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**Predicting educational and occupational attainment among  
male and female teacher education students: An examination  
of high school extracurricular participation and other selected  
characteristics**

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**Iowa State University, 1991**

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Predicting educational and occupational attainment  
among male and female teacher education students:  
An examination of high school extracurricular participation  
and other selected characteristics

by  
Alyce Ann Holland

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## CHAPTER I. INTRODUCTION

### Background

Recent trends in American education have heightened the public's perception of the need for accountability in school programs. Inflation during the 1970s, declining enrollments in the 1980s, and reduced federal funding for education have decreased financial support for educational programs. The 1980s also brought a renewed emphasis on the quality of education as evidenced by critical national reports such as A Nation at Risk (National Commission on Excellence in Education, 1983) and the Carnegie Forum on Education and the Economy (1986).

At the same time, a shortage of classroom teachers is predicted in the 1990s due to fewer teacher education graduates and high attrition rates among experienced teachers (Darling-Hammond, 1984; Harris & Harris, 1988; Heyns, 1988; Weaver, 1984). The number of college students receiving undergraduate degrees in education has decreased continually since 1972, resulting in a decreased supply of newly-certified teachers (U.S. Department of Education, 1987). Fewer than 12% of all baccalaureate degree recipients in 1986 obtained teaching credentials, compared to 24% in 1974.

The decreased supply of newly-certified teachers is further reduced by the fact that fewer than 60% of teacher education graduates enter the teaching profession the year following graduation (Feistritzer, 1984).

Furthermore, approximately half of teacher education graduates leave the teaching profession during the first five years following graduation (Schlechty & Vance, 1981).

In addition, the years of declining enrollments appear to be ending with the children of baby boomers now reaching school age (Heyns, 1988). School districts across the nation are experiencing increased enrollments for the first time since the early 1970s.

As a result, there exists a need for the study of factors related to completion of teacher education programs by college students. One such factor that has received little attention in the literature on teacher recruitment and retention is high school extracurricular participation by teacher education students and graduates of teacher education programs. It seems conceivable that increased contact with the school environment through participation in high school social or athletic activities might result in increased interest in teaching by participants as reflected by their graduation in teacher education.

Continued study of extracurricular participation would be helpful, not only to expand research in the areas cited above, but also to provide current empirical data for use by educators when making decisions concerning the role of activity programs in the overall secondary school program. For the most part, such activity program review and decision making have been made mainly on financial grounds, and have ignored the available research on the relationship

among activity program participation, academic achievement, and adolescent development.

Numerous studies have dealt with the relationship between academic achievement and activity participation (especially athletic participation). Generally, students who were more active participants in the extracurriculum achieved higher grade point averages and higher college entrance examination scores than nonparticipants (Haensly, Lupkowski, & Edlind, 1986; Landers, Feltz, Obermeier, & Brouse, 1978).

Other researchers have attempted to explain the nature of the relationship between participation and certain outcome variables. Their results have indicated that, in males, participation has relationships with certain outcome variables (i.e., educational and occupational attainment) that are independent of moderator variables such as socioeconomic status and academic ability (Hanks & Eckland, 1976; Otto, 1975, 1976; Otto & Alwin, 1977). In one such study, Otto (1975) proposed a causal model that related extracurricular participation among high school males both directly and indirectly to educational attainment. Otto's findings supported the hypothesis that high school participation produces an effect on educational attainment that is independent of academic ability, academic performance, family socioeconomic status, and parental education. There was additional evidence that participation mediates the effects of these moderator variables. Otto's model was not tested on female participants, and did not compare different types of activity



participation.

There is limited evidence which suggests that the relationship between activity participation and educational attainment may be different for female participants. Hanks and Eckland (1976) developed a model to assess the role of extracurricular activities in the educational attainment process among females as well as males. In their study athletic participation was differentiated from social activities. Among females, no significant relationship was found between athletic participation and educational outcomes, although, in contrast to findings with males, effects of social participation for females were due more to indirect than to direct effects.

Other variables which might be useful in predicting educational attainment are demographic characteristics of education students and desirable employment characteristics. Research conducted on demographic characteristics of teacher education students has generally focused on academic achievement of education students and graduates (Vance & Schlechy, 1982). Both academic potential and academic performance of education students and graduates have been compared to non-education students and graduates. Although results from different studies are inconsistent, recent research suggests that the most academically talented students do not enter teaching and are the least likely to remain in teaching (Darling-Hammond, 1984). However, Young (1989) found that both male and female teacher education

graduates who taught the year following graduation ranked higher in their high school graduating class than graduates who did not teach.

Additional demographic characteristics of education students that have received attention in the literature include gender (Roberson, Keith, & Page, 1983), teaching level (Book & Freeman, 1986), and family influence (Johnson, 1983). These characteristics have been investigated separately, but they have not been examined simultaneously with other factors that may be related to graduation in teacher education.

