouped on the basis of route, subject major and stage of decision to enter the teaching profession.

The Sample

From a population of 778 prospective teacher enrolled in the B.Ed. and B.Ed./AD programs at the University of Alberta in the fall of 1969, a sample of 445 participants was obtained for this study. This sample consisted of 242 B.Ed. students and 203 B.Ed./AD students. To take into consideration a possible non-response bias, a t test was run on mean ages and grade XII matriculation averages for the respondents and for the non-respondents. No significant differences were found.

Results of the Study

A. Program

1. Attitudes. When the sample was grouped on the basis of Program and the MTAI means compared, no significant differences were found. Therefore, Hypothesis I, which stated that the prospective teachers in the B.Ed. program would obtain significantly higher MTAI means than

prospective teachers in the B.Ed./AD was not supported.

2. Open-mindedness. When the sample was grouped on the basis of Program and the Dogmatism means compared no significant differences were found. (The Rokeach Dogmatism Scale measures open and closed-mindedness.) Therefore, Hypothesis 2, which predicted that the B.Ed. students would be significantly more open-minded than the B.Ed./AD students, was not supported.

3. Motives. B.Ed. and B.Ed./AD subjects were asked to rank eleven given motives for selecting the teaching profession. The mean rankings of the eleven motives for the two groups were compared, using Kendal's coefficient of concordance. No significant differences in mean rankings between the B.Ed. and B.Ed./AD students were found. Therefore, Hypothesis 3, which predicted a difference, was not supported.

B. Sex

4. Attitudes. When the sample was grouped on the basis of Sex and the MTAI means compared, significant differences were found. Hypothesis 4, which predicted that prospective female teachers would score significantly higher than prospective male teachers on teacher attitudes, was supported.

5. Open-mindedness. When the sample was grouped on the basis of Sex, no significant differences in Dogmatism

means were found. (The Rokeach Dogmatism Scale measures open and closed-mindedness of subjects.) Therefore, Hypothesis 5, which predicted that the female prospective teachers would be significantly more open-minded than prospective male teachers, was not supported.

6. Motives. Male and female prospective teachers were asked to rank eleven given motives for selecting the teaching profession. The mean rankings of the eleven motives for the two groups were compared using Kendal's coefficient of concordance. No significant differences in mean rankings were found. Therefore, Hypothesis 6 was not supported.

C. Route

7. Attitudes. When the sample was grouped on the basis of Route and the MTAI means compared significant differences between the Elementary and Secondary prospective teachers were found thus supporting Hypothesis 7. This hypothesis predicted that the students in the Elementary Route would score significantly higher in teacher attitudes than students in the Secondary Route.

8. Open-mindedness. When the sample was grouped on the basis of Route and Dogmatism means compared, no significant differences between the students registered in the Elementary and Secondary Routes were found. (The Rokeach Dogmatism Scale was used to measure open- closed-

mindedness.) Therefore, Hypothesis 8, which predicted that students registered in the Elementary Route would be significantly more open-minded than those registered in the Secondary Route was not supported.

D. Academic Subject Major

9. Attitudes. MTAI means for students with Humanities, Social Sciences, Natural Sciences, Physical Education and Early Childhood Education majors were compared. Hypothesis 9, which predicted that prospective teachers majoring in the Humanities would score significantly higher on teacher attitudes than those majoring in any of the other four areas, was not supported.

10. Open-mindedness. When the sample was grouped on the basis of Academic Major, and the Dogmatism means compared, no significant differences were found. (The Rokeach Dogmatism Scale was used to measure open and closed-mindedness.) Therefore, Hypothesis 10, which predicted that students majoring in the Humanities would be significantly more open-minded than those majoring in the Social Sciences, Natural Sciences, Physical Education or Early Childhood Education, was not supported.

E. Stage of Decision to Enter the Teaching Profession

11. Attitudes. No significant differences in MTAI means were found among students who chose to enter the teaching profession at the various stages. Hypothesis

11, which predicted that students who chose to enter teaching at the first stage would score significantly higher on teacher attitudes than those whose decision was made at subsequent stages, was not supported.

12. Open-mindedness. No significant differences in Dogmatism means were found among students who chose to enter the teaching profession at the various stages. Hypothesis 12, which predicted that students who chose to enter the teaching profession at the sixth stage would be significantly more open-minded than those who chose to do so at any of the five previous stages, was not supported.

Conclusions

Keeping the limitations of the sample and the instruments in mind, the following general conclusions appear to be warranted:

1. The two groups of prospective teachers (B.Ed. and B.Ed./AD) had similar attitudes toward teaching. However, differences existed between sub-groups within the sample. These differences were significant when the sample was grouped according to Sex and Route. Female prospective teachers and Elementary Education prospective teachers tended to score higher on the MTAI, than did Male prospective teachers and Secondary Education prospective teachers.

2. The Rokeach Dogmatism Scale failed to reveal

any differences in open-mindedness between the various sub-groups of prospective teachers. Since no significant results were found one would tend to conclude that the sub-groups were more alike than they were different.

3. The two groups (B. Ed. and B.Ed./AD) of prospective teachers in this study appeared to possess similar motives for selecting the teaching profession. The eleven motives were ranked in what appeared to be two distinct clusters; those motives that focused on others (the pupil) and those that focused on the self (the teacher). The clustering effect in rankings was the same for both B.Ed. and B.Ed./AD groups. Similarly, the motives for selecting the teaching profession appeared to be the same for male and female prospective teachers. The clustering effect mentioned above was also evident when comparing male and female students.

