TEACHER ATTRIBUTES AND TEACHER EXPECTATIONS

OWEN JOSEPH WHELAN

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TEACHER ATTRIBUTES AND TEACHER EXPECTATIONS

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ABSTRACT

An examination of expectancy research indicated that the relationship between teacher attributes and teacher expectations has not been extensively examined. This study analyzed a set of data to determine whether the expectations student-teachers formed for students were determined by any of the variables self-concept, locus of control, motivation, attitude towards teaching as a career, age, sex, teaching program or teaching experience.

The data was collected by Clifton and Baksh (1978) by questionnaire on a stratified sample of 687 student-teachers at Memorial University over a two year period. The Methods of Analyses were Analysis of Covariance and t-test comparison of means.

The results were that the attitudinal variables did not have predictive value. The student expectation dimensions of IQ, ultimate school achievement and self-concept were inversely related to teaching experience. Male student-teachers tended to hold higher expectations for the four dimensions, IQ, social relations, school achievement and student self-concept. Female student-teachers perceived more positive parental attitudes towards school. Female student-teachers were more positively motivated towards teaching and more motivated generally. Primary and elementary student-teachers were more motivated towards teaching and held more positive self-concepts than general or high school program student-teachers.

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CHAPTER I

THE DEVELOPMENT OF THE STUDY

An examination of the research carried out in the area of teacher expectations reveals many studies concerned with determining sources of teacher expectations for students, how expectations are communicated to the students, and how they affect student achievement. Few studies, however, have examined the influence of teacher characteristics on teacher expectations. The present study involved an examination of data on a group of student-teachers in an attempt at determining the effect of various teacher attitudes and background characteristics on teacher expectations.

Before outlining the questions to be addressed in this study, it is appropriate to present a brief review of expectancy research.

The Self-fulfilling Prophecy

The fact that low teacher expectations impede student performance has been known for some time (MacKinnon, 1962; Katz, 1964). However, it was a study entitled Pygmalion in the Classroom by Rosenthal and Jacobson (1968) which generated the greatest interest in this area of concern in the classroom. Rosenthal and Jacobson had earlier researched the phenomenon known as the self-fulfilling prophecy in relation to

experimental expectations. They hypothesized that the experimenter perceives subjects in ways which imply expectations about their performance, and that those expectations are communicated to the subjects who respond to this knowledge and act in ways to confirm the expectations. They wondered if the self-fulfilling prophecy was active in education, and designed an experiment to test whether children from whom teachers expected greater intellectual growth would indeed achieve greater growth. A set of false data was given to a group of teachers describing certain previously low-achieving students as "late-bloomers". The researchers obtained pre- and post-test data on the students to determine whether greater achievement gains were actually made. Their findings were compatible with the concept of the self-fulfilling prophecy. Previously low-achieving students who were expected to achieve at a higher level did actually do so.

The initial responses to the study ranged from complete acceptance of the conclusions to rejection of the study because of technical weaknesses. Thorndike (1968) reviewed the study and claimed: "It is so defective technically that one can only regret that it ever got beyond the eyes of the original investigators" (p. 708). He claimed that the conclusions were not adequately supported by the data even though they may be true.

A number of researchers attempted to replicate the study. Some of those supported the self-fulfilling prophecy hypothesis (Meichenbaum, Bowers & Ross, 1969; Mason, 1973;

Mason & Larimore, 1974), while others did not (Claiborn, 1969; Dusek & O'Connell, 1973; Mendels & Flanders, 1973).

Many researchers attempted to relate expectations to factual information. Knowledge of a student's past performance was concluded by Roeber (1970) to have a major influence on the expectations teachers form. Seaver (1973) hypothesized that a teacher's past experience with siblings would influence his expectations. He concluded that teachers formed expectations for students in relation to how well older siblings had done with that teacher. According to Adams and LaVoie (1974) student conduct ratings on report cards had a greater influence on teacher expectations than student grades. Williams (1975) found that ability grouping, or tracking, had a major influence on teacher expectations in that teachers expected more from high ability groups than from low-ability groups. This research suggested that teacher expectations are often formed on the basis of student conduct, or on some indication, often real, of the student's ability or past performance.

A large number of research projects searched for cues to teacher expectations in student characteristics. In the United States Williams and Whitehead (1971) found that teachers hold lower expectations for black students. Pugh (1974) confirmed findings of Rubovits and Maehr (1973) that teachers judged abilities and behavior of white students as higher or more favorable than that of black students when students were matched on socioeconomic status. Harvey and

Slatin (1975) studied expectations of ninety-six teachers. They were given full length photographs of nine white and nine black students and asked to judge academic potential and socioeconomic status of each child. Regardless of perceived socioeconomic status, white students were more often expected by the teachers to succeed. Rosenfeld (1973) found that teachers evaluate students on the basis of ethnic and socioeconomic status cues transmitted through the audio and visual modes. Crowl and MacGinitie (1974) discovered that teachers' evaluation of oral answers was influenced by the speech characteristics of the students. Cooper, Baron and Lowe (1975) found that middle class students are expected to achieve higher grades than low class students.

Several studies confirmed what had long been known in education, that student sex influences teacher expectations and teacher-student interaction. For example, Krupczak (1973) observed that teachers perceived girls as having more academic ability than boys even though intelligence tests showed no differences.

Clifford and Walster (1973) gave teachers report cards containing information on a hypothetical student with a child's photograph attached. The only difference in the report cards were the photographs, which had been selected from a large collection of school photographs after an independent rating by twenty educators as to degree of

physical attractiveness. The experimenters discovered that physical attractiveness of students had a significant relationship to the teachers' perceptions of their intelligence, how interested they were in school, and how popular they were with their peers.

The evidence was conclusive that teachers formed expectations for students on the basis of some perceived performance indicators and also on the basis of such student characteristics as ethnicity, socioeconomic status, verbal behavior, sex, and physical appearance. A number of researchers were concerned with how teachers transmit expectancy cues. Brophy and Good (1970, 1972) studied teacher behavior and discovered that teachers demanded higher levels of performance from children for whom they held higher expectations. They were more likely to expect and accept poor performance from students for whom they had low expectations and gave less praise to those students when they did achieve. Cornbleth, David and Button (1974) concluded that the level of frequency of teacher-student interaction related significantly to student ratings by teachers. Richer (1974), after nine hours of classroom observation, concluded that, in teacher-centered classrooms, working class children received significantly less than their share of teacher interaction. Those findings confirm that teachers behave differently towards students in relation to the expectations they hold for those students. Teachers expect higher achievement from high-expectation students, pay more attention to

them, and give them more praise than they do students for whom they hold lower expectations.

Purpose of the Study

Clifton and Baksh (1978) collected data to determine the influences of various teacher attributes on the relationship between physical attractiveness and expectations. They were primarily interested in examining length of time a student-teacher has been in university as a mediating factor on the relationship. Their results confirmed the findings of the Clifford and Walster (1973) study, that pupils' physical attractiveness has an important influence on student-teachers' expectations. They also found that physical attractiveness does not become less important with time spent in university. They concluded that expectations held for pupils are determined to some degree by teacher attributes and suggest that "the effects of teacher attributes warrant further investigation" (Clifton and Baksh, 1978, p. 46). This present study will analyze the Clifton and Baksh (1978) data in order to investigate the following question: Are student-teacher expectations determined to a significant degree by any of the following: student-teacher self-concept, locus of control, motivation, age, sex, teaching program, or teaching experience?

The significance of this study lies in the belief that teachers' behavior flowing from low expectations for

students limits the amount of material a student will learn, stifles his/her motivation to learn, and alienates him/her from the teaching-learning situation.

Organization of the Study

Having presented a brief summary of expectancy research and posed the question to which this study is directed, our next chapter will present various student-teacher attributes within a conceptual framework, provide research evidence showing their significance for this study, and present hypotheses developed from that research.

Chapter III will describe the sample, and the content and administration of the questionnaire. It will also describe the instruments and explain the method of analysis.

A description of the data and a discussion of the results of the analysis will be presented in Chapter IV and the final chapter will summarize and draw conclusions from the study.

CHAPTER II

CONCEPTUAL FRAMEWORK AND RELATED LITERATURE

Although much educational research has been concerned with teacher attitudes, few investigators have questioned the relationship between teacher attitudes and expectations for students. Fleming and Anttonnen (1971) found that teacher attitudes to test scores affect their influence as determinants of teacher expectations. Braun (1976) quotes Pippert (1969) as suggesting that teacher susceptibility to influence is an influential factor. This chapter will present three major attitudinal variables within a theoretical framework and discuss research on them pertinent to the present study. Hypotheses developed from this research will be presented. The chapter will then present a brief review of research supporting the inclusion of other variables examined in this study, and develop hypotheses from that research.

Theoretical Framework

The dispositional approach to research on human behavior assumes subjects to vary in many ways. While it accepts that there are general principles of behavior, it assumes behavior to be caused by personal characteristics the individual brings to the situation (Blass, 1977). From these characteristics theorists have developed various

constructs, each of which has been shown to relate to large numbers of behaviors. According to perceptual theorists, behavior is determined by an individual's perceptions of self, perceptions of locus of control, and perceptions of goals. The major hypotheses of this study are developed from those three perceptions which shall be referred to as attitudinal variables.

Attitudinal Variables

Self-Concept

Snygg and Combs (1949) and Rogers (1951) developed a theory around the concept of a phenomenal, or conscious, self on the assumption that behavior has its cause within the individual rather than in the situation. They believed that "all behavior, without exception, is completely determined by and pertinent to the phenomenal field of the behaving organism" (Snygg and Combs, 1949, p. 15). The phenomenal field of an individual is the entire universe, including that individual, at any given time. The self develops out of this phenomenal field. Rogers (1951) explains:

> As a result of interaction with the environment and particularly as a result of evaluational interactions with others, the structure of self is formed - an organized, fluid, but consistent conceptual pattern of perceptions of characteristics and relationships of the "I" or "Me" together with values attached to those concepts (p. 498).

The self-concept is a dimension of this self and "may be thought of as an organized configuration of perceptions of the self which are admissible to awareness" (Rogers, 1951, p. 136). Rogers maintained that the best source of information on this self-concept is the individual, whose description of it can usually be assumed to be accurate. Much of the self-concept research has thus seen self-concept to be measurable by descriptions supplied by the individual.

The variable, self-concept, has been employed extensively in the past but this review is concerned only with studies which may support its use as a predictor of teacher expectations. Teachers who are accepting of others and tolerant towards individual differences are less likely to be influenced in the expectations they form by individual differences in their students. Wylie (1961) reviewed twenty-one studies relating self-acceptance to acceptance of others and concluded that "on the whole, the evidence supports the hypothesized association between self-acceptance (or high self regard) and acceptance of others (or high regard for others)" (p. 240). Yamamoto and Wiersma (1967) found a high and significant relationship between self-esteem and tolerance of individual differences.

Teachers who are susceptible to persuasion are more likely to base expectations on external factors rather than their own judgements. Student characteristics, community values, and other teachers have a persuasive influence on

teachers and thus influence expectations. Therefore, a teacher's level of susceptibility to persuasion may have a mediating influence on the strength of physical attractiveness as a source of expectations. Wylie (1961), in a summary of the research, concluded that there may be an inverse relationship between self-regard measures and persuasibility measures. The evidence was not conclusive because of the number of different measures and designs. Zellner (1970) found a significant inverse relationship between self-regard and susceptibility to social influence.

Teachers who bring about a high level of student achievement may do so because they hold higher expectations for their students; such teachers may not be influenced by factors such as physical appearance. The relationship between level of self-regard and effective teaching was shown by Garvey (1958) and Hatfield (1961) to be significant. Krouner (1971) concluded that teachers who have high self-regard are more accepting of innovation in the classroom, appear to be more spontaneous, and are better able to react warmly with others. The fact that self-concept, under a number of names, has been related to effective teaching permits the suggestion that it may be partly through its influence on expectations that it is so related.

Locus of Control

A major proposition of perceptual field theory of personality states: "The organism reacts to the field as it is experienced and perceived" (Rogers, 1951, p. 484). Whatever a person thinks is true is reality for that person and will determine his behavior. If a person perceives events in his life to be under the control of forces outside his influence, he will behave in relation to this perception.

Phares (1957) first studied perception of control as a psychological variable. He developed a Likert-type scale to measure differences in perception of internal and external control as predictors of behavior in task situations. Rotter, Chance and Phares (1972) described the locus of control construct. In ideal terms, a person with an internal locus of control saw the outcome of his behavior as causally related to the skills, efforts and characteristics he brought to the situation. A person with an external locus of control saw behavioral outcomes as dependent, not on his skills, efforts, and personality, but on chance, fate, or the power of others.

Gore (1962) and Ritchie and Phares (1969) studied the significance of a locus of control measure as a determinant of susceptibility to persuasion. Lefcourt (1976) stated that those and many similar studies suggest that internal subjects are not resistant to all influence but are very discriminating about what influences they will

accept. Internal locus of control individuals respond positively to reasoned arguments, regardless of the sources, and change attitudes and behavior in relation to those arguments. Phares (1968) found that subjects with an internal locus of control made better use of information they perceived than did external subjects. DuCette and Wolk (1973) found that subjects with internal locus of control were quicker at perceiving information that allowed them to make accurate judgements.

The importance of perception of control as a possible predictor of teacher expectations is suggested by characteristics of people with a more internal belief. Strickland (1977), summing up a study of past research, concluded that people with an internal belief tend to maintain their own individual judgement in the face of contrasting evidence from external sources.