The employment characteristics that students perceive as desirable in their future employment might also be useful in the prediction of graduation in teacher education. Job orientations that have been associated with teacher education students include the opportunity to serve others, interpersonal relationships with students and peers, extrinsic rewards of employment, opportunities to use creative and special abilities, and the potential to exercise leadership. Research on job characteristics sought by teacher education students has indicated that males and females enter the teaching profession for different reasons (Herzberg, Mausner, Peterson, & Capwell, 1957; Keith, 1980; Keith, Warren, & Dilts, 1983). Females generally emphasize serving others and interpersonal relationships, while males are more likely to select employment for advancement opportunities and for the chance to exercise leadership. Brenner and Tomkiewicz (1979) have indicated that

differences between job orientations of male and female college seniors are declining due to an increase in the importance that females currently place on extrinsic rewards.

Another focus of research should be the occupational attainment of teacher education graduates since teachers appear to be leaving the profession in record numbers (Schlechty & Vance, 1981). Reasons cited for teacher attrition are low salaries (Chapman & Hutcheson, 1982), better advancement and employment opportunities outside of education (Goodlad, 1984), poor working conditions (Lortie, 1975), and low prestige associated with the teaching profession (Gallup, 1984). Satisfaction with teaching as a career is undoubtedly affected by these factors, and levels of teacher satisfaction are reported to be declining. According to Darling-Hammond (1984), between 1971 and 1981 the percentage of teachers who would not again choose teaching as a career more than tripled, rising from about 10% to nearly 40%. In order to maintain an adequate supply of teachers, it is essential that experienced teachers remain in the teaching profession.

One explanation cited for teacher dissatisfaction is the large number of non-teaching duties required of teachers (Darling-Hammond, 1984); yet no empirical research has attempted to either substantiate or refute this explanation. In the case of advising and coaching high school activities which are considered non-teaching duties by many educators, it is possible that, instead of increasing dissatisfaction among teachers,

serving as an advisor or coach may actually increase satisfaction with teaching. Theories of person-environment interaction contend that increased contact with the environment tends to increase satisfaction with that environment (Astin, 1977). Research that examines the relationship between serving as an advisor or coach for school activities and satisfaction with teaching could provide insights into this facet of teacher satisfaction/dissatisfaction.

### Need for the Study

Reduced funding for education, along with declining numbers of teachers, indicate a need to identify predictors of educational attainment among teacher education students. The existing research base on extracurricular activity participation is incomplete and dated due to societal changes since major studies were conducted, and therefore offers relatively few answers for current issues. Additional factors that might predict educational attainment among teacher education students are demographic characteristics of education students and job characteristics that are sought by education students in their future employment. A need exists for further research (especially with female subjects) on the roles of extracurricular participation, demographic characteristics, and job orientations in the educational attainment process of teacher education students.

Furthermore, in order to maintain an adequate supply of teachers, it is essential that experienced teachers remain in the teaching profession. The role that high school extracurricular participation plays in the retention of teachers is not clear. Further study, utilizing recent data and longitudinal designs, would clarify relationships in this area. An additional need exists for the study of the relationship between the involvement of teachers as advisors to school activities and both high school extracurricular participation and satisfaction with teaching as related to advising or coaching activities.

#### Statement of Problem

The research problem investigated in this study was longitudinal in nature and had two components. The first component examined whether the relationship between characteristics of students and their educational attainment in the Iowa State University Teacher Education Program differed for male and female undergraduate students who were enrolled in a beginning education course. Specifically, certain demographic characteristics of teacher education students, the employment characteristics they perceived to be desirable, and their previous participation and leadership in high school extracurricular activities were evaluated in terms of ability to predict their educational attainment. Predictive ability was evaluated for males and females separately.

The second component concerned graduates of the Teacher Education Program who were followed-up five years following their graduation. It examined the relationship between their own high school extracurricular participation and: (a) their five year employment pattern (i.e., taught continuously, never taught, taught and left, or other pattern); (b) their adult participation in various activities, clubs, and organizations; and (c) the degree to which they have advised, coached, or supervised high school activities as teachers. An additional aspect of the study concerned satisfaction with teaching as related to advising, coaching, or supervising high school activities.

#### Statement of Purpose

In 1980, the Research Institute for Studies in Education (RISE) at Iowa State University implemented a longitudinal study designed to evaluate the quality of the teacher education program at Iowa State University. Data are collected from teacher education students and graduates at major points in their educational program and professional careers. Two of these points are: during the first education course (Teacher Education Student Survey) and five years following graduation (Five-Year Follow-up Survey).