4. Contrary to the conclusions reached by Kingsley (1968), which suggested that prospective teachers who chose the teaching career at the outset of their university education are more open-minded than those who make this decision at subsequent stages, data in this study revealed that there were no significant differences in open-mindedness among students having chosen teaching at various stages.

Recommendations

1. Further research, using the MTAI and Rokeach Dogmatism Scale, is necessary in an effort to determine how

attitudes and open-mindedness may change as this sample of prospective teachers begin their teaching careers. A longitudinal study covering two or three five-year intervals may provide data to determine the usefulness of these two instruments as predictive instruments in teacher selection.

2. A further study to ascertain whether the teachers who score high on the MTAI relate better to children than those who score low on the MTAI and are able to establish a democratic (non-authoritarian) climate in their classrooms, might prove to be a useful follow-up study of this sample of prospective teachers.

3. All institutions educating teachers should continue to give great attention to the personality of prospective teachers. Adequate teacher preparation involves more than teaching methods and course content. The MTAI could be used in the assessment of the prospective teacher's ability to relate to children.

4. Research with the MTAI and Rokeach Dogmatism Scale, using a pre- and post-test design, might be implemented when teacher education students initially register in the respective programs and at the point of completing their teacher education programs. This would be a possible measure of the amount of change in teacher attitudes and open-mindedness prospective teachers undergo during their teacher education experiences. These data may have relevance to curriculum revisions and/or development for the future.

5. An investigation into the relationship between open-mindedness and the teacher as an innovator of change might prove to be useful for teacher education personnel, as programs are assessed.

6. Research concerning the possible changes in motives of teachers once they have been in the field a number of years is needed.

B I B L I O G R A P H Y

BIBLIOGRAPHY

Adorno, T. W. Frenkel-Brunswick, E., Levinson, D. and Sanford, R. The Authoritarian Personality. New York: Harper & Brothers, 1950.

Allport, C. W. The nature of Prejudice. Cambridge, Mass.: Allison-Wesley Publishing Co., 1954.

Alter, R. D. and White. B. J. Some norms for the dogmatism scale. Psychological Reports, Vol. 19, 1966, pp. 967-969.

Anderson, R. M. Open and closed-minded student teachers. Unpublished Master's Thesis, Department of Secondary Education, University of Alberta, 1969.

Anderson, C. A. A Canadian critic on teacher education in Western United States. Alberta Journal of Educational Research, Vol. VI, 1960, pp. 186-191.

Anderson, C. J. An exploratory analysis of the elementary school internship. Institute of Research in Education, Report. Faculty of Education, McGill University, August, 1969.

Astin, A. W. and Helland, J. L. The environmental assessment technique: a way to measure college environments. Journal of Educational Psychology, LII, (1961), pp. 308-316.

Barr, A. S. Wisconsin studies of the measurement of teacher affectiveness: a summary of investigations. Journal of Experimental Education, Vol. 30, Sept., 1961, pp. 5-156.

Best, A. S., et al. A study of certain selected factors underlying the choice of teaching as a profession. Journal of Experimental Education, 1948.

Bishop, J. et al. Early ventures in learning. Report of the School Readiness Centre (Edmonton), April, 1969.

Brown, W. F. and Holtzman, W. H. A Manual for the Brown and Holtzman Survey of Study Habits and Attitudes. New York: The Psychological Corporation, 1956.

Callis, R. Change in teacher-pupil attitudes related to training and experience. Educational and Psychological Measurement, Vol. 10, 1950, pp. 718-727.

Callis, R. The efficiency of the Minnnesota Teacher Attitude Inventory for predicting interpersonal relations in the classroom. Journal of Applied Psychology, Vol. 37, 1953, pp. 82-85.

Cappelluzzo, E. and Brine, J. Dogmatism and prospective teachers. Journal of Teacher Education, Vol. XX, No. 2, Summer, 1969, pp. 148-152.

Chabassol, D. J. and Thomas, D. C. Anxiety, aptitude, achievement and performance in male elementary teachers. Alberta Journal of Educational Research, Vol. XIV, No. 4, Dec. 1968.

Chalmers, R. Student perception of teacher image. Unpublished M. Ed. Thesis, University of Alberta, 1968.

Charters, W. W. The Commonwealth Teacher Training Study. Chicago: The University Press, 1929.

Cook, W., Kearney, N., Rocchio, P. and Thompson, A. Significant factors in teacher's classroom attitudes. Journal of Teacher Education, Vol. 7, 1956, pp. 274-279,

Cook, W. W., Leeds, C. H. and Callis, R. Minnesota Teacher Attitude Inventory Manual, 1951.

Condell, J. F. and Tonn, M. H. A comparison of MTAI Scores. Mental Retardation, Feb. 1965, pp. 23-24.

Costin, F. Dogmatism and learning: A follow-up of contradictory findings. Journal of Educational Research, Vol. 59, 1965, pp. 186-88.

Della, Piana, G. M. and Gage, N. L. Pupils' values and the validity of the Minnesota Teacher Attitude Inventory. Journal of Educational Psychology, Vol. 46, March 1955, pp. 167-78.