Motivation

A third major proposition of perceptual field theory of personality states: "The organism has one basic tendency and striving - to actualize, maintain, and enhance the experiencing organism" (Rogers, 1951, p.487). Rogers sees this striving as continually forward and all behavior as directed towards the goal of self-actualization. Here he is referring to the organism in its early stages of development. Children of all societies strive to learn to walk and to talk. However, when the self emerges as a result of interaction with

the environment, behavior has to be consistent with the self. This necessity differentiates individuals and societies on the strength of various motives. McClelland (1955) described the motive to achieve, or achievement motivation, as a pattern of planning and actions associated with striving for some kind of excellence.

Atkinson (1965) developed a theoretical treatment of achievement motivation which stressed the importance of both personal and situational factors in determining the effort put forth by an individual in any achievement situation. His model selects two situational factors as important in determining the strength of achievement motivation. The first is the individual's expectation of success or failure in the task at hand. The second is incentive value, the degree of importance the individual attaches to the achievement of a particular goal.

Research within this theoretical framework has been primarily in two areas: attempting to explain levels of economic development, and determining the relationship of motivation to educational achievement. The construct has not been extensively employed in explaining teacher behavior. However, research has determined that individuals with high levels of achievement motivation tend to display similar characteristics. Such individuals are interested in excellence for its own sake rather than for the reward it brings (Atkinson & Reitman, 1956). They tend to make rational, independent judgements rather than be influenced by others'

opinions (Heckhausen, 1967). They are concerned with the future and tend to plan further ahead than individuals with low achievement motivation. Those characteristics of individuals with a high level of achievement motivation are very similar to what have been determined to be desirable characteristics of effective teachers (Combs, Blume, Newman & Wass, 1974).

Some research has related achievement motivation factors directly to effective teaching. Vonk (1970) found a significant relationship between teacher purposes and teaching effectiveness. Teachers whose purposes were child-centered rather than self-centered were perceived by students to be more effective. Rode (1971) found that teachers' perceptions of teaching as a career had a direct relationship to their involvement in decisions affecting their role within the profession. Mayberry (1970) suggested that, to be effective, it is very important for a teacher to display an enthusiastic attitude for teaching. Achievement motivation has not been shown to relate to teacher expectations but its relationship to effective teaching, as suggested for self-concept and locus of control, may be through expectations.

Hypotheses Related to Attitudinal Variables

The research presented provided evidence that an individual's self-concept is related positively to acceptance

of others, resistance to persuasion or social influence, and to persuasion or social influence, and to successful teaching. Those relationships suggested that self-concept may mediate the influence of such factors as student physical attractiveness on teacher expectations.

Locus of control research suggested that individuals who perceive themselves in control of their own lives are likely to be resistant to irrelevant influence attempts. Teachers who perceive an internal locus of control are not likely to base judgements on such characteristics as physical appearance.

Research on motivation allows for the conclusion that a teacher's successful interaction with students is related to motivation to be a successful teacher and to attitude towards teaching as a career.

Based on the research presented, the following hypotheses were proposed:

1. Student-teachers' expectations for students are significantly related to the self-concept of the student-teachers.
2. Student-teachers' expectations for students are significantly related to the locus of control of the student-teachers.
3. Student-teachers' expectations for students are significantly related to the motivation of the student-teachers.

4. Student-teachers' expectations for students are significantly related to the student-teachers' attitude towards teaching as a career.

Relationships Among Variables

Although this study treated self concept, locus of control, and motivation as separate constructs, as suggested by Prawat (1976), some research has discovered relationships between the three. Rosenberg (1965) suggested that people with a low level of self-esteem tend to have lower aspirations and expectations for success than individuals with high self-esteem. Cohen, Reid, and Boothroyd (1973) studied 1520 student-teachers and found a significant positive relationship between self-image and achievement motivation. Ryckman and Sherman (1974) found a significant relationship between locus of control and self-esteem.

Background Variables

The three main attitudinal variables have also been related to the background variables sex, age and teaching program. Some of this research was examined.

Age

Webster (1958) found that attitudes varied with age. Whittaker and Meade (1967) discovered that older subjects,

regardless of sex, appeared less persuasible than younger adults. Marrington (1971) concluded that age was significantly related to differences in attitude patterns. It may be that age itself is a mediator on the influence of physical attractiveness on expectations and also that it may interact with other variables. The research evidence is not extensive or conclusive.

Sex

Wylie (1961) reviewed research and found some evidence that women were less self-accepting than men. However, she stated that there is sufficient evidence to conclude that women indicate more acceptance of others than do men. Eisenman (1970) concluded that women tended to have lower self-concepts than men. Marrington (1971) found that sex was related to attitude patterns. As with the variable age, it may be that sex itself determines, to some degree, the influence of physical attractiveness on expectations and also that it may interact with other variables.

Teaching Program

Marrington (1971) discovered attitudinal differences between Junior High and Senior High School teachers. There is no conclusive evidence but program may interact with other variables or itself be related to the influence of physical attractiveness.

Teaching Experience

It may be expected that teaching experience has a major influence on expectations. There is no evidence on the direction of the influence.

Hypotheses Related to Background Variables

Based on the limited evidence available, the following hypotheses were proposed:

5. Student-teachers' expectations for students are significantly related to the age of the student-teachers.
6. Student-teachers' expectations for students are significantly related to the sex of the student-teachers.
7. Student-teachers' expectations for students are significantly related to the teaching program of the student-teachers.
8. Student-teachers' expectations for students are significantly related to the teaching experience of the student-teachers.

Summary

The conceptual framework of this study proposed that an individual's perceptions of self, environment, and goals determine behavior. Specifically, on the basis

of research literature, the study presented the hypotheses that the expectations student-teachers form are related significantly to the student-teacher's self-concept, locus of control, motivation, and attitude towards teaching as a career.

The study also hypothesized that various background variables, age, sex, teaching program, and teaching experience determine, to a significant degree, the expectations student-teachers form.

Chapter III will present a discussion of the sample, the questionnaire, and the various instruments. It will also present the method of analysis to be employed.

CHAPTER III

THE RESEARCH METHODOLOGY

This chapter will describe the sample, the questionnaire, the instruments, and the method of analysis used in the study.

The Sample

The sample for the study was determined by a stratified selection procedure. In 1974 the questionnaire was administered to eight classes of student-teachers registered for various courses in the Faculty of Education at Memorial University of Newfoundland. The courses are part of the program requirements of all student-teachers so the sample is seen as representative of all student-teachers in attendance. The courses may be completed at varying times during a program so the sample has students of different ages and different University levels. During the summer session of 1975 the questionnaire was administered to three classes, and in the fall semester, 1975, to eight more classes. No first year students were included since students must have completed first year before entering the Faculty of Education. The sample totalled 687.

The Questionnaire

The questionnaire, entitled Student Report Card Questionnaire, was made up of an introductory page and four parts (see Appendix A).

The introductory page provided a rationale for the questionnaire and directions as to its completion.

Part one consisted of a report card showing academic and conduct ratings of an average Grade V student. Attached to the report card was a child's photograph, any one of the twelve used in the Clifford and Walster (1973) study. The twelve photographs had, previous to the Clifford and Walster study, been rated by a panel of judges as to degree of attractiveness of the subjects. Those used in this study were of six Grade V level boys and six Grade V level girls, three of each selected from those prejudged physically attractive and three each selected from those judged physically unattractive. The information on all report cards was the same; only the photographs differed.

The report cards showed a set of average marks and a set of general comments regarding the student's academic and social development. The student-teachers were asked to evaluate the report cards by answering five questions regarding the child's intelligence, peer relationship, parents' attitude towards his school work, potential school achievement, and self-concept. The student-teachers were then asked to rate the child's physical attractiveness and to comment on the usefulness of the report card.

The second part of the questionnaire consisted of a section entitled Attitudes which asked student-teachers to rate themselves on various attitudes towards their courses, towards teaching as a profession, and their teaching competence. This section also required student-teachers to rate themselves on the concepts, "Me as Student-Teacher" and "Me as Teacher". For each of these concepts nine semantic differential scales were provided.

The third section asked student-teachers for background information: sex, age, marital status, degree program, teaching program, year in university, and teaching experience.

A further section was added before the questionnaire was administered in 1975. This section contained twenty-five intermixed items; eleven to measure dimensions of locus of control, and eleven to measure the motivation dimension, attitude towards teaching as a career.

The Instruments

The instruments used to measure the variables employed in the study are items and combinations of items on the Clifton and Baksh questionnaire (Appendix A). Items will be referred to by numbers as they appear on the questionnaire.

Teacher Expectations

A large percentage of the sample are "student-teachers" and not "teachers". The term "teacher expectations" is used here in order to be consistent with the research literature.

Teacher expectations have been researched extensively but with little regard for a clear definition of the term "expectation." Bognar (1981) sees the variety of research measures as a probable cause of the often conflicting research findings and difficulties in replication. Clifford and Walster (1973) employed three dimensions of expectations, IQ, ultimate education, and parental interest. Clifton and Baksh (1978) added to those dimensions social relations and self-concept, and asked student-teachers to make five different evaluations of those dimensions. For this study, as for the Clifton and Baksh study, they were treated as five separate dimension (Questionnaire items 1,2,3,4, and 5.

Physical Attractiveness

Clifton and Baksh used the twelve photographs which had been used in the Clifford and Walster (1973) study. Although the photographs had been selected by Clifford and Walster on the basis of the independent ratings of twenty educators, Clifton and Baksh went a step further by allowing the student-teachers to make their own judgements as to the level of attractiveness. They were given a five-point scale ranging from "very attractive" (1) to "very unattractive" (5) (Questionnaire item 6). Clifton and Baksh saw this as an important step since the student-teachers "are likely to base their behavior upon their own evaluation of the situation rather than upon the evaluation of others" (Clifton & Baksh, 1978, p. 38).

Self-concept

Self-concept was measured by the semantic differential rating scale technique (Osgood, Suci & Tannenbaum, 1957). This technique presents the subject with a concept and a set of polar opposite adjectives. The subject is asked to rate the concept by placing a mark at the point on a continuum where he feels that concept lies. The purpose is to assess the connotation of the concept being rated. It is called a differential because it shows how concepts differ in connotations to people rating them.

Three types of scales are used - evaluation (i.e. good-bad), potency (i.e. strong-weak), and activity (i.e. active-passive). Those three have been determined by factor analyses to be the most important factors of semantic connotation. Because the reliability of the three single scales is low, additional scales are often used to evaluate those three factors.

The Clifton and Baksh data has two concepts (Questionnaire items 16, 17), "Me as student-teacher", and "Me as teacher". It has nine scales to be applied to each concept. Of the nine scales, there are seven evaluation scales, one potency scale, and one activity scale. Composite scores created from each of the three dimensions provide the self-concept measures used in this study.

Locus of Control

No items designed to measure this construct were

included in the questionnaire administered in 1974. Among the twenty-five items added to the questionnaire previous to the 1975 administration were eleven items designed to measure an individual's perception of internal or external control. Subjects were asked to indicate the degree to which they agreed or disagreed with various statements. They were given a six-point scale ranging from "strongly agree" to "strongly disagree" by which to express their choice.

Items presented are seen to measure two dimensions of locus of control (Reid & Ware, 1973). Three items (Questionnaire items 26, 30, and 36) are similar to items on Rotter's internal-external locus of control scale (Lefcourt, 1976) and are seen to measure the control dimension of locus of control. Eight items (Questionnaire items 27, 28, 31, 32, 35, 43, 45 and 47) are similar to items on various alienation scales and are seen as a measure of the alienation dimension of locus of control.

Motivation

Eight items designed to measure various attitudes were included in part two of the questionnaire (Items 8-15). These attitudes represent three dimension of motivation. Items 8 and 10 attempt to measure general motivation, the willingness to work hard to achieve a general goal. Items 9, 12, 13, 14 and 15 measure teacher motivation, the desire to achieve a specific goal, a teaching career. Item 11 measures work difficulty. From those three motivation

dimensions three separate attitude variables are created.

In the questionnaire administered in 1975 was included an eleven item attitude towards teaching as a career scale (Merwin & DiVesta, 1959). The construction of this scale involved 760 students at Syracuse University. Shaw and Wright (1967) commented on the scale: "This brief scale appears to have reasonably acceptable reliability and validity for the purposes for which it was designed" (p. 73). The eleven items are presented in positive and negative form in order to avoid "response bias". Six response categories are provided for each item ranging from "strongly agree" to "strongly disagree". The attitude toward teaching as a career score is computed as the sum of the item scores. The range is 11-66 with higher scores indicating more favorable attitude towards teaching as a career.

Age

Student-teachers were asked to indicate their ages by choosing one of seven categories: 17 or less, 18, 19, 20, 21, 22, 23 or older.

Teaching Program

Student-teachers were asked to indicate which of the following programs they were in: Primary Education, Elementary Education, General Programme, Internship Programme, Professional Semester Programme, or High School

Programme.

Teaching Experience

Student-teachers were asked to indicate teaching experience by choosing one of six categories ranging from "none" through "up to 1 year", 2 years, 3 years, 4 years, to 5 years or more.

Method of Analysis

The major analyses employed in this study are analysis of variance and co-variance by the procedures presented in the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner & Bent, 1975).

Summary

This chapter has presented the research methodology of this study. Specifically, it described the sample and the questionnaire, described how each variable was to be measured, and gave the method of analysis to be used. Chapter IV will give a description and analysis of the data.