The purpose of this study was to address the research problems utilizing data collected as part of the RISE study from respondents at two data collection points. Study 1 used existing data collected on

2,008 students both in their first education class (Social Foundations of American Education) and at completion of the Teacher Education Program. This data set included students enrolled in Social Foundations of American Education between Fall, 1981 and Spring, 1986. Although the students in Study 1 were enrolled in a beginning education course, the majority of students (74.1%) had not applied for admission to the Teacher Education Program. Since enrollment in Social Foundations in American Education would indicate an interest in teacher education, the students in Study 1 were considered prospective teacher education students. Three types of variables were used to predict graduation from the Iowa State University Teacher Education Program for males and females separately. They were: (a) extent of participation and leadership in extracurricular activities, (b) demographic characteristics (academic achievement, transfer and residency status, age, teaching level, and parents' occupations); and (c) job characteristics sought by respondents in employment (challenge/leadership, extrinsic rewards, empowerment, and humanity/service).

The purpose of Study 2 was to investigate relationships between the extent of high school activity participation and selected characteristics of graduates of the Teacher Education Program by surveying graduates five years following their graduation with a mailed questionnaire in Spring, 1991. The sample consisted of the 182 individuals who responded to the ISU College of Education 1991 Five-Year Follow-up Study

questionnaire. Characteristics selected for study included the employment pattern of graduates, adult social participation, advising or coaching activities by current or former teachers, and satisfaction with teaching as related to advising or coaching activities.

### Research Hypotheses and Rationale

The research hypotheses examined in each study and the rationale for each hypothesis are presented below.

#### Study 1: Educational Attainment Among Prospective Teacher Education Students

Hypothesis 1: When the educational attainment of female students enrolled in a beginning education course is predicted by participation in high school extracurricular activities, demographic characteristics of the students, and employment characteristics sought by students, demographic characteristics will be stronger predictors of graduation from the Teacher Education Program than will be high school extracurricular participation and employment characteristics.

Hypothesis 2: When the educational attainment of male students enrolled in a beginning education course is predicted by participation in high school extracurricular activities, demographic characteristics of the students, and employment characteristics sought by students, the degree of student participation in the high school extracurriculum will be a stronger predictor of graduation from the Teacher Education Program



than will be demographic characteristics and employment characteristics.

Rationale: Previous studies have indicated a relationship between participation by males and higher levels of educational achievement (Hanks & Eckland, 1976; Otto, 1975; Spady, 1970, 1971). Studies that examined extracurricular participation and educational expectations among females have yielded conflicting and inconsistent results (Hanks & Eckland, 1976; Snyder & Spreitzer, 1977). Demographic factors, such as teaching level and age, have been associated with selecting teaching as a career among females, and therefore would be expected to predict graduation in teacher education (Book & Freeman, 1986).

Study 2: Relationships Between High School Extracurricular Participation and Selected Characteristics of Teacher Education Graduates

Hypothesis 1a: There is a significant difference in total high school extracurricular participation (reported retrospectively) among teacher education graduates who were followed-up five years after their graduation and compared on their five-year employment pattern. Specifically, graduates who taught continuously will have a significantly higher mean participation rate.

Hypothesis 1b: There is a significant difference in the total high school participation (reported retrospectively) of male and female graduates of the College of Education. Specifically, females will have participated more than males.

Hypothesis 1c: There will be significant interaction between gender and five-year employment patterns on their mean high school participation level. Specifically, the effect of participation on employment pattern will be greater for male than for female graduates.

Rationale: Studies using an all male sample suggest that a relationship exists between activity participation in high school and attainment of occupational aspirations (Otto, 1976; Otto & Alwin, 1977).

Hypothesis 2: There is a positive relationship between the degree of involvement in high school activities reported five years following graduation from the Teacher Education Program and amount of adult social participation. This relationship will be positive for the total sample and for male and female graduates tested separately.

Rationale: High school activity participation had the strongest relationship to social participation in young adults five years after high school among all predictors used in a study conducted by Lindsay (1984).

Hypothesis 3: There is a positive relationship between the extent of involvement in high school extracurricular activities reported retrospectively by respondents of the 1991 Five-Year Follow-up Survey and the extent of serving as an advisor, coach, or supervisor for activities by graduates who are current or former teachers. This relationship will be positive for the total sample and for male and female graduates tested separately.

Rationale: Logic would indicate that former high school activity participants would be more likely than nonparticipants to serve as high school advisors, coaches, or supervisors.

Hypothesis 4: There is a positive relationship between the extent of serving as an advisor, coach, or supervisor to school activities as reported by current teachers on the 1991 Five-Year Follow-up Survey and satisfaction with teaching. This relationship will be positive for the total sample and for male and female graduates tested separately.