Del Popolo, J. A. Authoritarian treads in personality as related to attitudinal and behavioral traits of student teachers. Journal of Educational Research, Vol. 53, March, 1960, pp. 252-257.

Diphoye, W. J., and Anderson, W. F. The ordering of occupational values by H. S., Freshmen and Seniors. Personnel and Guidance Journal, Oct. 1959, p. 123.

Dutton, W. Attitude change of elementary school student teachers and anxiety. The Journal of Educational Research, Vol. 55, S, May, 1962, pp. 380-382.

Downie, N. M. and Bell, C. R. The Minnesota Teacher Attitude Inventory as an aid in the selection of Teachers. Journal of Educational Research, Vol. 46, 1953, pp. 699-704.

Dressell, P. and Lehmann, Irvin. The impact of higher education on student attitudes, values, and critical thinking abilities. Educational Record, Vol. 46, 1965, pp. 248-258.

Ehrlich, N. and Lee, D. Dogmatism, learning and resistance to change: a review and a new paradigm. Psychological Bulletin, Vol. 71, November 4, April, 1969, pp. 249-259.

Emans, R. Teacher attitudes as a function of values. The Journal of Educational Research, Vol. 62, No. 10, July-August, 1969, pp. 459-463.

Emlaw, Rita and others. Teacher effectiveness: A method for prediction and evaluation. The National Elementary Principal, Vol. XLIII, Nov. 1963, pp. 38-39.

Encyclopedia of Educational Research: a Project of the American Educational Research Association. Edited by Chester W. Harris. 3rd edition. New York: Macmillan, 1960.

Feather, N. T. Cognitive differentiation, attitude, strength, and dogmatism. Journal of Personality, Vol. 37, NA. 1, March, 1969, pp. 111-125.

Feldman, K. and Newcomb, T. The Impact of College on Students. (An analysis of four decades of research.) San Francisco: Jossey-Bass Inc., Publishers, Vol. I and II, 1969.

Ferguson, C. Statistical Analysis in Psychology and Education. Toronto: McGraw-Hill, 1959, 1966.

Fielstra, C. An analysis of factors influencing the decision to become a teacher. Journal of Educational Research, Vol. 48, May, 1955, pp. 5559-667.

Fishbein, M. Readings in Attitude Theory and Measurement. London: John Wiley & Sons, Inc., 1967.

Fox, W. H. and Ricky, R. W. An analysis of various factors associated with selection of teaching as a vocation. Indiana University School of Education Bulletin, Vol. 24, 1948, pp. 1-58.

Frumkin, R. M. Dogmatism, social class, values, and academic achievement in sociology. Journal of Educational Sociaology, Vol. XXXIV, 1960-61, pp. 398-403.

Fuller, E. M. The use of teacher-pupil attitudes, self-rating and measures of general ability in the pre-service selection of nursery school-kindergarten-primary teachers. Journal of Educational Research, Vol. 44, 1951, pp. 675-686.

Gage, N. L. (ed.). Handbook of Research on Teaching. Chicago: Rand McNally & Company, 1963.

Getzels, J. W. Changing values challenge the schools. School Review, LXV (Spring), 1957, pp. 92-102.

Getzels, J. W. and Jackson, P. W. The Teacher's Personality and Characteristics. Handbook of Research on Teaching. (Edited by N. L. Gage.) Chicago: Rand McNally and Company, 1963.

Giebink, J. W. A failure of the Minnesota Teacher Attitude Inventory to relate to teacher behavior. Journal of Teacher Education, Vol. XVIII, No. 2, Summer 1967, pp. 232-239.

Ginsberg, E. and Geinsberg, J. W., Axelrod, E. and Herma, J. L. Occupational Choice. New York: Columbia University Press, 1951.

Gue, L. R. Personality and situational factors in the choice of teaching as a career. Term Paper presented to faculty Graduate Studies, University of Alberta, 1965.

Haubrich, V. F. The motives of prospective teachers. Journal of Teacher Education, Vol. XI, September, 1960, p. 381.

Hoare, H. The relationship of Personality Rigidity to the Scholastic Achievement of Matriculated Students. Unpublished M. Ed. Thesis, University of Alberta, 1968.

Hoyt, C. J. and Cook, W. W. The predictive validity of Minnesota Teacher Attitude Inventory based on pupil attitudes toward school. Journal of Technical Education, Vol. 1, 1959, pp. 42-44.

Jacobs, E. B. Attitude change in teacher education: an inquiry into the role of attitude in changing teacher behavior. Journal of Teacher Education, Vol. 19, 4, Winter 1968, pp. 410-415.

Jantzen, J. M. An opinionnaire on why college students choose to teach. Journal of Educational Research, Vol. 53, No. 1, Sept. 1959, p. 14.

Jeffers, V. Teaching as a profession: attitudes of teachers and association leaders. The National Elementary Principal, Vol. XLVII, No. 5, April 1968, pp. 26-37.

Johnson, J. S. Change in student teacher dogmatism. The Journal of Educational Research, Vol. 62, No. 5, January 1969, pp. 224-226.

Johnson, J. S. The relationship of open and closed mindedness to success in student teaching. Dissertation Abstracts, Vol. 27, 1966, 1282-A.