CHAPTER IV

THE PRESENTATION AND ANALYSIS OF DATA

This chapter consists of a presentation and discussion of data on each variable and the measures used in the analysis. It presents the findings and discusses them in terms of the hypotheses.

Teacher Expectations

The five questionnaire items believed to measure dimensions of teacher expectations were correlated. The correlation matrix shown in Table 1 suggests that the five

Insert Table 1 about here

items measure relatively distinct dimensions. The only correlation greater than .30 is that of self-concept with social relations. It is reasonable to expect that pupils perceived to have healthy self-concepts will also be perceived to have good relationships with classmates. There is a somewhat lesser and not unexpected relationship between perceived IQ and perceived school achievement, and between self-concept and school achievement. However, for the purpose of this study the five dimensions were treated as unique variables.

Table 1

Correlation Coefficients Among the Five Dependent Variables

Variables	IQ	Social Relations	Parental Attitudes	School Achievement	Self Concept
IQ	1.000				
Social Relations	.097	1.000			
Parental Attitudes	.095	.177	1.000		
School Achievement	.254	.127	.187	1.000	
Self-Concept	.116	.429	.241	.242	1.000

Physical Attractiveness

Data on the questionnaire item regarding perception of physical attractiveness is presented in Table 2. It is

Insert Table 2 about here

interesting to note that less than 5% of respondents (N = 29) perceived the subject to be to any degree unattractive.

Self-Concept

Since this study was concerned with teacher expectation, and since subjects were asked to respond "as prospective teachers", the concept "Me as teacher" was used to describe the measure of self-concept.

The nine semantic differential scales for the concept "Me as teacher" were subjected to a factor analysis procedure to determine whether the three dimensions of evaluation, potency, and activity discussed by Osgood et al. (1957) were apparent in the data. The first step in the factor analysis was the preparation of the correlation matrix (Table 1, Appendix B). The computer program used to carry out the analysis was the Statistical Package for the Social Sciences (SPSS) developed by Nie et al. (1975).

The second step in factor analysis is the extraction of initial factors. The factor model employed for all factor analyses in this study is principal factoring with iterations. The objective of principal factor analysis is to account for a matrix of correlations by a minimum number of hypothetical

Table 2

Frequency Distribution of Responses on Physical Attractiveness Item

Response	Frequency
Very Attractive	55
Attractive	292
Moderately Attractive	298
Unattractive	29
Very Unattractive	0
Total	674

factors. A factor matrix similar to Table 2 (Appendix B) is provided. The columns define the factors, the rows refer to items. In the intersection of the row and the column is given the factor coefficient ("loading") for the row item on that factor. Generally, the independent sets of relationships shown in an unrotated factor matrix may be thought of as presenting different categories by which the data may be classified. The first factor delineates the largest pattern of relationships in the data; the second the next largest that is independent of the first, and so on. Thus, the amount of variation in the data described decreases successively with each factor; the first factor contains the greatest amount of variation, the last factor the least.

The column in the unrotated factor matrix headed "Communality" indicates the total variance of each item accounted for by the combination of all common factors. This value indicates the amount of the variance of a variable that is accounted for by the factors.

According to Osgood et al (1957), those nine scales, with the exception of "strong-weak" and "active-passive," loaded on an evaluative factor in the analyses they reported. The "strong-weak" scale loaded on a potency factor and the "active-passive" on an activity factor. Ideally, then, the present analysis should have extracted three factors with the scales loading as evaluation, potency, and activity. This did not happen. As shown in Table 2 (Appendix B), the number of factors extracted was two. Those two factors were

subjected to the final step in factor analysis, rotation to terminal factors.

The purpose of rotation, whatever method employed, is "to achieve simpler and theoretically more meaningful factor patterns" (Nie et al., 1975, p. 472). The choice of rotational method best suited to the factor analyses performed in this study is determined by the nature of the items. There is reason to believe that the kinds of affective characteristics being examined in this study are not independent of each other. For this reason oblique rotation, which produces correlated factors, was used for all factor analyses.

The factor pattern resulting from the oblique rotation of the semantic differential items is shown in Table 3 (Appendix B). There was a large degree of "impurity", i.e. scales tending to load heavily on more than one factor. An examination of the factor structure matrix (Table 4, Appendix B) shows that factor 2 shared much of the evaluation dimension while the potency and activity dimensions loaded heavily on factor 1.

In order to construct meaningful composite scores representing the factors, factor-score coefficients were calculated and are reported in Table 6 (Appendix B). From the factor-score coefficients and the standardized values (z) of the items which have been factor analyzed, two self-concept measures were constructed as follows:

$$\text{Evaluative self-concept} = .112_{Z1} + .116_{Z2} + .284_{Z3} + .257_{Z4} + .038_{Z5} + .347_{Z6} + .106_{Z7} + .048_{Z8} + .062_{Z9}$$

$$\text{Strength-activity self-concept} = .130_{Z1} - .010_{Z2} + .055_{Z3} + .148_{Z4} + .153_{Z5} + .062_{Z6} + .406_{Z7} + .152_{Z8} + .160_{Z9}$$

Locus of Control

The first step in developing the measures for the control and alienation dimensions of locus of control was to compute correlations among the eleven items. Table 7 (Appendix B) shows the correlation matrix. Of the three control items, 26, 30, and 36, the latter two are correlated to some degree with 26, while items 30 and 36 show no correlation with each other. There are no strong correlations among the alienation items; however, there are no negative correlations.

The eleven item correlation matrix was factor analyzed to verify the distinctiveness of the two dimensions. Four factors were extracted using the analysis methods discussed earlier. Table 8 (Appendix B) shows the unrotated factor matrix.

Since those eleven items were assumed to measure two dimensions of locus of control, rather than drop those items not loading on one of two factors, a second factor analysis

was carried out, this time limiting the number of factors to be extracted to two. Table 9 (Appendix B) shows the resulting factor matrix.

The two factors were then rotated obliquely to achieve a more meaningful factor pattern (Table 10, Appendix B). From an examination of this table, it can be seen that the control items (26, 30 and 36) load on factor 2 and the alienation items (27, 28, 31, 32, 35, 36, 43, 45, and 47) load on factor 1.

In order to construct meaningful composite scores representing factors 1 and 2 factor-score coefficients were calculated (Table 11, Appendix B). From the factor-score coefficients and the standardized values of the items, composite scores representing factor 1, alienation, and factor 2, locus of control, were computed as follows:

$$\text{Perceived Alienation} = -.007_{Z26} + .123_{Z27} + 210_{Z28} + .065_{Z30} + .156_{Z31} + .237_{Z32} + .204_{Z35} + .087_{Z36} + .115_{Z43} + .204_{Z45} + .159_{Z47}$$

$$\text{Perceived Locus of Control} = .503_{Z26} - .049_{Z27} - .008_{Z28} + .222_{Z30} - .057_{Z31} + .005_{Z32} - .064_{Z35} + .193_{Z36} + .135_{Z43} + .051_{Z45} + .049_{Z47}$$

Motivation

The first step in developing the motivation measures was to compute correlations among the eight items (Questionnaire items 8, 9, 10, 11, 12, 13, 14 and 15). This correlation matrix is shown in Table 12 (Appendix B). The items were then factor analyzed with three factors being extracted (Table 13, Appendix B), and rotated obliquely (Table 14, Appendix B). An analysis of the rotated factor structure (Table 15, Appendix B) suggests that there are three dimensions to this group of items. Five items (9, 12, 13, 14, and 15) load on factor 1, two items (8 and 10) load on factor 2, and item 11 loads primarily on factor 3. Those loadings tend to be as expected: items loading on factor 1 are attitude towards teaching or "teacher motivation"; items loading on factor 2 measure motivation to do well in courses and are seen as a measure of "general motivation"; item 11 is a measure of perceived work difficulty.

From factor-score coefficients (Table 16, Appendix B) three variables were computed as follows:

$$\text{Teacher Motivation} = .065_{Z8} + .307_{Z9} + .011_{Z10} - .009_{Z11} + .227_{Z12} + .450_{Z13} + .055_{Z14} + .047_{Z15}$$

$$\text{General Motivation} = .341_{Z8} + .091_{Z9} + .521_{Z10} + .016_{Z11} + .108_{Z12} + .006_{Z13} + .004_{Z14} + .009_{Z15}$$

$$\text{Work Difficulty} = -.079_{Z8} - .025_{Z9} + .088_{Z10} + .621_{Z11} - .039_{Z12} + .100_{Z13} + .048_{Z14} - .081_{Z15}$$

The eleven item "Attitude towards teaching as a career" instrument was recommended by Merwin and DiVesta (1959) to be an additive scale. However, since no item analysis data for the scale was available, it was thought best to perform a factor analysis of the items. The correlation matrix is shown in Table 17 (Appendix B) and the unrotated factor pattern in Table 18 (Appendix B). An examination of the rotated factor pattern (Table 19, Appendix B) indicates that the scale has at least two separate dimensions. Factor 1 appears to be a measure of attitude towards teaching as a career for oneself while Factor 2 seems to measure attitude towards teaching as a career in general. From the two factors, using the factor-score coefficients (Table 21, Appendix B), two variables were created as follows:

$$\text{Attitude Towards Teaching as a Career for Self} = .122_{Z28} + .301_{Z33} + .024_{Z37} + .312_{Z38} + .252_{Z40} + .057_{Z42} + .122_{Z44} - .040_{Z46} - .003_{Z48} + .068_{Z49}$$

$$\text{Attitude Towards Teaching as a Career in General} = .183_{Z25} + .427_{Z29} + .006_{Z33} + .013_{Z37} + .037_{Z38} - .016_{Z40} + .024_{Z42} - .013_{Z44} + .182_{Z46} + .307_{Z48} + .038_{Z49}$$

Age

The age distribution of respondents is presented in Table 3.

Insert Table 3 about here

Sex

The distribution by sex was 48 percent male (N = 319) and 52 percent female (N = 343).

Teaching Program

Table 4 shows the distribution of respondents by teaching program.

Insert Table 4 about here

Teaching Expereience

Table 5 shows the distribution of respondents' teaching experience.

Insert Table 5 about here

Analysis of the Data

Because of the nature and number of variables to be examined, the first step in analysis was to determine whether there were significant relationships between the background variables and the attitudinal variables.

An analysis of variance procedure was carried out

Table 3

Frequency Distribution of Respondents by Age

Age	Frequency
17	3
18	91
19	100
20	99
21	89
22	50
23 or older	228
Total	660

Table 4

Distribution of Respondents by Teaching Program

Program	Frequency
Primary Education	110
Elementary Education	246
General Programme	118
Internship Programme	6
Professional Semester Programme	6
High School Programme	163
Total	649

Table 5

Distribution of Respondents by Teaching Experience

Years Teaching	Frequency
None	476
Up to 1 year	44
2 years	25
3 years	12
4 years	13
5 years or more	91
Total	661

with the nine attitudinal variables designated as dependent and the four background variables as independent. The independent variables age, teaching program and teaching experience were categorized as follows. Age was divided into three categories, 19 or younger (N = 194), 20-22 inclusive (N = 238), and 23 or older (N = 228). Teaching program was divided into four categories, primary (N = 110), elementary (N = 246), general (N = 118) and high school (N = 163) programs. Subjects were categorized on teaching experience as having none (N = 476) or some (N = 185).

Wherever there were significant main effect relationships, t-test comparisons of means were carried out. Because of relatively large sample size, homogeneity of variance is assumed and thus the statistic used is the student's t statistic with pooled variance estimates (Hays, 1973).

Where significant interaction relationships existed, means and standard deviations were compared to determine the nature of the interaction.

Each analysis of variance was examined. Only relationships significant at less than the .05 level of probability will be discussed.

Table 6 shows the relationship between the evaluative

Insert Table 6 about here

self-concept dimension and the background variables, sex, age, teaching program and teaching experience. There is a significant

Table 6

Analysis of Variance: Evaluative Self-concept by Sex, Age, Teaching Program and Teaching Experience

Source of Variation	SS	DF	MS	F
Main Effects				
Sex	0.106	1	0.106	0.099
Age	0.055	2	0.028	0.026
Teaching Program	11.686	3	3.895	3.661*
Teaching Experience	0.007	1	0.007	0.007
Interactions				
Sex-Age	0.597	2	0.298	0.281
Sex-Teaching Program	5.456	3	1.819	1.709
Sex-Teaching Experience	0.687	1	0.687	0.646
Age-Teaching Program	4.739	6	0.790	0.742
Age-Teaching Experience	2.482	2	1.241	1.167
Teaching Program - Teaching Experience	3.907	3	1.302	1.224
Residual	596.899	561	1.064	
Total	635.605	585	1.087	

* $P < .05$

relationship between teaching program and evaluative self-concepts. Further examination of this relationship (Table 7),

Insert Table 7 about here

indicates that means are significantly different between primary program student-teachers and student-teachers of the elementary, general and high school programs. Primary program student-teachers have significantly more positive evaluative self-concepts than any of the other three groups, with those of the general group having least positive evaluative self-concepts.

Table 8 shows the relationship between the strength-

Insert Table 8 about here

activity dimension of self-concept and the background variables. Again, there is a significant relationship between teaching program and strength-activity self concept. A comparison of means (Table 9) clarifies this relationship.