Rationale: Person-environment interaction models proposed by student development theorists suggest that student interaction with the environment is related to satisfaction with that environment (Astin, 1977; Schmidt & Sedlacek, 1972). Increased involvement with students on a more personal basis may result in increased satisfaction with teaching as a career. Many studies suggest that people enter teaching for altruistic reasons, and that the primary rewards of teaching are intrinsic, rather than extrinsic. According to Darling-Hammond (1984), intrinsic rewards derived from the classroom role have been declining as teachers find increasing dissatisfaction with policies that define and regulate their classroom decisions. Thus, more intrinsic rewards may be provided by working with students in extracurricular activities than by classroom teaching.

### Limitations of the Study

Data for this study were collected from teacher education students and graduates of Iowa State University; therefore, the results do not necessarily generalize to other populations of students and graduates. There is an additional sampling bias in the data collected by RISE surveys, since higher proportions of females and graduates with higher academic scores are more likely to return questionnaires (Warren, 1990).

The data were collected for both studies using self-report surveys. Therefore, the accuracy of the data depends on the degree to which respondents provided correct information about themselves.

The data analysis primarily utilized correlational methodology, so interpretation of results is limited to the degree of linear relationships between variables, rather than cause-and-effect relationships. Because correlational relationships between variables may be due to an artifact or spurious variable, caution must be taken when interpreting relationships. This is particularly true when studying extracurricular participation, since students self-select themselves into activity programs.

### Statement of Assumptions

This study assumed that:

1. The survey instruments and data collection procedures used by the Research Institute for Studies in Education are valid and reliable.

2. Respondents answered the survey questions accurately and honestly. Extracurricular participation data for Sample Two were collected retrospectively on the 1991 Five-year Follow-up Survey, so accuracy of recollection of activity participation over time was assumed.

3. Respondents who completed the surveys at each data collection point were representative of the entire population under study.

### Significance of Study

Factors that positively influence decisions about teaching as a career, or that increase retention of students in teacher education programs and therefore in the teaching profession, are currently sought by educators as the education profession enters an era of impending teacher shortages. Research that relates background characteristics of teacher education students to their future career paths may provide direction for those who seek to encourage students to pursue teaching.

Schools do more than teach academic subjects; they also socialize adolescents toward adulthood. Educators and policy makers who make decisions concerning secondary school curricula must consider the importance and interdependence of both the academic curriculum and the extracurriculum. The available research that might provide a knowledge base for this kind of policy deliberation is incomplete and dated. No single study can provide the answers required for informed decision making, but each addition to existing knowledge contributes to a greater understanding of how extracurricular participation relates to certain developmental characteristics in adolescents.

## CHAPTER II. REVIEW OF LITERATURE

### Introduction

The primary purpose of this study was to examine variables that predict graduation from the Iowa State University Teacher Education Program. Because previous research has focused on male attainments, differences between male and female educational attainment were emphasized in the current study. The secondary purpose of the study was to investigate relationships between degree of high school extracurricular participation and selected characteristics of teacher education graduates. These characteristics were employment patterns of teacher education graduates, advising or coaching high school activities, adult social participation, and satisfaction with teaching as related to advising or coaching activities by present or former teachers.

The literature review consists of five sections. The first section describes two differing value positions on goals for American schools. Academic and developmental perspectives are defined as they relate to extracurricular activities. Section two presents the history of extracurricular participation in American schools. Presented in the third section is a review of selected research on extracurricular participation. This research is described as emphasizing two different themes. One theme relates participation to school size; the other relates participation to academic achievement, educational aspirations, and other developmental characteristics of adolescents. In the fourth section,

major research conducted on demographic characteristics and job orientations of teacher education students is reviewed. The fifth section includes a review of relevant literature on selecting teaching as a career, teacher retention, and satisfaction with teaching.

### Academic and Developmental Perspectives

From an educational viewpoint, the rationale for participation in extracurricular activities has traditionally been that the extracurriculum complements academic instruction (Schubert & Walberg, 1982). The value placed on the importance of the activity program depends in part on the goals or purposes that one perceives for secondary education.

Two prominent positions have dominated the discussion about the role of schools in society. The academic position focuses on intellectual competence and stresses that the purpose of schooling is to transmit formal knowledge (Coleman, 1961). In contrast, the developmental position stresses the function of providing experiences that further affective as well as cognitive development of students (Berzonsky, 1981; Greenberger & Sorenson, 1974). This section presents the major concepts on each perspective in order to provide a frame of reference for later discussion of the relationship of the extracurriculum to the overall secondary school curriculum.

According to the academic perspective, extracurricular activities provide a means of relaxation or fun, but are unimportant to the primary purpose of schools, that is, the pursuit of academic excellence.