Johnston, W. W. Dogmatism as a means of predicting insecurity, self concept, meaning, attitude and effectiveness of female teachers. Dissertation Abstracts, Humanities and Social Sciences, Vol. 28, 1967-68, 1707-A.

Kearney, N. C. and Rocchio, P. D. The relation between Minnesota Attitude Inventory and subject taught by elementary teachers. Education Admin. Superv., Vol. 41, 1955, pp. 358-360.

Kearney, N. C. and Rocchio, P. D. The effect of teacher education on the teacher's attitude. Journal of Educational Research, Vol. 49, 1956, pp. 703-708.

Kemp, C. C. Changes in patterns of personal values. Teaching in America. (Edited by A. C. Riccio and F. R. Cyphert.) Columbus, Ohio: Charles E. Merrill Books, 1962, pp. 388-396.

Kemp, C. C. Influence of dogmatism on the training of counselors. Journal of Counselling Psychology, Vol. 9, 1962, pp. 155-57.

Kingsley, R. W. Commitment to teaching. Journal of Teacher Education, Vol. XIX, No. 4, Winter 1968, pp. 452-455.

Kleck, R. E. and Wheaton, J. Dogmatism and responses to opinion-consistent and opinion-inconsistent information. Journal of Personality and Social Psychology, Vol. 5, 1967, pp. 249-252.

Knox, Mary. Intellectual attitudes and their relationship to authoritarianism in teachers. Unpublished M. Ed. Thesis, University of Alberta, 1968.

Lang, Gerhard. Motives in selecting elementary and secondary school teaching. Journal of Experimental Education, Vol. 29, No. 1, Sept. 1960, pp. 101-104.

Leeds, C. H. A second validity study of the Minnesota Teacher Attitude Inventory. The Elementary School Journal, March, 1952, pp. 399-405.

Leeds, C. H. Predictive validity of the Minnesota Teacher Attitude Inventory. The Journal of Teacher Education, Vol. XX, No. 1, Spring, 1969, pp. 52-55.

Maslow, A. H. Motivation and Personality. New York: Harper and Brothers, Publishers, 1954.

McCaw, R. W. Cognitive dissonance and teachers in training. Journal of Experimental Education, Vol. 35, No. 4, Summer, 1967, pp. 50-53.

McFadden, J. D. The relationship of values, attitudes and personality characteristics of student teachers to ratings by their supervisors. Northwestern University, Ph. D. Dissertation, 1965.

McLeish, J. Teacher's attitudes - a study of national and other differences. Cambridge: Cambridge Institute of Education, Shaftesbury Road, 1969.

Musella, D. Open-closed mindedness as related to the rating of teachers by elementary school principals. Journal of Experimental Education, Vol. 35, No. 3, 1967, pp. 75-79.

Nelson, E. and Giebink, J. Teachers' motives for career choice. Journal of Experimental Education, Vol. 36, No. 4, Summer 1968, pp. 73-77.

Oelke, M. C. A study of student teacher's attitudes toward children. Journal of Educational Psychology, Vol. 47, April, 1956, pp. 193-198.

Popham, W. J. and Trimble, R. R. The Minnesota Teacher Attitude Inventory as an index of general teaching competence. Educational and Psychological Measurements, Vol. 20, Autumn, 1960, pp. 509-512.

Purvis, N. M. et al. Report: B.Ed./AD Program (1967-68). Department of Elementary Education, University of Alberta, Edmonton, August 1968.

Rabkin, L. Y. The dogmatism of teachers. The Journal of Teacher Education, Vol. 17, No. 1, Spring, 1966, pp. 47-49.

Ratsoy, E. A comparative and cross-sectional study of attitudes of prospective teachers. Unpublished Ph. D. Thesis, University of Alberta, Edmonton, 1965.

Ratsoy, E. W. Professional attitudes of prospective teachers. The Canadian Administrator, U. of A. No. 8, 1966, pp. 31-34.

Remmers, B. H. Introduction to Opinion and Attitude Measurement. New York: Harper & Brothers, 1954.

Ringness, Thomas. Motivation of teachers and teaching success. Journal of Experimental Education, Vol. 30, No. 1, September, 1961, pp. 107-118.

Robins, Glaydon D. The impact of current educational change upon teacher education. Journal of Teacher Education, Vol. XX, No. 2, Summer, 1969, pp. 182-187.

Rogers, C. R. Client-centered Therapy. Boston: Houghton, 1951.

Rokeach, Milton. Beliefs, Attitudes and Values. San Francisco: Jessey-Bass Inc., Publishers, 615 Montgomery Street, 1968.

Rokeach, M. On unity of thought and belief. Journal of Personality, Vol. 25, 1956, pp. 224-250.

Rokeach, M. The Open and Closed Mind. New York: Basic Books Inc., Publishers. 1960.

Rokeach, M. The nature and meaning of dogmatism. Psychological Review, Vol. 61, No. 3, 1954, pp. 194-204.

Rokeach, M. Public Op. Quarterly. Winter, 1968-69.

Rokeach, M. and Mezei, L. Rare and shared belief as factors in social choice. Science, 1966, 151, 167-172.

Rosen, J. School counselor dogmatism and vocational identity. Psychological Reports. Vol. 23, 1968, pp. 24-26.

Rosenberg, M. Occupational and Values. Glencoe, Illinois: The Free Press, 1957.

Rubenowitz, S. Emotional flexibility - rigidity as a comprehensive dimension of the mind. Stockholm i Almquist & Wiksell, 1963.