Insert Table 9 about here

Primary program student-teachers have significantly more positive strength-activity self-concepts than both the elementary and the general groups. There is a significant difference between the means of the high school and general groups. Primary program student-teachers have significantly more positive strength-activity self-concepts than elementary or general groups, again with the general program student-

Table 7

T-Test: Evaluative Self-Concept by Teaching Program

Variable	Teaching Program	N	Mean	SD	t
Evaluative Self-Concept	Primary	99	0.306	0.967	2.45*
	Elementary	230	0.001	1.060	
	Primary	99	0.306	0.976	3.79*
	General	113	-0.224	1.051	
	Primary	99	0.306	0.976	2.38*
	High	162	0.004	1.004	
	Elementary	230	0.001	1.060	1.85
	General	113	-0.224	1.051	
	Elementary	230	0.001	1.060	-0.03
	High	162	0.004	1.004	
	General	113	-0.224	1.051	-1.82
	High	162	0.004	1.004	

* $P < .05$

Table 8

Analysis of Variance: Strength-Activity Self-Concept by Sex, Age, Teaching Program and Teaching Experience

Source of Variation	SS	DF	MS	F
Main Effects				
Sex	0.029	1	0.029	0.033
Age	0.206	2	0.103	0.117
Teaching Program	7.565	3	2.522	2.873*
Teaching Experience	0.004	1	0.004	0.004
Interactions				
Sex-Age	0.747	2	0.373	0.425
Sex-Teaching Program	5.258	3	1.753	1.997
Sex-Teaching Experience	0.265	1	0.265	0.302
Age-Teaching Program	3.939	6	0.656	0.748
Age-Teaching Experience	0.975	2	0.487	0.555
Teaching Program-Teaching Experience	5.014	3	1.671	1.904
Residual	492.328	561	0.878	
Total	521.903	585	0.892	

* $P < .05$

Table 9

T-Test: Strength-Activity Self-Concept by Teaching Program

Variable	Teaching Program	N	Mean	SD	t
Strength-Activity Self-Concept	Primary	99	0.219	0.858	2.26*
	Elementary	230	-0.036	0.967	
	Primary	99	0.219	0.858	3.20*
	General	113	-0.172	0.911	
	Primary	99	0.219	0.858	1.33
	High	162	0.064	0.937	
	Elementary	230	-0.036	0.967	1.25
	General	113	-0.172	0.911	
	Elementary	230	-0.036	0.967	-1.02
	High	162	0.064	0.937	
	General	113	-0.172	0.911	-2.08*
	High	162	0.064	0.937	

* $P < .05$

teachers having the least positive strength-activity self-concepts.

Table 10 shows a significant relationship between teacher motivation and teaching program. Table 11 sheds

Insert Tables 10 and 11 about here

light on the nature of this relationship. Primary program student-teachers have significantly higher means on the teacher motivation measure than any of the other three groups. Elementary program student-teachers have significantly higher means on the teacher motivation measure than general or high school program student-teachers. General program student-teachers have the lowest means on the teacher motivation measure. Table 10 also shows that age and teaching program interact to significantly relate to teacher motivation. Table 12 indicates that the mean differences on teacher

Insert Tables 12 about here

motivation tend to increase with age for the primary and high school student-teachers. Older primary program student-teachers tend to have higher levels of teacher motivation and older high school student-teachers tend to have lower levels of teacher motivation.

Table 13 shows a significant relationship between general motivation and teaching program. Table 14 makes

Insert Tables 13 and 14 about here

Table 10

Analysis of Variance: Teacher Motivation by Sex, Age, Teaching Program and Teaching Experience

Source of Variation	SS	DF	MS	F
Main Effects				
Sex	2.090	1	2.090	2.959
Age	0.042	2	0.021	0.030
Teaching Program	29.189	3	9.730	13.779*
Teaching Experience	1.372	1	1.372	1.943
Interactions				
Sex-Age	0.428	2	0.214	0.303
Sex-Teaching Program	4.986	3	1.662	2.354
Sex-Teaching Experience	1.283	1	1.283	1.817
Age-Teaching Program	10.376	6	1.729	2.449*
Age-Teaching Experience	0.345	2	0.172	0.244
Teaching Program-Teaching Experience	1.815	3	0.605	0.857
Residual	396.147	561	0.706	
Total	466.448	585	0.797	

* $P < .05$

Table 11

T-Test: Teacher Motivation by Teaching Program

Variable	Teaching Program	N	Mean	SD	t
Teacher Motivation	Primary	104	0.384	0.628	2.09*
	Elementary	242	0.220	0.687	
	Primary	104	0.384	0.628	6.68*
	General	113	-0.396	1.027	
	Primary	104	0.384	0.628	5.49*
	High	167	-0.231	1.030	
	Elementary	242	0.220	0.687	6.67*
	General	113	-0.396	1.027	
	Elementary	242	0.220	0.687	5.31*
	High	167	-0.231	1.030	
	General	113	-0.396	1.027	-1.32
	High	167	-0.231	1.030	

* P < .05

Table 12

Means (and Standard Deviations):

Teacher Motivation by Age and Teaching Program

Teaching Program	Age		
	Up to 19	20-22	23 or older
Primary	0.282 (0.642) n = 42	0.404 (0.654) n = 27	0.471 (0.601) n = 33
Elementary	0.188 (0.766) n = 84	0.173 (0.727) n = 72	0.293 (0.569) n = 84
General	-0.660 (1.157) n = 26	-0.371 (0.929) n = 64	-0.212 (1.120) n = 22
High School	0.069 (0.805) n = 35	-0.294 (0.988) n = 67	-0.328 (1.157) n = 65

Table 13

Analysis of Variance: General Motivation by Sex, Age, Teaching Program and Teaching Experience

Source of Variation	SS	DF	MS	F
Main Effects				
Sex	6.486	1	6.486	8.832*
Age	1.522	2	0.761	1.036
Teaching Program	9.563	3	3.188	4.341*
Teaching Experience	0.238	1	0.238	0.324
Interactions				
Sex-Age	0.529	2	0.265	0.360
Sex-Teaching Program	5.596	3	1.865	2.540
Sex-Teaching Experience	0.600	1	0.600	0.817
Age-Teaching Program	6.513	6	1.085	1.478
Age-Teaching Experience	1.343	2	0.671	0.914
Teaching Program-Teaching Experience	2.151	3	0.717	0.977
Residual	411.961	561	0.734	
Total	453.888	585	0.776	

* $p < .05$

Table 14

T-Test: General Motivation by Teaching Program

Variable	Teaching Program	N	Mean	SD	t
General Motivation	Primary	104	0.155	0.794	0.05
	Elementary	242	0.150	0.756	
	Primary	104	0.155	0.794	2.71*
	General	113	-0.154	0.873	
	Primary	104	0.155	0.794	3.34*
	High	167	-0.235	1.011	
	Elementary	242	0.150	0.756	3.35*
	General	113	-0.154	0.873	
	Elementary	242	0.150	0.757	4.41*
	High	167	-0.235	1.011	
	General	113	-0.154	0.873	0.70
	High	167	-0.235	1.011	

* p < .05

clear that the relationship here is between primary and elementary groups on the one hand, and general and high school groups on the other. The significant mean differences are between primary and both general and high school program groups and between elementary and both general and high school program groups. Primary and elementary student-teachers are more generally motivated than are general and high school student-teachers. Table 13 also shows a significant relationship between general motivation and sex. Table 15 compares the means of both male and female student-

Insert Table 15 about here

teachers on the variable general motivation and indicates that females have a significantly higher level of general motivation than do males.

Table 16 shows a significant relationship between

Insert Table 16 about here

perceived work difficulty and teaching program. An examination of the mean comparisons on Table 17 shows that this relationship

Insert Table 17 about here

is again between primary and elementary groups on one hand, and general and high school groups on the other. While the mean difference between primary and general groups is not significant at the .05 level, these differences are significant for the primary and high school groups, and also

Table 15

T-Test: General Motivation by Sex

Variable	Sex	N	Mean	SD	t
General Motivation	Male	310	-0.174	0.874	-4.80*
	Female	329	0.152	0.846	

* P < .05

Table 16

Analysis of Variance: Work Difficulty by Sex, Age, Teaching Program and Teaching Experience

Source of Variation	SS	DF	MS	F
Main Effects				
Sex	0.000	1	0.000	0.000
Age	0.986	2	0.493	1.160
Teaching Program	7.200	3	2.400	5.646*
Teaching Experience	1.610	1	1.610	3.788
Interactions				
Sex-Age	0.205	2	0.102	0.241
Sex-Teaching Program	0.481	3	0.160	0.377
Sex-Teaching Experience	0.237	1	0.237	0.557
Age-Teaching Program	3.752	6	0.625	1.471
Age-Teaching Experience	0.224	2	0.112	0.263
Teaching Program-Teaching Experience	0.238	3	0.079	0.186
Residual	238.475	561	0.425	
Total	255.777	585	0.437	

*P < .05

Table 17

T-Test: Perceived Work Difficulty by Teaching Program

Variable	Teaching Program	N	Mean	SD	t
Perceived Work Difficulty	Primary	104	0.105	0.609	-0.32
	Elementary	242	0.128	0.603	
	Primary	104	0.105	0.609	1.90
	General	113	-0.056	0.632	
	Primary	104	0.105	0.609	3.43*
	High	167	-0.202	0.774	
	Elementary	242	0.128	0.603	2.62*
	General	113	-0.056	0.632	
	General	242	0.128	0.603	4.84*
	High	167	-0.202	0.774	
	General	113	-0.056	0.632	1.67
	High	167	-0.202	0.774	

* P < .05

for the elementary and both general and high school groups. That is, primary and elementary program student-teachers perceive their courses to be more difficult than do the general and high school program student-teachers.

Table 18 shows no significant relationship between

Insert Table 18 about here

the alienation dimension of locus of control and background variables.

Table 19 shows a significant relationship between the control dimension of locus of control and sex. However, results of a t-test shown in Table 20 suggest that the

Insert Tables 19 and 20 about here

difference between means for males and females on the locus of control measure is not significant at the .05 level. Table 19 also indicates that sex and teaching experience interact to relate significantly to locus of control. An examination of Table 21 indicates that female student-teachers

Insert Table 21 about here

with teaching experience have a more internal perception of control than do female student-teachers without teaching experience.

Table 22 shows that there is a significant relation-

Insert Table 22 about here

Table 18

Analysis of Variance: Alienation by Sex, Age, Teaching Program and Teaching Experience

Source of Variation	SS	DF	MS	F
Main Effects				
Sex	0.402	1	0.402	0.601
Age	0.458	2	0.229	0.343
Teaching Program	3.069	3	1.023	1.531
Teaching Experience	0.088	1	0.088	0.131
Interactions				
Sex-Age	1.142	2	0.571	0.855
Sex-Teaching Program	2.043	3	0.681	1.019
Sex-Teaching Experience	1.374	1	1.374	2.056
Age-Teaching Program	6.824	6	1.137	1.701
Age-Teaching Experience	2.585	2	1.292	1.933
Teaching Program-Teaching Experience	3.817	3	1.272	1.903
Residual	177.137	265	0.668	
Total	199.890	289	0.692	

Table 19

Analysis of Variance: Locus of Control by Sex, Age, Teaching Program and Teaching Experience

Source of Variation	SS	DF	MS	F
Main Effects				
Sex	2.598	1	2.598	4.840*
Age	0.695	2	0.347	0.647
Teaching Program	1.998	3	0.666	1.241
Teaching Experience	1.733	1	1.733	3.229
Interactions				
Sex-Age	2.153	2	1.077	2.006
Sex-Teaching Program	0.263	3	0.088	0.163
Sex-Teaching Experience	3.476	1	3.476	6.476*
Age-Teaching Program	3.001	6	0.500	0.932
Age-Teaching Experience	1.543	2	0.771	1.437
Teaching Program-Teaching Experience	1.962	3	0.654	1.219
Residual	142.241	265	0.537	
Total	157.062	289	0.543	

* $P < .05$

Table 20

T-Test: Locus of Control by Sex

Variable	Sex	N	Mean	SD	t
Locus of Control	Male	140	0.048	0.676	1.11
	Female	170	-0.044	0.762	

Table 21

Means (and Standard Deviations):
Locus of Control by Sex and Teaching Experience

	Male	Female
No teaching experience	0.045 (0.698) n = 85	-0.188 (0.834) n = 94
Teaching experience	0.052 (0.652) n = 54	0.134 (0.624) n = 76

Table 22

Analysis of Variance: Attitude Towards Teaching as a Career for Self by Sex, Age, Teaching Program and Teaching Experience

Source of Variation	SS	DF	MS	F
Main Effects				
Sex	4.969	1	4.969	7.184*
Age	0.311	2	0.156	0.225
Teaching Program	4.461	3	1.487	2.150
Teaching Experience	0.004	1	0.004	0.006
Interactions				
Sex-Age	1.046	2	0.523	0.756
Sex-Teaching Program	0.121	3	0.040	0.058
Sex-Teaching Experience	1.108	1	1.108	1.602
Age-Teaching Program	2.945	6	0.491	0.710
Age-Teaching Experience	0.767	2	0.384	0.555
Teaching Program-Teaching Experience	0.173	3	0.058	0.084
Residual	183.284	265	0.692	
Total	211.059	289	0.730	

* $P < .05$

ship between attitude towards teaching as a career for oneself and sex. A comparison of means on this measure for males and females (Table 23) confirms the significant

Insert Table 23 about here

relationship and indicates that female student-teachers have a significantly more positive attitude towards teaching as a career for themselves than do male teachers.