Adherents to this position often view extracurricular activities as a threat to the academic mission of the school. One of the main supporters of this position is Coleman (1961, 1965) who investigated adolescent behavior and value orientations in ten midwestern high schools. Coleman concluded that participation in nonclass activities was detrimental to academic goals because participation diverted students' energy from the formal academic curriculum. Although primarily focused on the role of athletic activities, Coleman's conclusions applied to other extracurricular activities as well. For example, when referring to leadership positions in the extracurricular program, he stated, "The organization of activities in these high schools acts to dampen enthusiasm for concentrating one's energy on scholarly matters" (1961, p. 193). Such a viewpoint assumes the adolescent society is a finite system in which commitment to academic values represents a loss to activity values, and a commitment to activity programs means a loss to academic values. Thus, support of one value system results in a negation of the other.

Recently, Adler (1983) has provided renewed support for the academic position. Referring to the role of activities, Adler argues, "The latter must not be permitted to encroach on the priority and scheduling of the former. The same goes for financial resources; they should not be diverted from the serious business of schooling to the support of these supplementary activities" (p. 38).



Traditionally, academic achievement has dominated thinking about the outcomes of education, and assessment of educational outcomes has generally focused almost exclusively on academic achievement. The prominence of the academic position in educational assessment may have resulted primarily from the existence of a wide range of assessment instruments for measuring academic achievement.

Measurement instruments used to assess developmental goals such as personal and social maturity are less common, and the results of the assessment of developmental goals are far less reliable than those from tests of academic achievement. Therefore, school success and rankings of student progress are generally defined in terms of academic accomplishments rather than nonacademic development.

In contrast to the academic perspective, the developmental position stresses that school programs should provide experiences that further the total development of individual students (Havighurst, 1972). Accordingly, the development of all individuals must be considered in planning a school program. Nonacademic programs can be as important as academic programs in facilitating the development of the individual.

Developmental theorists consider the development of mature adults as a primary purpose of schooling. Greenberger and Sorensen (1974) outlined three general dimensions of maturity: (a) the capacity to function adequately on one's own, (b) the capacity to interact adequately with others, and (c) the capacity to contribute to society.

Schools serve as one agent in the socialization of adolescents toward the achievement of these developmental tasks.

The academic curriculum of the school provides programs for the development of certain tasks of maturity. However, according to developmental theory, adult success in our industrialized culture requires more than academic success, and extracurricular programs are viewed by this position as one means for accomplishing developmental goals.

The emphasis that our society places on educational values tends to cycle between these two value positions. For example, Clark and Astuto (1986) pointed out that before the 1980s there was an emphasis on the developmental position, whereas the emphasis since 1980 has been more on the academic position.

However, some theorists view the reported differences between academic and developmental positions as more perceptual than real. Schubert and Walberg (1982) represent this point of view, and contend that students do not process experiences as either uniquely academic or developmental, but learn more efficiently when both academic and nonclass activities are present.

Although the academic position has been emphasized in recent years, an examination of the history of extracurricular participation in American high schools indicates a gradual trend by educators toward the developmental position, and a simultaneous gradual acceptance of the activity program in secondary schools.

## History of Extracurricular Programs in American Secondary Schools

### Overview

Historians generally agree that student activities of one form or another are as old as formal education itself (Faunce, 1960; Fretwell, 1931; Gholson, 1985; Gholson & Buser, 1983). There is evidence of the existence of athletic games, social activities, and student-government organizations in early Greek schools for boys. Plato's Academy was partially governed by elected student "Scholarchs" (McKowen, 1952). English public schools of the seventeenth and eighteenth centuries had activities such as student publications, speech activities, clubs, and sports such as cricket and rowing. Musical organizations and informal study groups were added during the nineteenth century. Thus, student activity programs are neither modern nor American in their origins.