Ryans, D. G. Characteristics of Teachers. Washington: American Council on Education, 1960.

Ryans, D. G. Teacher personnel: An assessment of teacher behavior and instruction. The American Educational Research Association (AERA), Oct. 1963, Ch. 3.

Sandgren, D. and Schmidt, L. Does practice teaching change attitudes toward teaching? Journal of Educational Research, Vol. 49, May, 1956, pp. 673-680.

Sawatzky, D. D. The relationship between open-mindedness and accurate interpersonal perception. Unpublished M. Ed. Thesis, University of Alberta, Edmonton, 1968.

Scates, D. Significant factors in teachers' classroom attitudes. The Journal of Teacher Education, 1956, pp. 274-279.

Scodel, A. and Musson, P. Social perceptions of authoritarians and non-authoritarians. Journal of Abnormal and Social Psychology, Vol. 48, 1953, pp. 181-184.

Scott, W. O. N., and Brinkley, S. G. Attitude changes of student teachers and the validity of the Minnesota Teacher Attitude Inventory. Journal of Educational Psychology, Vol. 51, April 1960, pp. 76-81.

Soderbergh, P. Dogmatism and the public school teacher. Journal of Teacher Education, Vol. 15, 1964, pp. 245-251.

Spearman, C. The abilities of men: their nature and measurement. New York: Macmillan, 1927.

Standlee, L. S. and Popham, W. J. The MTAI as a predictor of over-all teacher effectivenss. Journal of Educational Research, Vol. 52, No. 8, April, 1959, pp. 319-320.

Stein, H., Hardy, J. A validation study of MTAI in Manitoba. Journal of Educational Research, Vol. 50, 1956-57, Jan., pp. 321-38.

Stern, G., Masling, J., Denton, B., Henderson, J., and Levine, R. Two scales for assessment of unconscious motivations for teaching. Educational and Psychological Measurements, Vol. XX, Spring, 1960, pp. 9-29.

Super, D., Caplan, H. Work values of school counselors attending NDEA summer guidance institutes. Personnel and Guidance Journal, Vol. 46, Sept. 1967, pp. 27-31.

Tosi, E., Quarante, J., and Frumkin, R. Dogmatism and student teacher perceptions of ideal classroom leadership. Perceptual and Motor Skills, Vol. 27, 1968, p. 750.

Tuppen, C. J. The measure of teachers' attitudes. Educational Research. Vol. 8, 1965, pp. 142-145.

Vacchiano, R. B., Strauss, P. S. and Schiffman, D. C. Personality correlates of dogmatism. Journal of Consulting and Clinical Psychology, Vol. 32, No. 1, 1968, pp. 83-85.

Vacchiano, R., Strauss, P., Hochman, L. The open and closed mind: a review of dogmatism. Psychological Bulletin, Vol. 71, No. 4, April, 1969, pp. 261-273.

Webster, H. C. Changes in attitudes during college. Journal of Educational Psychology, Vol. 49, No. 3, June 1958, pp. 109-117.

Webster, H., Sanford, N., and Freedman, M. A new instrument for studying authoritarianism in personality. The Journal of Psychology, Vol. 40, 1955, pp. 73-84.

Weir, Edward C. The open mind: an essential in teaching and learning. The Educational Forum, Vol. XXVII, May 1963, pp. 429-435.

Winer, B. J. Statistical Principles in Experimental Design. Toronto: McGraw-Hill Book Company. 1962.

Wright, J. and Shaw, M. Scale for Measurement of Attitudes. Toronto: McGraw-Hill, 1967.

A P P E N D I X A

MINNESOTA TEACHER ATTITUDE INVENTORY

FORM A

DO NOT OPEN UNTIL TOLD TO DO SO

MINNESOTA TEACHER ATTITUDE INVENTORY

Form A

WALTER W. COOK
University of Minnesota

CARROLL H. LEEDS
Furman University

ROBERT CALLIS
University of Missouri

DIRECTIONS

This inventory consists of 150 statements designed to sample opinions about teacher-pupil relations. There is considerable disagreement as to what these relations should be; therefore, there are no right or wrong answers. What is wanted is your own individual feeling about the statements. Read each statement and decide how YOU feel about it. Then mark your answer on the space provided on the answer sheet. Do not make any marks on this booklet.

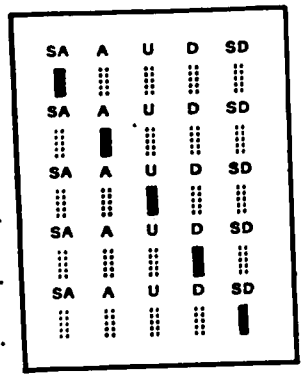
If you **strongly agree**, blacken space under "SA" .....

If you **agree**, blacken space under "A" .....

If you are **undecided** or **uncertain**, blacken space under "U" .....

If you **disagree**, blacken space under "D" .....

If you **strongly disagree**, blacken space under "SD" .....



Think in terms of the general situation rather than specific ones. There is no time limit, but work as rapidly as you can. **PLEASE RESPOND TO EVERY ITEM.**

The inventory contained in this booklet has been designed for use with answer forms published or authorized by The Psychological Corporation. If other answer forms are used, The Psychological Corporation takes no responsibility for the meaningfulness of scores.