Table 24 shows no significant relationship between

Insert Table 24 about here

attitude towards teaching as a career for others and the background variables, sex, age, teaching program and teaching experience.

From an examination of the preliminary analyses, it appears that there are significant relationships between the variables sex and teaching program and the attitudinal variables examined.

Hypotheses Related to Attitudinal Variables

The influence of physical attractiveness on the five expectations dimensions was found by Clifton and Baksh (1978) to be significant for all analyses they carried out. Because of this, physical attractiveness was treated as a covariate in the analyses carried out in this study and it was found to be significant in all but one analysis. Physical attractiveness was not found to have a significant influence on the relationship between student self-concept and the locus of control dimensions.

Table 23

T-Test: Attitude Towards Teaching as a Career for Self by Sex

Variable	Sex	N	Mean	SD	t
Attitude towards teaching as a career for self	Male	134	-0.221	0.893	-4.18*
	Female	163	0.189	0.800	

* P < .05

Table 24

Analysis of Variance: Attitude Towards Teaching as a Career in General by Sex, Age, Teaching Program and Teaching Experience

Source of Variation	SS	DF	MS	F
Main Effects				
Sex	0.707	1	0.707	1.235
Age	2.162	2	1.081	1.888
Teaching Program	1.954	3	0.651	1.138
Teaching Experience	0.009	1	0.009	0.016
Interactions				
Sex-Age	0.021	2	0.011	0.019
Sex-Teaching Program	0.646	3	0.215	0.376
Sex-Teaching Experience	0.814	1	0.814	1.421
Age-Teaching Program	2.734	6	0.456	0.796
Age-Teaching Experience	1.303	2	0.652	1.139
Teaching Program-Teaching Experience	1.841	3	0.614	1.072
Residual	151.687	265	0.572	
Total	167.726	289	0.580	

Hypotheses 1 to 4 will be discussed and appropriate data presented where necessary.

Hypothesis 1: Student-teachers' expectations for students are significantly related to the self-concept of the student-teachers.

Tables 25-29 show the analyses of covariance of the

Insert Tables 25 to 29 about here

five expectations dimensions with two self-concept measures. In each case physical attractiveness is significantly related to expectations but neither the main effects nor interactions are significant.

Hypothesis 2: Student-teachers' expectations for students are significantly related to the locus of control of the student-teachers.

Table 30 shows the analysis of covariance of IQ by

Insert Table 30 about here

the two dimensions of locus of control. Physical attractiveness is significantly related to estimated IQ but neither the main effects nor interactions are significant. Table 31

Insert Table 31 about here

shows the analysis of covariance of social relations by the two dimensions of locus of control. There is a significant

Table 25

Analysis of Covariance: IQ by Evaluative Self-Concept and Strength-Activity Self-Concept with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	12.044	1	12.044	5.303*
Main Effects				
Evaluative Self-Concept	1.523	1	1.523	0.671
Strength-Activity Self-Concept	0.436	1	0.436	0.192
Interaction				
Evaluative Self-Concept with Strength Activity Self-Concept	2.315	1	2.315	1.019
Residual	1305.931	575	2.271	
Total	1321.985	579	2.283	

* $P < .05$

Table 26

Analysis of Covariance: Social Relations by Evaluative Self-Concept and Strength-Activity Self-Concept with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	13.852	1	13.852	38.359**
Main Effects				
Evaluative Self-Concept	0.009	1	0.009	0.025
Strength-Activity Self-Concept	0.016	1	0.016	0.044
Interaction				
Evaluative Self-Concept with Strength Activity Self-Concept	0.041	1	0.041	0.115
Residual	207.637	575	0.361	
Total	221.546	579	0.383	

** $P < .01$

Table 27

Analysis of Covariance: Parental Attitude by Evaluative Self-Concept and Strength Activity Self-Concept with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	7.179	1	7.179	15.913**
Main Effects				
Evaluative Self-Concept	1.031	1	1.031	2.285
Strength-Activity Self-Concept	0.047	1	0.047	0.105
Interaction				
Evaluative Self-Concept with Strength-Activity Self-Concept	0.546	1	0.546	1.210
Residual	259.397	575	0.451	
Total	268.854	579	0.464	

** P < .01

Table 28

Analysis of Covariance: School Achievement by Evaluative Self-Concept and Strength-Activity Self-Concept with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	11.400	1	11.400	12.070**
Main Effects				
Evaluative Self-Concept	2.865	1	2.865	3.033
Strength-activity Self-Concept	0.622	1	0.622	0.659
Interaction				
Evaluative Self-Concept with Strength-Activity Self-Concept	0.898	1	0.898	0.951
Residual	543.090	575	0.945	
Total	568.195	579	0.981	

** P < .01

Table 29

Analysis of Covariance: Student Self-Concept by Evaluative Self-Concept and Strength-Activity Self-Concept with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	4.800	1	4.800	8.881**
Main Effects				
Evaluative Self-Concept	0.003	1	0.003	0.006
Strength-Activity Self-Concept	0.429	1	0.429	0.793
Interaction				
Evaluation Self-Concept with Strength-Activity Self-Concept	0.104	1	0.104	0.192
Residual	310.800	575	0.541	
Total	316.574	579	0.547	

** $P < .01$

Table 30

Analysis of Covariance: IQ by Alienation and Locus of Control with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	17.060	1	17.060	7.637**
Main Effects				
Alienation	4.716	1	4.716	2.111
Locus of Control	5.676	1	5.676	2.541
Interaction				
Alienation-Locus of Control	0.714	1	0.714	0.320
Residual	636.641	285	2.234	
Total	664.695	289	2.300	

* P < .05
**P < .01

Table 31

Analysis of Covariance: Social Relations by Perceived Alienation and Locus of Control with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	4.156	1	4.156	10.635**
Main Effects				
Alienation	1.596	1	1.596	4.084*
Locus of Control	0.619	1	0.619	1.584
Interaction				
Alienation - Locus of Control	0.000	1	0.000	0.001
Residual	111.383	285	0.391	
Total	117.777	289	0.408	

* P < .05
** P < .01

relationship between perceived alienation and estimated social relations. Table 32 also shows a significant main effect

Insert Table 32 about here

relationship between perceived alienation and estimated parental attitude. Table 33 indicates that a comparison of

Insert Table 33 about here

means does not support the significance of the relationship between alienation and social relations. However, the relationship between alienation and parental attitude is significant at the .05 level. Student-teachers who perceive a high level of alienation tend to estimate a negative parental attitude towards school work. Tables 34 and 35 show

Insert Tables 34 and 35 about here

the analysis of covariance of estimated school achievement and estimated student self-concept by the two dimensions of locus of control. There are no significant main effect or interaction relationships.

Hypothesis 3: Student-teachers' expectations for students are significantly related to the motivation of the student-teachers.

Table 32

Analysis of Covariance: Parental Attitude by Perceived Alienation and Locus of Control with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	4.717	1	4.717	10.952**
Main Effects				
Alienation	1.756	1	1.756	4.078*
Locus of Control	0.688	1	0.688	1.598
Interaction				
Alienation - Locus of Control	0.395	1	0.395	0.917
Residual	122.748	285	0.431	
Total	130.329	289	0.451	

* $P < .05$
** $P < .01$

Table 33

T-Test: Social Relations and Parental Attitude by Perceived Alienation

Variable	Perceived Alienation	N	Mean	SD	t
Social Relations	High	157	3.006	0.645	1.23
	Low	155	2.916	0.654	
Parental Attitude	High	155	4.987	0.624	-.244*
	Low	122	5.171	0.698	

* P < .05

Table 34

Analysis of Covariance: School Achievement by Perceived Alienation and Locus of Control with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	7.566	1	7.566	8.416**
Main Effects				
Alienation	0.144	1	0.144	0.160
Locus of Control	0.135	1	0.135	0.150
Interaction				
Alienation-Locus of Control	0.470	1	0.470	0.523
Residual	256.235	285	0.899	
Total	264.553	289	0.915	

** P < .01

Table 35

Analysis of Covariance: Student Self-Concept by Alienation and Locus of Control with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	0.877	1	0.877	1.640
Main Effects				
Alienation	0.694	1	0.694	1.298
Locus of Control	0.026	1	0.026	0.048
Interaction				
Alienation-Locus of Control	0.080	1	0.080	0.150
Residual	152.380	285	0.535	
Total	154.053	289	0.533	

Table 36 shows the analysis of covariance of

Insert Table 36 about here

estimated IQ by the three dimensions of motivation with physical attractiveness as covariate. There are no significant main effect or interaction relationships. Table 37 shows the analysis of covariance of estimated social relations by the

Insert Table 37 about here

three dimensions of motivation with physical attractiveness controlled. Teacher motivation and work difficulty interact to significantly relate to social relations. Table 38 shows

Insert Table 38 about here

that student-teachers who are highly motivated and perceive their work as difficult estimate more positive social relations than do student-teachers whose motivation to teach is low and who perceive their work as not difficult. This is in contrast to those who are high on motivation and low on perceived work difficulty or vice versa. There are no significant main effect relationships.

Table 39 shows the analysis of covariance of estimated

Insert Table 39 about here

parental attitude by the three motivation dimensions. There are no significant main effect or interaction relationships.

Table 36

Analysis of Covariance: IQ by Teacher Motivation, General Motivation and Perceived Work Difficulty with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	10.397	1	10.397	4.527*
Main Effects				
Teacher Motivation	6.649	1	6.649	2.895
General Motivation	0.444	1	0.444	0.193
Work Difficulty	0.762	1	0.762	0.332
Interaction				
Teacher Motivation - General Motivation	7.977	1	7.977	3.473
Teacher Motivation - Work Difficulty	0.285	1	0.285	0.124
General Motivation - Work Difficulty	0.105	1	0.105	0.046
Teacher Motivation - General Motivation - Work Difficulty	3.082	1	3.082	1.342
Residual	1384.922	603	2.297	
Total	1415.997	611	2.318	

* $P < .05$

Table 37

Analysis of Covariance: Social Relations by Teacher Motivation, General Motivation and Perceived Work Difficulty with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	11.112	1	11.112	30.922**
Main Effects				
Teacher Motivation	0.727	1	0.727	2.024
General Motivation	0.023	1	0.023	0.064
Work Difficulty	0.097	1	0.097	0.269
Interaction				
Teacher Motivation - General Motivation	0.158	1	0.158	0.439
Teacher Motivation - Work Difficulty	1.409	1	1.409	3.921*
General Motivation - Work Difficulty	0.003	1	0.003	0.009
Teacher Motivation - General Motivation Work Difficulty	0.348	1	0.348	0.968
Residual	216.690	603	0.359	
Total	231.621	611	0.379	

* $P < .05$

** $P < .01$

Table 38

Means (and Standard Deviations):
Social Relations by Teacher Motivation
and Perceived Work Difficulty

		Perceived Work Difficulty	
		Low	High
Teacher Motivation	Low	3.132 (0.687) n = 152	2.992 (0.623) n = 122
	High	2.976 (0.647) n = 168	3.050 (0.552) n = 219

Table 39

Analysis of Covariance: Parental Attitude by Teacher Motivation, General Motivation, and Perceived Work Difficulty with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	6.452	1	6.452	14.582**
Main Effects				
Teacher Motivation	0.009	1	0.009	0.020
General Motivation	1.460	1	1.460	3.301
Work Difficulty	0.014	1	0.014	0.031
Interaction				
Teacher Motivation-General Motivation	0.042	1	0.042	0.094
Teacher Motivation - Work Difficulty	0.048	1	0.048	0.109
General Motivation - Work Difficulty	0.127	1	0.127	0.287
Teacher Motivation - General Motivation - Work Difficulty	3.301	1	3.301	7.460*
Residual	266.810	603	0.442	
Total	278.867	611	0.456	

**.P < .01

Table 40 shows no significant main effect or inter-

Insert Table 40 about here

action relationships in the analysis of covariance of school achievement by the three motivation dimensions with physical attractiveness.

Table 41 shows the analysis of covariance of estimated

Insert Table 41 about here

student self-concept by the three dimensions of motivation. General motivation and perceived work difficulty interact to significantly relate to estimated student self-concept. Table 42 indicates that when general motivation and perceived

Insert Table 42 about here

work difficulty are both high or both low estimations of self-concept tend to be more positive.

Hypothesis 4: Student-teachers' expectations for students are significantly related to the student-teachers' attitude towards teaching as a career.