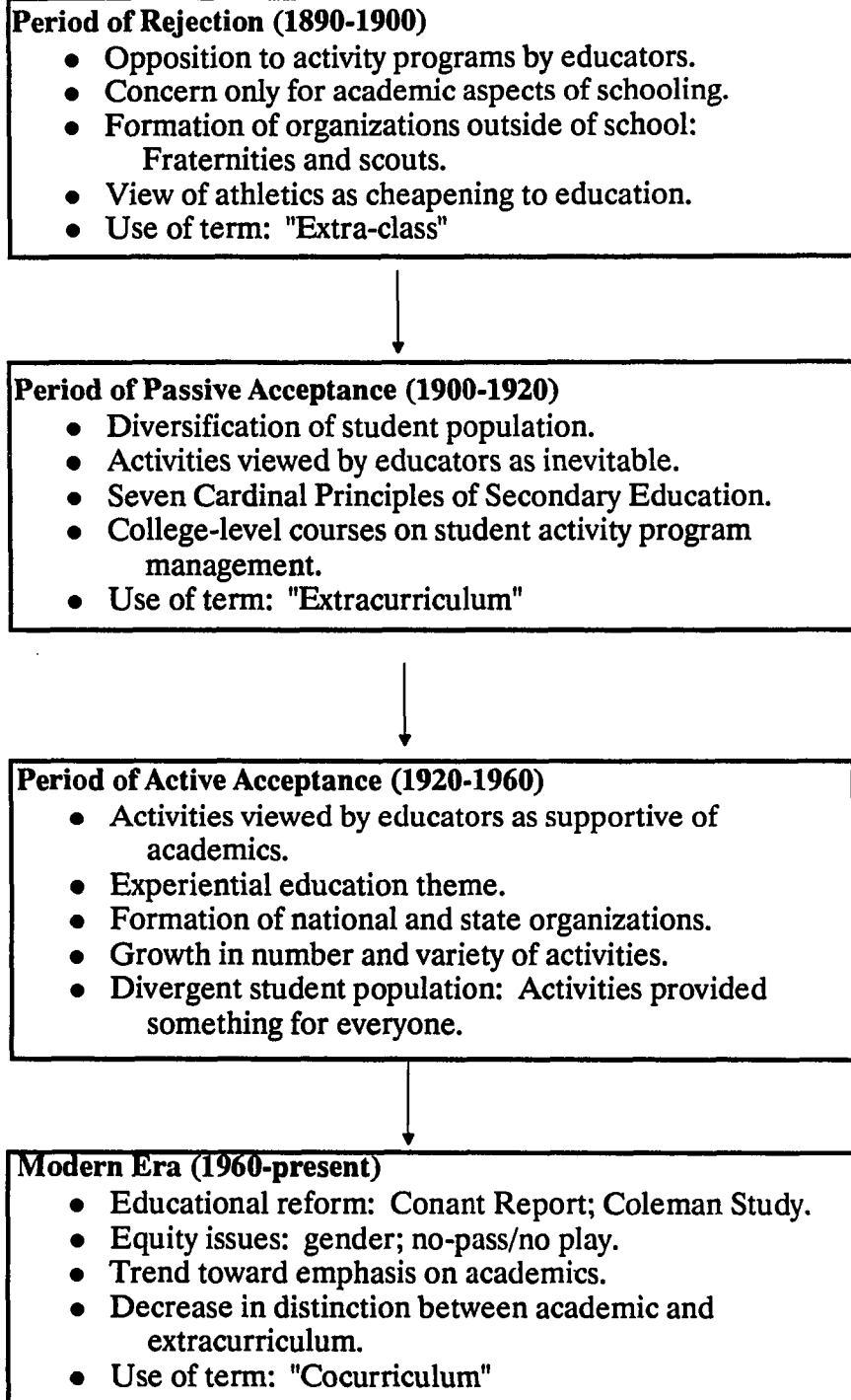
American secondary schools had selected activities at some schools during the nineteenth century. For example, football was played as early as 1811 at Exeter Academy (Faunce, 1960). Debating, oratory, and dramatics were popular in most academies early in the nineteenth century. However, these activities were considered part of the academic curriculum of the academy, and were not thought of as extracurricular.

The emergence of student activity programs as separate entities in American secondary schools occurred during the late nineteenth century.

Development of the "extra-class" facet of the educational system represented the ability of that system to address new demands placed upon it. Increasing numbers of students from more diverse backgrounds were entering the public schools (Powell, Farrar, & Cohen, 1985). The appropriateness of the concept of schooling as a mental discipline was questioned, and there was a trend toward a more useful and experiential educational program in order to meet the demands of a more industrialized and urban society.

Early extracurricular activity programs in American secondary schools were usually copies of college programs, and these in turn were often influenced by European colleges. The only activities unique to the early American secondary schools were home room and organizations outside of the school program such as scouts.

Faunce (1960) identified three distinct stages between 1870 and 1960 in the development of the American student activity program. Although Faunce provided definite chronological dates for the three stages, McKowen (1952) contended that definite dates are not appropriate because the stages occurred at various times in different areas of the country. According to McKowen, even though the dates may vary, the three periods of development of the extracurriculum are easily distinguishable. The three periods identified by both McKowen and Faunce are: rejection, passive acceptance, and active acceptance. Figure 1 presents a summary of the major events in each of these three stages along with a summary of more recent events.



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Figure 1. History of extracurricular programs in American secondary schools

Period of rejection (1890-1900)

The late 1800s have been labeled the period of rejection of the extracurricular program in American secondary schools. There was generally an attitude of opposition and apathy by school officials toward "extra-class" activities. Schools ignored the social and physical lives of students, and teachers were concerned mainly with the academic aspects of education. Educational leaders concluded that few, if any, benefits could be derived from spending energy on activities other than the pursuit of academic goals. Athletic activities were especially cited as being opposed to academic values. Athletics were viewed as cheapening to education, taking time from regular school work, and bringing disgrace upon the school (Fretwell, 1931).