Printed in U.S.A.

The Psychological Corporation, 304 East 45th Street, New York, N. Y. 10017

70-198TB

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree

1. Most children are obedient.
2. Pupils who "act smart" probably have too high an opinion of themselves.
3. Minor disciplinary situations should sometimes be turned into jokes.
4. Shyness is preferable to boldness.
5. Teaching never gets monotonous.
6. Most pupils don't appreciate what a teacher does for them.
7. If the teacher laughs with the pupils in amusing classroom situations, the class tends to get out of control.
8. A child's companionships can be too carefully supervised.
9. A child should be encouraged to keep his likes and dislikes to himself.
10. It sometimes does a child good to be criticized in the presence of other pupils.
11. Unquestioning obedience in a child is not desirable.
12. Pupils should be required to do more studying at home.
13. The first lesson a child needs to learn is to obey the teacher without hesitation.
14. Young people are difficult to understand these days.
15. There is too great an emphasis upon "keeping order" in the classroom.
16. A pupil's failure is seldom the fault of the teacher.
17. There are times when a teacher cannot be blamed for losing patience with a pupil.
18. A teacher should never discuss sex problems with the pupils.
19. Pupils have it too easy in the modern school.
20. A teacher should not be expected to burden himself with a pupil's problems.
21. Pupils expect too much help from the teacher in getting their lessons.
22. A teacher should not be expected to sacrifice an evening of recreation in order to visit a child's home.
23. Most pupils do not make an adequate effort to prepare their lessons.
24. Too many children nowadays are allowed to have their own way.
25. Children's wants are just as important as those of an adult.
26. The teacher is usually to blame when pupils fail to follow directions.
27. A child should be taught to obey an adult without question.
28. The boastful child is usually over-confident of his ability.
29. Children have a natural tendency to be unruly.
30. A teacher cannot place much faith in the statements of pupils.

GO ON TO THE NEXT PAGE

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree.

31. Some children ask too many questions.

32. A pupil should not be required to stand when reciting.

33. The teacher should not be expected to manage a child if the latter's parents are unable to do so.

34. A teacher should never acknowledge his ignorance of a topic in the presence of his pupils.

35. Discipline in the modern school is not as strict as it should be.

36. Most pupils lack productive imagination.

37. Standards of work should vary with the pupil.

38. The majority of children take their responsibilities seriously.

39. To maintain good discipline in the classroom a teacher needs to be "hard-boiled."

40. Success is more motivating than failure.

41. Imaginative tales demand the same punishment as lying.

42. Every pupil in the sixth grade should have sixth grade reading ability.

43. A good motivating device is the critical comparison of a pupil's work with that of other pupils.

44. It is better for a child to be bashful than to be "boy or girl crazy."

45. Course grades should never be lowered as punishment.

46. More "old-fashioned whippings" are needed today.

47. The child must learn that "teacher knows best."

48. Increased freedom in the classroom creates confusion.

49. A teacher should not be expected to be sympathetic toward truants.

50. Teachers should exercise more authority over their pupils than they do.

51. Discipline problems are the teacher's greatest worry.

52. The low achiever probably is not working hard enough and applying himself.

53. There is too much emphasis on grading.

54. Most children lack common courtesy toward adults.

55. Aggressive children are the greatest problems.

56. At times it is necessary that the whole class suffer when the teacher is unable to identify the culprit.

57. Many teachers are not severe enough in their dealings with pupils.

58. Children "should be seen and not heard."

59. A teacher should always have at least a few failures.

60. It is easier to correct discipline problems than it is to prevent them.

GO ON TO THE NEXT PAGE

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree

61. Children are usually too sociable in the classroom.

62. Most pupils are resourceful when left on their own.

63. Too much nonsense goes on in many classrooms these days.

64. The school is often to blame in cases of truancy.

65. Children are too carefree.

66. Pupils who fail to prepare their lessons daily should be kept after school to make this preparation.

67. Pupils who are foreigners usually make the teacher's task more unpleasant.

68. Most children would like to use good English.

69. Assigning additional school work is often an effective means of punishment.

70. Dishonesty as found in cheating is probably one of the most serious of moral offenses.

71. Children should be allowed more freedom in their execution of learning activities.

72. Pupils must learn to respect teachers if for no other reason than that they are teachers.

73. Children need not always understand the reasons for social conduct.

74. Pupils usually are not qualified to select their own topics for themes and reports.

75. No child should rebel against authority.

76. There is too much leniency today in the handling of children.

77. Difficult disciplinary problems are seldom the fault of the teacher.

78. The whims and impulsive desires of children are usually worthy of attention.

79. Children usually have a hard time following instructions.

80. Children nowadays are allowed too much freedom in school.

81. All children should start to read by the age of seven.

82. Universal promotion of pupils lowers achievement standards.

83. Children are unable to reason adequately.

84. A teacher should not tolerate use of slang expressions by his pupils.

85. The child who misbehaves should be made to feel guilty and ashamed of himself.

86. If a child wants to speak or to leave his seat during the class period, he should always get permission from the teacher.

87. Pupils should not respect teachers any more than any other adults.

88. Throwing of chalk and erasers should always demand severe punishment.

89. Teachers who are liked best probably have a better understanding of their pupils.

90. Most pupils try to make things easier for the teacher.

GO ON TO THE NEXT PAGE

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree

91. Most teachers do not give sufficient explanation in their teaching.

92. There are too many activities lacking in academic respectability that are being introduced into the curriculum of the modern school.