Table 43 shows the analysis of covariance of IQ by

Insert Table 43 about here

Table 40

Analysis of Covariance: School Achievement by Teacher Motivation, General Motivation, and Perceived Work Difficulty with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	12.543	1	12.543	13.329**
Main Effects				
Teacher Motivation	0.001	1	0.001	0.001
General Motivation	0.003	1	0.003	0.004
Work Difficulty	2.451	1	2.451	2.604
Interaction				
Teacher Motivation - General Motivation	0.270	1	0.270	0.287
Teacher Motivation - Work Difficulty	0.425	1	0.425	0.451
General Motivation - Work Difficulty	0.203	1	0.203	0.216
Teacher Motivation - General Motivation - Work Difficulty	0.371	1	0.371	0.394
Residual	567.453	603	0.941	
Total	583.644	611	0.955	

** $P < .01$

Table 41

Analysis of Covariance: Student Self-Concept by Teacher Motivation, General Motivation, and Perceived Work Difficulty with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	6.446	1	6.446	12.512**
Main Effects				
Teacher Motivation	0.081	1	0.081	0.157
General Motivation	0.141	1	0.141	0.273
Work Difficulty	0.646	1	0.646	1.254
Interaction				
Teacher Motivation-General Motivation	0.008	1	0.008	0.016
Teacher Motivation-Work Difficulty	0.003	1	0.003	0.006
General Motivation - Work Difficulty	2.423	1	2.423	4.704*
Teacher Motivation - General Motivation-Work Difficulty	0.985	1	0.985	1.913
Residual	310.660	603	0.515	
Total	322.612	611	0.528	

* $P < .05$
** $P < .01$

Table 42

Means (and Standard Deviation):
Student Self-Concept by General Motivation
and Perceived Work Difficulty

General Motivation	Perceived Work Difficulty	
	Low	High
Low	3.443 (0.735) n = 131	3.214 (0.711) n = 126
High	3.254 (0.714) n = 189	3.325 (0.724) n = 212

Table 43

Analysis of Covariance: IQ by Attitude Towards Teaching as a Career for Self and In General with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	16.633	1	16.633	7.722**
Main Effects				
Self	15.180	1	15.180	7.048**
In General	8.881	1	8.881	4.123
Interaction				
Self-In General	1.661	1	1.661	0.771
Residual	592.304	275	2.154	
Total	629.849	279	2.258	

** $P < .01$

attitude towards teaching as a career for self and in general. There is a significant main effect relationship between attitude towards teaching as a career for self and perceived IQ. However, a comparison of means in Table 44 indicates that

Insert Table 44 about here

this is not significant at the .05 level.

Tables 44-48 show the analyses of covariance of social

Insert Tables 45-48 about here

relations, parental attitude, school achievement and student's self-concept by attitude towards teaching as a career. There are no significant main effect or interaction relationships.

Hypotheses Related to Background Variables

Tables 49-53 show the analyses of covariance for the

Insert Tables 49-53 about here

five expectations dimensions by age, sex, teaching program and teaching experience. The hypotheses related to background variables will be examined separately.

Table 44

T-Test: IQ by Attitude Towards Teaching as a Career for Self

Variable	Attitude Towards Teaching as Career	N	Mean	SD	t
IQ	Negative	112	4.161	1.486	1.73
	Positive	178	3.848	1.497	

Table 45

Analysis of Covariance: Social Relations by Attitude Towards Teaching as a Career for Self and In General with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	2.885	1	2.885	7.265**
Main Effects				
Self	0.351	1	0.351	0.884
In General	0.019	1	0.019	0.047
Interaction				
Self-In General	0.015	1	0.015	0.038
Residual	109.221	275	0.397	
Total	112.566	279	0.403	

** P < .01

Table 46

Analysis of Covariance: Parental Attitude by Attitude Towards Teaching as a Career for Self and In General with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	4.087	1	4.087	9.251**
Main Effects				
Self	0.272	1	0.272	0.616
In General	0.596	1	0.596	1.349
Interaction				
Self-In General	1.192	1	1.192	2.698
Residual	121.498	275	0.442	
Total	127.941	279	0.459	

** P < .01

Table 47

Analysis of Covariance: School Achievement by Attitude Towards Teaching as a Career for Self and In General with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	7.373	1	7.373	8.312**
Main Effects				
Self	0.119	1	0.119	0.134
In General	1.207	1	1.207	1.360
Interaction				
Self-In General	0.023	1	0.023	0.026
Residual	243.960	275	0.887	
Total	252.566	279	0.905	

** P < .01

Table 48

Analysis of Covariance: Student's Self-Concept by Attitude Towards Teaching as a Career for Self and in General by Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	0.464	1	0.464	0.867
Main Effects				
Self	0.371	1	0.371	0.693
In General	0.869	1	0.869	1.622
Interaction				
Self-In General	0.036	1	0.036	0.068
Residual	147.313	275	0.536	
Total	148.823	279	0.533	

Table 49

Analysis of Covariance: IO by Age, Sex, Teaching Program and Teaching Experience with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	16.936	1	15.936	7.364**
Main Effects				
Age	6.883	2	3.442	1.590
Sex	5.236	1	5.236	2.420
Teaching Program	8.597	3	2.866	1.324
Teaching Experience	18.419	1	18.419	8.511**
Interactions				
Age-Sex	2.173	2	1.086	0.502
Age-Teaching Program	14.545	6	2.424	1.120
Age-Teaching Experience	4.772	2	2.386	1.103
Sex-Teaching Program	2.803	3	0.934	0.432
Sex-Teaching Experience	0.032	1	0.032	0.015
Teaching Program-Teaching Experience	11.052	3	3.684	1.702
Residual	1224.883	566	2.164	
Total	1355.857	591	2.294	

** P < .01

Table 50

Analysis of Covariance: Social relations by Age, Sex, Teaching Program and Teaching Experience with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	11.809	1	11.809	32.125**
Main Effects				
Age	0.085	2	0.043	0.116
Sex	3.760	1	3.760	10.228**
Teaching Program	1.122	3	0.374	1.017
Teaching Experience	0.392	1	0.392	1.066
Interactions				
Age-Sex	1.923	2	0.961	2.615
Age-Teaching Program	4.030	6	0.672	1.827
Age-Teaching Experience	2.171	2	1.086	2.954
Sex-Teaching Program	1.367	3	0.456	1.240
Sex-Teaching Experience	0.000	1	0.000	0.000
Teaching Program-Teaching Experience	1.026	3	0.342	0.930
Residual	208.052	566	0.368	
Total	235.023	591	0.398	

** P < .01

Table 51

Analysis of Covariance: Parental Attitude by Age, Sex, Teaching Program and Teaching Experience with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	7.950	1	7.950	17.546**
Main Effects				
Age	0.367	2	0.183	0.405
Sex	1.879	1	1.879	4.146*
Teaching Program	2.822	3	0.941	2.076
Teaching Experience	0.736	1	0.736	1.625
Interactions				
Age-Sex	0.061	2	0.031	0.068
Age-Teaching Program	2.810	6	0.468	1.034
Age-Teaching Experience	2.409	2	1.204	2.658
Sex-Teaching Program	1.171	3	0.390	0.862
Sex-Teaching Experience	0.147	1	0.147	0.325
Teaching Program-Teaching Experience	0.848	3	0.283	0.624
Residual	256.462	566	0.453	
Total	278.599	591	0.471	

* $P < .05$

** $P < .01$

Table 52

Analysis of Covariance: School Achievement by Age, Sex, Teaching Program and Teaching Experience with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	11.993	1	11.993	12.758**
Main Effects				
Age	2,517	2	1.258	1.339
Sex	1.570	1	1.570	1.671
Teaching Program	0.142	3	0.047	0.050
Teaching Experience	5.405	1	5.405	5.750*
Interaction				
Age-Sex	0.048	2	0.024	0.025
Age-Teaching Program	4.642	6	0.774	0.823
Age-Teaching Experience	0.889	2	0.445	0.473
Sex-Teaching Program	1.952	3	0.651	0.692
Sex-Teaching Experience	1.018	1	1.018	1.083
Teaching Program-Teaching Experience	3.083	3	1.028	1.093
Residual	532.061	566	0.940	
Total	579.901	591	0.981	

* $P < .05$

** $P < .01$

Table 53

Analysis of Covariance: Student Self-Concept by Age, Sex, Teaching Program and Teaching Experience with Physical Attractiveness

Source of Variation	SS	DF	MS	F
Covariate				
Physical Attractiveness	4.452	1	4.452	8.711**
Main Effects				
Age	0.417	2	0.208	0.408
Sex	5.629	1	5.629	11.016**
Teaching Program	1.734	3	0.578	1.131
Teaching Experience	8.210	1	8.210	16.065**
Interactions				
Age-Sex	1.080	2	0.541	1.057
Age-Teaching Program	2.275	6	0.379	0.742
Age-Teaching Experience	0.959	2	0.480	0.938
Sex-Teaching Program	0.909	3	0.303	0.593
Sex-Teaching Experience	0.011	1	0.011	0.021
Teaching Program-Teaching Experience	2.124	3	0.708	1.385
Residual	289.245	566	0.511	
Total	320.858	591	0.543	

** $P < .01$

Hypothesis 5: Student-teachers' expectations for students are significantly related to the age of the student-teachers.

An examination of tables 49-53 shows that there are no significant age effects on expectations; nor does age interact significantly with other variables.

Hypothesis 6: Student-teachers' expectations for students are significantly related to the sex of the student-teachers.

An examination of Tables 49-53 shows that there are significant main effect relationships between sex and three of the expectation dimensions: social relations, parental attitude, and self-concept. An examination of Table 54 shows

Insert Table 54 about here

that not only are those relationships significant but that sex is significantly related to the other two dimensions of expectations as well. Male teachers perceive students more positively on four expectation dimensions: IQ, social relations, school achievement and self-concept. Female teachers estimate more positive parental attitudes than do male teachers.

There were no significant interaction relationships of sex with other variables.

Table 54

T-Test: Expectations by Sex

Variable	Sex	N	Mean	SD	t
IQ	Male	311	4.235	1.541	2.07*
	Female	325	3.985	1.502	
Social Relations	Male	318	3.116	0.666	3.31*
	Female	342	2.953	0.601	
Parental Attitude	Male	313	5.006	0.703	-2.66*
	Female	334	5.149	0.668	
School Achievement	Male	310	3.523	1.032	2.33*
	Female	334	3.338	0.975	
Self-Concept	Male	317	3.420	0.740	4.09*
	Female	340	3.188	0.708	

* P < .01

Hypothesis 7: Student-teachers' expectations for students are significantly related to the teaching program of the student-teachers.

An examination of Tables 49-53 shows that there are no significant teaching program effects on expectations, nor does teaching program interact significantly with other variables.

Hypothesis 8: Student-teachers' expectations for students are significantly related to the teaching experience of student-teachers.

An examination of Tables 49-53 shows that there are significant main effect relationships between teaching experience and the expectations dimensions IQ, school achievement, and self-concept. An examination of Table 55 confirms that

Insert Table 55 about here

those relationships are significant. Student-teachers with experience estimate IQ, school achievement, and self-concept at lower levels than do student-teachers without teaching experience.

There were no significant interaction relationships of teaching experience with other variables.

Table 55

T-Test: Expectations by Teaching Experience

Variable	Teaching Experience	N	Mean	SD	t
IQ	No Experience	457	4.291	1.521	5.05**
	Some Experience	179	3.626	1.430	
School Achievement	No Experience	468	3.524	0.945	4.00**
	Some Experience	175	3.171	1.116	
Self-Concept	No Experience	473	3.387	0.734	4.86**
	Some Experience	183	3.082	0.686	

** P < .01

Summary

The present study examined the effects of various attitudinal and background variables on the expectations student-teachers form. First, the effects of the student-teacher variables age, sex, teaching program and teaching experience on the attitudinal variables, self-concept, motivation, locus of control, and attitude towards teaching as a career were determined. Analyses of variance and comparison of means indicated that there were significant relationships between teaching program and student-teacher self-concept, between teaching program and student-teacher motivation, and between sex and attitude towards teaching as a career. Second, the effects of student-teacher characteristics on expectation were determined. Analyses of covariance, with physical attractiveness treated as a covariate, indicated that expectations were significantly related to perceived physical attractiveness.. These analyses also indicated that the most significant main effects were between both sex and teaching experience and the various dimensions of expectations. Chapter V will discuss these findings.

CHAPTER V

DISCUSSION AND IMPLICATIONS

Expectancy research, given impetus by the Rosenthal and Jacobson (1968) study, has established the relationship between various student attributes such as physical attractiveness and the social and educational expectations teachers form. The present study developed from the lack of research examining teacher attributes as predictors of expectations. It analyzed a set of data to determine whether teacher attributes affect expectations when the influence of physical attractiveness on expectations has been controlled (cf. Clifton and Baksh, 1978).

Using a perceptual theory of individual behavior as a foundation for the research, evidence was presented which supports the hypotheses that the expectations student-teachers form are related to their perceptions of themselves, their perceptions of the world around them, and their perceptions of their goals. Specifically, it was hypothesized that student-teacher expectations are significantly related to self-concept, locus of control, motivation, and attitude towards teaching as a career. It was further hypothesized that student-teacher age, sex, teaching program, and teaching experience would, to a significant degree, determine expectations. In addition to analyzing the relationships between teacher attributes and expectations, the study also examined the relationships among teacher attributes and found some

interesting results. This chapter will look at those two dimensions of the findings. In conclusion, a brief discussion of the implications of the study will be presented.

Teacher Attributes and Expectations

Other than the findings that student-teachers who perceived high levels of alienation estimated a negative parental attitude towards school, the data did not support the hypothesized relationships between student-teacher attitudinal variables and expectations. For example, Zellner (1970) suggested that individuals with a positive self-view were less susceptible to social influence than individuals with a negative self-view. Various other studies related self-concept to effective teaching. It was not unreasonable to assume, therefore, that student-teachers who perceived a positive self concept were likely to hold more positive social and educational expectations. However, the data showed no evidence of this.

Lefcourt (1976) suggested that individuals with internal locus of control are very discriminating about what influences they accept and make better use of available information. One would expect these characteristics to prevail and thus affect expectations. Again, the data did not support the belief that internal control student-teachers are more likely to hold more positive expectations for students.

Highly motivated individuals are concerned with the future and tend to plan further ahead than individuals with lower levels of motivation. Because this characteristic relates to effective teaching, it was believed that the relationship may be through expectations. This was not evidenced in the data.