As a result of this viewpoint, activities were organized outside the school. Organizations such as Boy Scouts and Girl Guides (later Scouts) had their beginnings late in this era, and represented attempts to provide appropriate nonacademic experiences for youth. Secret organizations such as sororities and fraternities also became fairly common during this time. Toward the end of this era, the designation of "extra-curricular" replaced the former label of "extra-class" to indicate nonacademic activities.

Period of passive acceptance (1900-1920)

The second period has been described as one of passive acceptance of the extracurricular program by educators. Student activities were considered inevitable and perhaps less of a threat when subjected to control by schools. Educational leaders concluded that school clubs and organizations were capable of providing some learning experiences if properly monitored by school officials.

During this time, more students from poor and working-class families began to attend secondary school. Child labor laws made it difficult for youth under sixteen years of age to obtain jobs in industry, and forced thousands of adolescents into secondary schools. Moreover, in an industrialized society, education was viewed as a great advantage in the struggle for economic advancement. Thus, high school attendance increased partly because of changing economic and social conditions, not because youth were eager for academic learning (Powell et al., 1985). Schools responded to this diverse population by providing a broader and more flexible secondary curriculum.

Two developments of this era are cited as contributing to the growth and acceptance of the student activity program. First, in 1917 a commission appointed by the National Education Association issued a report identifying the Seven Cardinal Principles of Secondary Education (Commission on the Reorganization of Secondary Education, 1917). These principles recommended that schools should prepare students in

seven areas: health, good citizenship, effective use of leisure time, ethical and moral character, home management, vocational competency, and fundamental skills. As a response, many school systems appointed a director of leisure studies to oversee the activity program.

The second major development involved the work and writing of Elbert K. Fretwell. In 1917, Fretwell offered the first college-level course in the student activity area. In addition, he wrote numerous publications in the area of activities, and later authored the first textbook published on the subject. Fretwell is frequently referred to as the "Father of Student Activities" in the United States.

By 1920, both the number and variety of student activities had grown considerably, and previous opposition to the school activity program was subsiding. School officials were becoming more aware that students would form clubs, play games, and carry on social activities, with or without the sanction or assistance of schools.

#### Period of active acceptance (1920-1960)

The third phase has been described as a period of active acceptance and encouragement of student activities. The debate about the educational benefits of participation in activities was settled in favor of student involvement.

This time period marked the development of numerous state and national organizations that provided direction and assistance to local clubs. In 1922, the National Federation of State High School Athletic



Associations was formed, and the National Association of Student Councils was organized in 1930.

During the third phase, the philosophy of Dewey (1938) encouraged educators to expand the traditional curriculum to provide more real-life experiences for students. The theme of the new education was experiential, practical, and pluralistic (Frederick, 1965). This theory of learning recognized that "when a student walks into the school, all of him comes in--his brain does not walk in on a pair of wooden stilts" (McKowen, 1937, p. 7). The extracurriculum was viewed as one phase of the high school suited to realizing the new educational goals.

Between 1920 and 1960, student activities in secondary schools grew in importance and also changed dramatically (Faunce, 1960). The older, religious chapel service, for example, developed into student-planned school assemblies. Athletic, speech, and music programs were broadened in scope in an attempt to include all interested students. The club program was intensified until it included hundreds of different kinds of interest groups. Social activities were expanded greatly and were generally made more democratic in an effort to combat the exclusive fraternity and sorority. Between 1925 and 1940 the percentage of secondary schools reporting student councils grew from 50 percent to approximately 90 percent (McKowen, 1952).

During the third period, schools attempted to provide something in their programs for all students. The extracurriculum was viewed by

educators as a mechanism for accommodating an increasingly divergent student population.

#### Modern era (1960-present)

According to Powell et al. (1985), two consistent features of educational policy since the 1950s have been (a) the almost constant criticism of secondary education and (b) the succession of movements to reform the secondary school. As a result of one such effort at school reform during the early 1960s, educational programs underwent reevaluation by parents, educators, and taxpayers (Gholson, 1985). Proponents of the academic perspective began to question the expanded extracurricular program in secondary schools. Conant (1959), for example, proposed that many subjects, such as driver education, had no place in educational institutions. In addition, some activities, including music and dramatics were attacked as being unsuitable educational concerns.

An important trend in extracurricular programming since 1960 has been the gradual decrease in distinctions between what is considered academic and what is considered nonacademic (Biernat & Klesse, 1985). The concept that student activities should grow out of the classroom has gained support. In accordance with this concept, the designation of the term "cocurriculum" to indicate this fusion of programs has become popular in referring to all activities available to students.

In addition, issues of equity in the extracurriculum have increased in prominence during the last 20 years. A significant event of the 1970s was the implementation of Title IX and the resultant increase in women's athletic participation at both the high school and college level. Because of the relatively late emergence of athletic programs for female high school students, there is a lack of research that examines extracurricular involvement by female athletes.