93. Children should be given more freedom in the classroom than they usually get.

94. Most pupils are unnecessarily thoughtless relative to the teacher's wishes.

95. Children should not expect talking privileges when adults wish to speak.

96. Pupils are usually slow to "catch on" to new material.

97. Teachers are responsible for knowing the home conditions of every one of their pupils.

98. Pupils can be very boring at times.

99. Children have no business asking questions about sex.

100. Children must be told exactly what to do and how to do it.

101. Most pupils are considerate of their teachers.

102. Whispering should not be tolerated.

103. Shy pupils especially should be required to stand when reciting.

104. Teachers should consider problems of conduct more seriously than they do.

105. A teacher should never leave the class to its own management.

106. A teacher should not be expected to do more work than he is paid for.

107. There is nothing that can be more irritating than some pupils.

108. "Lack of application" is probably one of the most frequent causes for failure.

109. Young people nowadays are too frivolous.

110. As a rule teachers are too lenient with their pupils.

111. Slow pupils certainly try one's patience.

112. Grading is of value because of the competition element.

113. Pupils like to annoy the teacher.

114. Children usually will not think for themselves.

115. Classroom rules and regulations must be considered inviolable.

116. Most pupils have too easy a time of it and do not learn to do real work.

117. Children are so likeable that their shortcomings can usually be overlooked.

118. A pupil found writing obscene notes should be severely punished.

119. A teacher seldom finds children really enjoyable.

120. There is usually one best way to do school work which all pupils should follow.

GO ON TO THE NEXT PAGE

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree

121. It isn't practicable to base school work upon children's interests.

122. It is difficult to understand why some children want to come to school so early in the morning before opening time.

123. Children that cannot meet the school standards should be dropped.

124. Children are usually too inquisitive.

125. It is sometimes necessary to break promises made to children.

126. Children today are given too much freedom.

127. One should be able to get along with almost any child.

128. Children are not mature enough to make their own decisions.

129. A child who bites his nails needs to be shamed.

130. Children will think for themselves if permitted.

131. There is no excuse for the extreme sensitivity of some children.

132. Children just cannot be trusted.

133. Children should be given reasons for the restrictions placed upon them.

134. Most pupils are not interested in learning.

135. It is usually the uninteresting and difficult subjects that will do the pupil the most good.

136. A pupil should always be fully aware of what is expected of him.

137. There is too much intermingling of the sexes in extra-curricular activities.

138. The child who stutters should be given the opportunity to recite oftener.

139. The teacher should disregard the complaints of the child who constantly talks about imaginary illnesses.

140. Teachers probably over-emphasize the seriousness of such pupil behavior as the writing of obscene notes.

141. Teachers should not expect pupils to like them.

142. Children act more civilized than do many adults.

143. Aggressive children require the most attention.

144. Teachers can be in the wrong as well as pupils.

145. Young people today are just as good as those of the past generation.

146. Keeping discipline is not the problem that many teachers claim it to be.

147. A pupil has the right to disagree openly with his teachers.

148. Most pupil misbehavior is done to annoy the teacher.

149. One should not expect pupils to enjoy school.

150. In pupil appraisal effort should not be distinguished from scholarship.


THE PSYCHOLOGICAL CORPORATION ®
INCORPORATED IN 1921

A P P E N D I X B

ROKEACH DOGMATISM SCALE (FORM E)

NAME:_____ I.D._____

AGE: _____ SEX _____

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others according to how much you agree or disagree with it.

+1:	I agree a little	-1:	I disagree a little
+2:	I agree on the whole	-2:	I disagree on the whole
+3:	I agree very much	-3:	I disagree very much

-3-2-1+1+2+3 1. The United States and Russia have just about nothing in common.

-3-2-1+1+2+3 2. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

-3-2-1+1+2+3 3. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

-3-2-1+1+2+3 4. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.

-3-2-1+1+2+3 5. Man on his own is a helpless and miserable creature.

-3-2-1+1+2+3 6. Fundamentally, the world we live in is a pretty lonesome place.

-3-2-1+1+2+3 7. Most people just don't give a "damn" for others.

-3-2-1+1+2+3 8. I'd like it if I could find someone who would tell me how to solve my personal problems.

-3-2-1+1+2+3	9.	It is only natural for a person to be rather fearful of the future.
-3-2-1+1+2+3	10.	There is so much to be done and so little time to do it in.
-3-2-1+1+2+3	11.	Once I get wound up in a heated discussion I just can't stop.
-3-2-1+1+2+3	12.	In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
-3-2-1+1+2+3	13.	In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what the others are saying.
-3-2-1+1+2+3	14.	It is better to be a dead hero than to be a live coward.
-3-2-1+1+2+3	15.	While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, or Beethoven, or Shakespeare.
-3-2-1+1+2+3	16.	The main thing in life is for a person to want to do something important.
-3-2-1+1+2+3	17.	If given the chance I would do something of great benefit to the world.
-3-2-1+1+2+3	18.	In the history of mankind there have probably been just a handful of really great thinkers.
-3-2-1+1+2+3	19.	There are a number of people I have come to hate because of the things they stand for.
-3-2-1+1+2+3	20.	A man who does not believe in some great cause has not really lived.
-3-2-1+1+2+3	21.	It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
-3-2-1+1+2+3	22.	Of all the different philosophies which exist in this world there is probably only one which is correct.