It is not a simple matter to account for the lack of predictive value of these attitudinal variables. Maybe the attitudinal variables chosen are not important. A possible source of error may be in the definition and measurement of the variables. It may also be that those attitudes tend to be positive in a university population. Rabinowitz (1966) suggested that, after high school, self-concept change is usually in a positive direction. McLaughlin (1977) indicated that locus of control changes in college. Students past their freshman year are likely to perceive more internal locus of control. Lehmann (1973) claimed that attitudes and values change from freshman to senior years. Finally, the very nature of motivation may itself preclude from the sample individuals not highly motivated since they are not likely to attend university.

Knapp (1971) stated that the personality traits and attitudes of an individual are less important in determining his/her effectiveness as a teacher, than is simply the number of years he/she has been teaching. Thus, if there is any relationship between teacher expectations and effective teaching, one would expect teacher expectations to be

positively related to teaching experience. However, the present analysis found that student-teachers with teaching experience estimated students' IQ, ultimate school achievement, and self-concept at significantly lower levels than did student-teachers without such experience. This could be a result of experienced teachers adjusting their expectations to be in line with their experiences. It could also be a product of the idealism of student-teachers. Very likely it is a combination of both.

Even though it has been suggested (Whittaker & Meade, 1967) that older subjects, regardless of sex, are less subject to irrelevant influence than younger adults, age did not appear to be a valid predictor of expectations. This may be explained by the limited range of subject age.

The most significant relationships in the data between teacher characteristics and expectations were those between student-teacher sex and the five dimensions of expectations. However, those relationships were not consistent. Male student-teachers make higher estimates of students' IQ, social relations, school achievement and self-concept than do female student-teachers, while female student-teachers perceive more positive parental attitudes. This finding is not consistent with other expectancy research and there was no research with similar findings. There is evidence in the data to support the conclusion that female student-teachers are more motivated than male student-teachers towards teaching as a career. It may be reasonable to suggest that

they saw the report card for what it was supposed to be and treated it as such, an average grade V report card. The estimation of more positive parental attitudes by female student-teachers may not be an inconsistency considering that the female role in this society has traditionally included the responsibility for educational concerns.

Relationship Among Teacher Attributes

While the direction of this study was towards examining relationships between teacher attributes and expectations, it was a preliminary analysis of relationships among teacher attributes that provided the most striking results.

Primary student-teachers have significantly more positive self-concepts than do elementary, general, or high school student-teachers, with student-teachers in the general program having the least positive self-concepts. Primary and elementary student-teachers are both more highly motivated towards teaching and more highly motivated generally than are general or high school student-teachers. Primary student-teachers become more positively motivated towards teaching with age while high school student-teachers become less motivated towards teaching with age. Female student-teachers are more positively motivated towards teaching than are male student teachers. Primary and elementary student-teachers perceived their courses to be more difficult than do general or high school student-teachers. Finally, female student-

teachers with teaching experience have a more internal perception of control than do female student-teachers without teaching experience.

The structure of the education programs at Memorial demands that primary and elementary program student-teachers make their decision towards a teaching career at an early period in their university years. The student-teachers in the general, and to some degree high school, program can postpone the decision for some time. This helps explain the relationship between teaching program and motivation. It is reasonable to expect that self-concept becomes more positive with a firm decision and with commitment, thus explaining the relationship between program and self-concept. With the commitment to the teaching career may come harder work and perhaps the perceived work difficulty.

Brandt and Hayden (1974) found differences in attitudes between male and female subjects. Those differences may cause the large numbers of female student-teachers to enter the primary program. Those findings relating sex to teacher motivation suggest that what Mason, Dressel, and Bain (1959) found may still be true, that men saw teaching as a stepping-stone to administration while women saw teaching as a career. Undoubtedly, many factors influence the achievement motivation of women, not the least of which are the differences in roles assigned to men and women by the culture (Alper, 1973).

Implications of the Study

The findings of this study have both theoretical and practical implications. Theoretically, a clear definition of expectations and an effective measure must be developed in relation to school achievement. Given the complex nature of attitude formation and the rapid and multidimensional changes in social relationships in contemporary society, the use of existing attitude measures with student-teacher or teacher samples should be questioned.

Practically, the findings have implications for teacher education and education in general. The commitment to teacher education must be examined and re-examined during an individual's university career, and it would seem appropriate to place greater emphasis on studying the complex social relationships in the classroom. The cause and consequence for developing particular types of expectations both need to be more fully understood. Research towards developing accurate definitions and measures is needed. Administrators must become aware of the prevailing expectations in their schools, the pervasiveness of influences on expectations and the results of these expectations. Teachers must examine their own attitudes and become aware of the possible negative influences on their expectations for students.

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APPENDICES

Appendix A

Student Report Card Questionnaire

STUDENT REPORT CARD QUESTIONNAIRE

This questionnaire has two purposes. The first is to have you, the prospective teacher, evaluate a report card and indicate how useful you find the material on it. This part of the questionnaire is designed to help us draw up better report cards so that they provide meaningful information for both teachers and parents. As you know education involves a multitude of decisions, many of which have major effects on the individual pupil. Teachers, administrators, counsellors, and parents try to understand the child from the information that is provided on his report card. In fact, important decisions are made on the basis of such information. Basic to this is the assumption that the information contained in a child's report card, is valid, and useful. We are trying to determine how useful this information really is.

We are asking you to help us examine this issue. Study the grade 5 report card presented on page 3 and estimate, as best you can, five important pieces of information about the student: 1) IQ; 2) social relations; 3) parental interest; 4) self-concept; and 5) future educational achievement. Admittedly you do not have much on which to base your judgement. But, remember, we are only asking to what extent this type of record is informative. As such, your best estimate will assist us answer this question. Any comments you have on the issue of report cards and their value will be appreciated. There is a space left in the questionnaire for your specific comments. Please feel free to write as much as you wish.

The second, third and fourth parts of the questionnaire ask for some attitudes you have towards education, background information, and general values. We are attempting to determine how prospective teachers feel about social institutions, in general, and education, in specific.

It is extremely important that you reply to all of the questions as truthfully as you can. You will enter your answer to each question by circling a number, by placing an X in the space next to your choice, or by writing a number in a space provided.

SUBJECT	FIRST TERM	SECOND TERM	FINAL TERM
READING			
Comprehension	C	B	B
Skills	B	C	B
LANGUAGE ARTS			
English	C	B	C
Spelling	B	B	B
Writing	C	C	B
MATHEMATICS	A	B	A
SOCIAL STUDIES	B	B	B
History	B	B	B
Geography			
Civics	A	A	A
SCIENCE	B	B	A
FRENCH			
RELIGIOUS EDUCATION			
ART	✓	✓	✓
MUSIC	✓	✓	✓
PHYSICAL EDUCATION	✓	✓	✓

NOTE:

1. Schools have the option of using either check marks or letter grades.
2. Where check marks are used the following will apply:
   (a) Any area checked and not referred to in General Comments is considered satisfactory.
   (b) Any area not checked is not applicable at this time.
3. Where letter grades are used the following will apply:
   A – Excellent; B — High; C – Fair;
   D – Low; E – Unsatisfactory
4. At the end of the reporting period an interview with the parents will be arranged.

GENERAL COMMENTS

ACADEMIC 11/13/13. Some improvement is required in Reading, English, and Writing. Some additional material will be provided for homework.
2/27/14. Improvements have been observed in Reading Comprehension but skill has dropped. Writing skills still need improvement.
6/4/14. Improvements have been observed in almost every aspect of the work.

SOCIAL 1/13/13. Your child has some difficulties in a group situation but shows good skill in most independent activities.
2/27/14. Social relationships are improving. Speaking in front of the class is still a problem.
6/4/14. Some work on social activities are required. But maybe the summer holiday will help. Your child has done quite well.

TEACHER'S SIGNATURE [redacted]

PARENT'S SIGNATURE [redacted]

EVALUATION OF THE REPORT CARD

Please study the report card on the preceding page and answer the following questions as accurately as you can.

(1) I would estimate that the child has an IQ about: (Circle one number on the right)

Below 96	1
96-100	2
101-105	3
106-110	4
111-115	5
116-120	6
121-125	7
126-130	8
Above 130	9

(2) I would speculate that the child's social relationships with classmates are: (Circle one number on the right)

Very good	1
Good	2
Medium	3
Bad	4
Very bad	5

(3) I would estimate that the parents' attitude toward the child's school work is one of: (Circle one number on the right)

Strong interest	1
Moderate interest	2
Slight interest	3
Slight indifference	4
Moderate indifference	5
Strong indifference	6

(4) I would predict that this student would continue school through: (Circle one number on the right)

2 years of high school	1
4 years of high school	2
2 years of college or equivalent	3
4 years of college or equivalent	4
1 year of graduate school	5
Masters	6
Ph.D	7

(5) I would guess that the child's self-concept is: (Circle one number on the right)

Very healthy	1
Healthy	2
Moderately healthy	3
Unhealthy	4
Very unhealthy	5

(6) I find this child to be: (Circle one number on the right)

Very attractive	1
Attractive	2
Moderately attractive	3
Unattractive	4
Very unattractive	5

(7) Comment on the usefulness of the Report Card.

ATTITUDES

For the following questions please place an X on the line which indicates the strength of your attitude. The middle line indicates that you have a neutral attitude toward what is mentioned in the statement.

(8) How motivated are you to do well in your Education courses this year?

Unmotivated _ _ _ _ _ Very motivated

(9) How strong is your desire to continue with teacher education?

Very weak _ _ _ _ _ Very strong

(10) How hard do you work at your courses this year?

Not at all _ _ _ _ _ Very hard

(11) How difficult do you find your course work?

Not at all difficult _ _ _ _ _ Extremely difficult

(12) How hard are you willing to work in order to become a teacher?

Not at all _ _ _ _ _ Very hard

(13) How important is becoming a teacher to you?

Unimportant _ _ _ _ _ _ Very important

(14) What is your evaluation of teaching as a profession at the present time?

Very unfavorable _ _ _ _ _ _ Very favorable

(15) How competent do you think you are to teach at the present time?

Very incompetent _ _ _ _ _ _ Very competent

(16) In this question evaluate yourself in the role as a student-teacher. Use all the scales.

ME AS A STUDENT TEACHER

Good _ _ _ _ _ _ Bad

Ugly _ _ _ _ _ _ Beautiful

Cruel _ _ _ _ _ _ Kind

Pleasant _ _ _ _ _ _ Unpleasant

Weak _ _ _ _ _ _ Strong

Awful _ _ _ _ _ _ Nice

Active _ _ _ _ _ _ Passive

Happy _ _ _ _ _ _ Sad

Fair _ _ _ _ _ _ Unfair

(17) In this question evaluate yourself in the roles as a teacher. Use all of the scales. Do not refer back to your evaluations on the last question.

ME AS A TEACHER

Good	__	__	__	__	__	Bad
Ugly	__	__	__	__	__	Beautiful
Cruel	__	__	__	__	__	Kind
Pleasant	__	__	__	__	__	Unpleasant
Weak	__	__	__	__	__	Strong
Awful	__	__	__	__	__	Nice
Active	__	__	__	__	__	Passive
Happy	__	__	__	__	__	Sad
Fair	__	__	__	__	__	Unfair

BACKGROUND INFORMATION

(18) What sex are you? (Circle 1 or 2)

Male..... 1
Female..... 2

(19) How old were you at your last birthday? (Circle one number)

17 or less..... 1
18..... 2
19..... 3
20..... 4
21..... 5
22..... 6
23 or older..... 7

(20) What is your marital status? (Circle one number)

Single..... 1
Married..... 2
Widowed..... 3
Divorced or Separated..... 4
Religious order..... 5

(21) What degree are you working toward? (Circle one number)

Bachelor of Arts (Education) 1
Conjoint Degree of Bachelor of Education and Bachelor of Arts..... 2
Education and Bachelor of Science . 3
Conjoint Degree of Bachelor of Education and Bachelor of Physical Education..... 4

(22) What Program are you in? (Circle one number)

Primary Education..... 1
Elementary Education..... 2
General Programme..... 3
Internship Programme..... 4
Professional Semester Programme ... 5
High School Programme..... 6

(23) What year of University are you in? (Circle one number)

First..... 1
Second..... 2
Third..... 3
Fourth..... 4
Fifth or more..... 5

(24) How many years have you been employed as a teacher? (Circle one number)

None..... 1
Up to 1 year..... 2
2 years..... 3
Three years..... 4
Four years..... 5
Five years or more..... 6

ATTITUDES

Here are some different kinds of statements. They will help you tell how you feel about a number of different aspects of society. For each statement write in the space provided on the right hand side the number which best describes your agreement or disagreement according to this code:

CODE

1. Strongly agree
2. Moderately agree
3. Slightly agree
4. Slightly disagree
5. Moderately disagree
6. Strongly disagree

CODE

1. Strongly agree
2. Moderately agree
3. Slightly agree
4. Slightly disagree
5. Moderately disagree
6. Strongly disagree

		Code Number
(25)	Teaching is about the best job I can think of	_____
(26)	Almost anyone in our society can improve his standard of living if he is willing to work hard	_____
(27)	It is almost impossible for one person to really understand the feelings of another	_____
(28)	These days a person doesn't really know who he can count on	_____
(29)	There are a lot of advantages to teaching	_____
(30)	Most people who complain of bad luck don't realize how much they are the cause of it	_____
(31)	In this fast-changing world, with so much different information available, it is difficult to think clearly about many issues	_____
(32)	There is not much chance that people will really do anything to make this country a better place to live in	_____
(33)	I wouldn't care for the work of a teacher	_____
(34)	One should leave home and establish himself in the world as soon as possible	_____
(35)	There will always be a great lack of understanding between the older and younger generations	_____

CODE

1. Strongly agree
2. Moderately agree
3. Slightly agree
4. Slightly disagree
5. Moderately disagree
6. Strongly disagree

		Code Number
(36)	Success is more dependent upon luck than real ability	
(37)	Teaching would be a wonderful occupation for anyone	
(38)	Teaching may be all right for some people but not for me	
(39)	A man should be allowed to make as much as he can	
(40)	I am not convinced of the importance of a teaching career	
(41)	Parents often expect too much of their children	
(42)	Teaching, as a career, is not worth the sacrifice of going to college, the long hours of work, and the low pay	
(43)	It's hardly fair to bring children into the world with the way things look for the future	
(44)	I am sure I would enjoy teaching	
(45)	In spite of what some people say, the lot of the average man is getting worse	
(46)	Teaching is as good a job as any	
(47)	So many people do things well that it is easy to become discouraged	
(48)	There are more advantages than disadvantages to teaching as a career	
(49)	I would be willing to take any job related to teaching	

Appendix B

Correlation Coefficient Matrices and Factor Analyses Tables for Attitudinal Items

Table 1

Correlation Coefficients for Nine Semantic Differential Scales on Concept "Me as Teacher"

Scales	1	2	3	4	5	6	7	8	9	N	Mean	SD
Good-Bad	1.000									620	4.063	.812
Beautiful-Ugly	.284	1.000								620	3.431	.596
Kind-Cruel	.380	.247	1.000							620	4.305	.632
Pleasant-Unpleasant	.420	.225	.583	1.000						620	4.334	.648
Strong-Weak	.455	.201	.300	.339	1.000					620	3.963	.741
Nice-Awful	.396	.310	.563	.517	.373	1.000				620	4.129	.643
Active-Passive	.382	.066	.359	.385	.467	.315	1.000			620	4.284	.792
Happy-Sad	.321	.108	.348	.498	.308	.361	.392	1.000		620	4.384	.664
Fair Unfair	.355	.126	.394	.448	.302	.404	.422	.456	1.000	620	4.531	.608

Table 2

Factor Matrix for Nine Semantic Differential Scales on the Concept "Me as Teacher" Using Principal Factor with Iterations

Scales	Factor 1	Factor 2	Communality
Good-Bad	.607	-.025	.369
Beautiful-Ugly	.315	.247	.161
Kind-Cruel	.688	.238	.530
Pleasant-Unpleasant	.735	.126	.556
Strong-Weak	.562	-.175	.346
Nice-Awful	.697	.279	.564
Active-Passive	.624	-.441	.583
Happy-Sad	.588	-.122	.361
Fair-Unfair	.612	-.113	.387
Eigenvalue	3.392	0.465	
Percent of Variance	88.0	12.0	

Table 3

Rotated Factor Pattern for Nine Semantic Differential Scales on the Concept "Me as Teacher"

Scales	Factor 1	Factor 2
Good-Bad	.402	.278
Beautiful-Ugly	-.068	.436
Kind-Cruel	.173	.614
Pleasant-Unpleasant	.322	.511
Strong-Weak	.534	.086
Nice-Awful	.135	.664
Active-Passive	.855	-.181
Happy-Sad	.494	.158
Fair-Unfair	.499	.180

Table 4

Rotated Factor Structure for Nine Semantic Differential Scales on the Concept "Me as Teacher"

Scales	Factor 1	Factor 2
Good-Bad	.564	.512
Beautiful-Ugly	.187	.397
Kind-Cruel	.531	.714
Pleasant-Unpleasant	.620	.699
Strong-Weak	.584	.398
Nice-Awful	.522	.743
Active-Passive	.749	.317
Happy-Sad	.587	.447
Fair-Unfair	.604	.471

Table 5

Factor-Score Coefficients for Nine Semantic Differential Scales for Concept "Me as Teacher"

Scales	Factor 1	Factor 2
Good-Bad	.130	.112
Beautiful-Ugly	-.010	.116
Kind-Cruel	.055	.284
Pleasant-Unpleasant	.148	.257
Strong-Weak	.153	.038
Nice-Awful	.062	.347
Active-Passive	.406	-.106
Happy-Sad	.152	.048
Fair-Unfair	.160	.062

Table 6

Correlation Coefficients Among Eleven Locus of Control and Alienation Items

Items	26	27	28	30	31	32	35	36	43	45	47	N	Mean	SD
26*	1.000											312	5.183	1.124
27	-.043	1.000										312	3.878	1.670
28	-.026	.311	1.000									312	3.818	1.579
30	.249	-.074	-.032	1.000								312	4.481	1.250
31	-.045	.214	.260	-.124	1.000							312	3.032	1.448
32	.022	.180	.262	-.182	.237	1.000						312	4.397	1.497
35	-.078	.213	.269	-.160	.221	.317	1.000					312	4.276	1.448
36	.270	.072	.096	.041	.082	.188	.161	1.000				312	5.071	1.146
43	.057	.058	.177	.097	.084	.192	.120	.133	1.000			312	4.609	1.470
45	.055	.135	.273	-.106	.166	.306	.307	.122	.262	1.000		312	3.683	1.398
47	.019	.130	.225	-.059	.250	.244	.147	.099	.287	.239	1.000	312	4.045	1.393

*These numbers refer to questionnaire items.

Table 7

Factor Matrix for Eleven Locus of Control and Alienation Items Using Principal Factor with Iterations

Item	Factor 1	Factor 2	Factor 3	Factor 4	Communality
26*	.005	.627	.264	-.025	.464
27	.386	-.116	.132	.275	.256
28	.555	-.039	.024	.316	.410
30	-.191	.448	-.096	.266	.317
31	.428	-.112	.063	.087	.207
32	.569	-.021	.095	-.189	.369
35	.512	-.127	.121	-.074	.298
36	.267	.325	.222	-.113	.239
43	.405	.305	-.454	-.057	.467
45	.520	.061	-.051	-.122	.292
47	.446	.072	-.170	-.014	.234
Eigenvalues	1.967	.846	.412	.327	
Percent of Variance	55.4	23.8	11.6	9.2	

*These numbers refer to questionnaire items.

Table 8

Factor Matrix for Eleven Locus of Control and Alienation Items Using Principal Factor with Iterations

Items	Factor 1	Factor 2	Communality
26*	.003	.633	0.400
27	.373	-.095	.148
28	.528	-.029	.279
30	-.187	.389	.186
31	.435	-.104	.200
32	.567	-.003	.321
35	.519	-.114	.283
36	.263	.338	.184
43	.349	.209	.165
45	.525	.068	.280
47	.444	.067	.202
Eigenvalues	1.896	0.752	
Percent of Variance	71.6	28.4	

*These numbers refer to questionnaire items.

Table 9

Rotated Factor Pattern of Eleven Locus of Control and Alienation Items

Item	Factor 1	Factor 2
26*	-.023	.633
27	.376	-.090
28	.528	-.021
30	-.203	.386
31	.439	-.097
32	.567	.006
35	.524	-.106
36	.249	.342
43	.340	.214
45	.522	.076
47	.441	.074

*These numbers refer to questionnaire items.

Table 10

Rotated Factor Structure for Eleven Locus of Control and Alienation Items

Item	Factor 1	Factor 2
26*	-.007	.632
27	.374	-.080
28	.528	-.007
30	-.193	.381
31	.437	-.085
32	.567	.021
35	.521	-.092
36	.258	.349
43	.346	.223
45	.524	.090
47	.443	.085

*These numbers refer to questionnaire items

Table 11

Factor-Score Coefficients for Eleven Locus of Control and Alienation Items

Item	Factor 1	Factor 2
26*	-.007	.503
27	.123	-.049
28	.210	-.008
30	-.065	.222
31	.156	-.057
32	.237	.005
35	.204	-.064
36	.087	.193
43	.115	.135
45	.204	.051
47	.159	.049

*These numbers refer to questionnaire items.

Table 12

Correlation Coefficients Among Eight Motivation Items

Item	8	9	10	11	12	13	14	15	N	Mean	SD
8*	1.000								662	4.329	0.833
9	.416	1.000							662	4.420	0.815
10	.551	.303	1.000						662	3.955	0.739
11	.109	.178	.202	1.000					662	3.014	0.848
12	.375	.592	.383	.179	1.000				662	4.464	0.668
13	.332	.631	.299	.231	.624	1.000			662	4.412	0.790
14	.164	.286	.117	.142	.191	.293	1.000		662	3.991	1.008
15	.085	.147	.108	-.040	.174	.194	.109	1.000	662	3.486	0.959

* These numbers refer to questionnaire items.

Table 13

Factor Matrix of Eight Motivation Items Using Principal Factor with Interactions

Item	Factor 1	Factor 2	Factor 3	Communality
8*	.598	.380	−.117	.516
9	.750	−.201	−.075	.608
10	.588	.526	.017	.624
11	.302	.015	.594	.444
12	.733	−.124	−.073	.558
13	.778	−.318	.002	.707
14	.323	−.118	.058	.121
15	.204	−.070	−.146	.068
Eigenvalues	2.645	.598	.402	
Percent of Variance	72.6	16.4	11.0	

*These numbers refer to questionnaire items.

Table 14

Rotated Factor Pattern for Eight Motivation Items

Item	Factor 1	Factor 2	Factor 3
8*	.100	.665	-.052
9	.736	.073	.020
10	-.065	.809	.078
11	.093	.065	.632
12	.653	.152	.018
13	.850	-.155	.104
14	.329	-.013	.100
15	.238	.017	-.120

* These numbers refer to questionnaire items.

Table 15

Rotated Factor Structure of Eight Motivation Items

Item	Factor 1	Factor 2	Factor 3
8*	.445	.711	.046
9	.777	.464	.121
10	.371	.784	.174
11	.205	.195	.652
12	.736	.499	.119
13	.833	.407	.202
14	.334	.173	.139
15	.232	.127	-.088

*These numbers refer to questionnaire items.

Table 16

Factor Score Coefficients for Eight Motivation Items

Item	Factor 1	Factor 2	Factor 3
8*	.065	.341	-.079
9	.307	.091	-.025
10	.011	.521	.088
11	-.009	.016	.621
12	.227	.108	-.039
13	.450	.006	.100
14	.055	.004	.048
15	.047	.009	-.081

*These numbers refer to questionnaire items.

Table 17

Correlation Coefficients Among Eleven "Attitude Towards Teaching as a Career" Items

Items	25	29	33	37	38	40	42	44	46	48	49
25*	1.000										
29	.317	1.000									
33	.301	.223	1.000								
37	.122	-.004	.030	1.000							
38	.324	.208	.465	.118	1.000						
40	.274	.154	.369	.030	.406	1.000					
42	.139	.168	.284	.077	.242	.298	1.000				
44	.212	.069	.280	.109	.309	.238	.091	1.000			
46	.137	.140	.025	.197	.047	-.036	.034	.012	1.000		
48	.212	.321	.065	.046	.154	.076	.086	.095	.220	1.000	
49	.157	.097	.194	.193	.195	.013	.223	.157	.095	.110	1.000

* These numbers refer to Questionnaire items.

Table 18

Factor Matrix for Eleven "Attitude Towards Teaching as a Career" Items Using Princpal Factor with Iterations

Item	Factor 1	Factor 2	Factor 3	Communality
25*	.530	.133	-.052	.302
29	.444	.330	-.344	.424
33	.626	-.232	-.014	.446
37	.189	.199	.450	.278
38	.666	-.168	.054	.475
40	.533	-.287	-.103	.377
42	.398	-.072	.036	.165
44	.399	-.113	.126	.187
46	.161	.407	.134	.210
48	.313	.407	-.150	.286
49	.313	.116	.267	.183
Eigenvalues	2.171	0.694	0.467	
Percent of Variance	65.2	20.8	14.0	

*These numbers refer to questionnaire items.

Table 19

Rotated Factor Pattern of Eleven "Attitude Towards Teaching as Career" Items

Item	Factor 1	Factor 2	Factor 3
25*	.349	.309	.061
29	.143	.622	-.156
33	.667	.017	-.030
37	.035	-.054	.532
38	.660	.040	.065
40	.625	-.003	-.146
42	.377	.045	.053
44	.405	-.044	.125
46	-.130	.302	.302
48	-.011	.525	.045
49	.187	.030	.338

*These numbers refer to questionnaire items.

Table 20

Rotated Factor Structure for Eleven "Attitude Towards Teaching as a Career" Items

Item	Factor 1	Factor 2	Factor 3
25*	.450	.426	.208
29	.294	.623	.034
33	.667	.203	.100
37	.119	.095	.524
38	.684	.248	.200
40	.597	.139	-.030
42	.399	.168	.136
44	.415	.106	.189
46	.014	.343	.357
48	.149	.533	.181
49	.260	.173	.381

*These numbers refer to questionnaire items.

Table 21

Factor Score Coefficients for Eleven "Attitude Towards Teaching as a Career" Items

Item	Factor 1	Factor 2	Factor 3
25*	.122	.183	.083
29	.057	.427	-.083
33	.301	.006	-.009
37	.024	.013	.401
38	.312	.037	.089
40	.252	-.016	-.121
42	.110	.024	.051
44	.122	-.013	.086
46	-.040	.182	.228
48	-.003	.307	.079
49	.068	.038	.230

*These numbers refer to questionnaire items.