-3-2-1+1+2+3 23. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.

-3-2-1+1+2+3 24. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

-3-2-1+1+2+3 25. When it comes to differences of opinion in religion we must be careful not to compromise with those who believe differently from the way we do.

-3-2-1+1+2+3 26. In times like these, a person must be pretty selfish if he considers primarily his own happiness.

-3-2-1+1+2+3 27. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.

-3-2-1+1+2+3 28. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.

-3-2-1+1+2+3 29. A group which tolerates too much differences of opinion among its own members cannot exist for long.

-3-2-1+1+2+3 30. There are two kinds of people in this world: those who are for the truth and those who are against the truth.

-3-2-1+1+2+3 31. My blood boils whenever a person stubbornly refuses to admit he's wrong.

-3-2-1+1+2+3 32. A person who thinks primarily of his own happiness is beneath contempt.

-3-2-1+1+2+3 33. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

-3-2-1+1+2+3 34. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

-3-2-1+1+2+3 35. It is often desirable to reserve judgement about what's going on until one has had a chance to hear the opinions of those one respects.

-3-2-1+1+2+3 36. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.

-3-2-1+1+2+3 37. The present is all too often full of unhappiness. It is only the future that counts.

-3-2-1+1+2+3 38. If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all".

-3-2-1+1+2+3 39. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.

-3-2-1+1+2+3 40. Most people just don't know what's good for them.

A P P E N D I X C

PROSPECTIVE TEACHER QUESTIONNAIRE

PROSPECTIVE TEACHER QUESTIONNAIRE

NAME (optional) _____

COURSE MAJOR _____

PROGRAM _____

This questionnaire is designed to obtain some of your personal reactions to certain aspects of the teacher training program as it now exists. You have been selected as one of a number of students who have chosen to enter the teaching progession but who have as yet had no teaching experience outside student teaching. It is hope that your reactions and responses will be authentic and genuine. All responses will be treated in strict confidence and will in no way affect your work at university. You have the assurance that names will be used only at the initial stage of the research for purposes of identification of data. The educational value of this aspect of the research project depends largely on the co-operation of each individual selected for this study.

1. What three factors were <u>most</u> influential in your choice of the teaching profession? Rank them in order of importance to you, (1, 2, 3).

A counselor	_____	
An inspirational teacher	_____	
Friends	_____	
Employment opportunities	_____	
Parents or relatives	_____	
Other (Specify)	_____	_____

2. When was your decision to enter the teaching profession made? (check one).

Prior to graduation from high school	_____	
After graduation from high school but before registering at university	_____	
During the first year at university	_____	
During the second year at university	_____	
During the third year at university	_____	
After completing your undergraduate degree. (To be answered by B.E.A.D. students only if applicable.	_____	
Other (be specific)	_____	_____

3. In what size of city or community would you prefer to teach? (check one)

Population of less than 5,000	_____	
5,000 - 50,000	_____	
50,000 - 200,000	_____	
More than 200,000	_____	_____

4. How would you assess the Education classes as you experienced them. (check one)

Very satisfactory	_____	
Satisfactory	_____	
Somewhat satisfactory	_____	
Unsatisfactory	_____	
Very unsatisfactory	_____	_____

5. What three recommendations would you like to make for the program you are taking in the Faculty of Education. (Rank them 1, 2, 3)

More Arts and Science options	_____	
More Education options	_____	
More teaching methods courses	_____	
More student teaching time	_____	
Other (Specify)	_____	_____

6. In general, how satisfactory was your student-teaching experience to you? (Check one)

Very satisfactory	_____	
Satisfactory	_____	
Somewhat satisfactory	_____	
Unsatisfactory	_____	
Very unsatisfactory	_____	_____

7. Is is likely that your teacher education may lead you into another profession? (check one)

Yes	_____	
No	_____	
Undecided	_____	_____

8. Do you anticipate being in the teaching profession five years from now? (check one)

Yes	_____	
No	_____	
Don't know	_____	_____

9. Below is a list of some of the opportunities in the teaching profession. Please rank the factors in accordance with their important to you. (1, 2, 3... 11)
('most important' should be ranked -- 1
'least important' should be ranked -- 11)

_____ A. Opportunity to pass on to the younger generation the heritage of the past.

_____ B. Opportunity to have desirable working conditions such as the five-day week and the long summer vacation for study and travel.

_____ C. Opportunity to get as good a salary as you can probably earn.

_____ D. Opportunity to creatively express and utilize your talents, skills and interests.

_____ E. Opportunity to work in a subject-matter field of great interest and to help youngsters gain knowledge in that field.

_____ F. Opportunity to do research which will contribute to the improvement of teaching.

_____ G. Opportunity to hold a respected and prestigious position in the community.

_____ H. Opportunity to help children and young people develop sound attitudes and values for living.

_____ I. Opportunity to have the assurance of steady employment, little risk of losing one's job.

_____ J. Opportunities for advancement and promotions as an educator.

_____ K. Opportunity to work with children and young people and be an encouragement to them.

THANK YOU FOR YOUR CONTRIBUTION TO THIS IMPORTANT STUDY