Another equity issue is the "no pass/no play" strategy in Texas, California, and an increasing number of other states (Joekel, 1985; Lewis, 1989). The available research on extracurricular activities suggests that activity involvement is particularly helpful in keeping at-risk students from dropping out of school (Grabe, 1976, 1981; Otto, 1976; Willems, 1964, 1967). Thus, restrictive academic requirements may eliminate from participation students who might gain the most from activity participation.

The academic aspect of educational programming has received renewed emphasis in the 1980s (Murtaugh, 1988). The media have questioned the role of sports in high schools, and have further contended that young athletes are exploited through participation in organized sports (Eskenazi, 1989).

In spite of this renewed emphasis on academics, student activity programs have continued their former popularity among students, parents, and many educators (Lewis, 1989). A recent bulletin of the U.S. Department of Education (Office of Educational Research and

Improvement [OERI], 1986) reported that 79% of all 1982 seniors participated in at least one activity, and over fifty percent participated in at least two activities. Except for hobby clubs and vocational education clubs, participation rates were highest for students from higher SES backgrounds and for students with higher school grades. Furthermore, the more activities students were involved in, the higher they ranked academically and the more hours per week they spent on homework. Based on the OERI information, it appears that extracurricular programs of secondary schools continue to prosper and that activities attract many bright, high-performing students.

In summary, after the Civil War, the transition from a simple agricultural society to a more complex industrial and urban culture resulted in numerous economic and social changes in the American lifestyle. One of the most significant changes occurred in secondary schools, where, between 1890 and 1918, the number of students attending high school increased at a rate 20 times greater than the general population. As a result, students attending high schools became more varied in interests, abilities, and future vocations. This placed demands on the former Latin academy to expand its curriculum to meet the needs of an increasingly diverse student population. The emergence of the extracurricular program in American schools during the late nineteenth and early twentieth centuries exemplified the response of the educational system to demands for greater diversification in all aspects of educational curricula.

However the role of extracurricular programs is currently perceived, there remains controversy and a need for continued appraisal of high school activity programs. In the following section, the existing research on activity participation is reviewed to provide a framework for determining the need for further research on this subject.

### Review of Extracurricular Activity Research

Two extensive studies during the 1960s provided the impetus for research on extracurricular activity participation during the next two decades. First, Coleman's (1961) research describing adolescent values and behavior prompted considerable attention and research among educators. Second, Barker and Gump (1964) investigated the relationship between school size and activity participation in selected eastern Kansas high schools.

In the following section, research on extracurricular participation is reviewed as proceeding along two different paths in response to these two studies. One path replicates Barker and Gump's (1964) study; the other path proceeds from Coleman's (1961) classic study.

#### School size and activity participation

An inverse relationship between school size and student participation in extracurricular activities has been demonstrated in numerous studies. Initially, the results of Barker and Gump's (1964) study indicated that students in small high schools were more likely than students in large

high schools to participate in activities. Barker and Gump and their colleagues conducted an extensive series of studies of student activity experience in 13 eastern Kansas high schools ranging in size from 35 to 2,287 students. The largest school had 65 times as many students as the smallest school, but only 8 times as many opportunities for extra class participation. In addition, small-school students participated in a wider variety of different activities and held responsible leadership positions in activities with more than twice the frequency of large-school students. Similar results have been reported by several investigators since Barker and Gump's original study (Baird, 1969; Downey, 1978; Grabe, 1976, 1981; Kleinert, 1969; Lindsay, 1982; Morgan & Alwin, 1980; Nelson, 1973; Schoggen & Schoggen, 1988). The most recent study, by Schoggen and Schoggen, is noteworthy because their results, using different methodology and a sample from a different part of the country, were similar to those of earlier researchers. Instead of relying upon student self-report as the measure of participation, they measured student participation in 27 high schools in central New York state by using information from activity group photographs in high school yearbooks.

An additional finding of the Barker and Gump (1964) research was that participating students in small schools reported satisfaction patterns quite different from large school students (Gump & Friesen, 1964). Small-school students reported satisfactions from developing competence, being challenged, and engaging in important group activity.

Large-school students reported satisfactions more from vicarious activities, being a part of a large crowd, and from gaining "points" with school officials.

Using the Barker and Gump (1964) data, Willems (1964) found that students classified as being at risk of dropping out of school were more likely to participate in extracurricular activities in smaller than in larger high schools. In addition, at risk students in smaller schools felt more involved in the overall school program, were less alienated from the school environment, and were more integrated into the social activities of the school than students in larger schools. Willems (1967) replicated these results on a different sample of high school students and showed that academically marginal students in small high schools were four times more involved in the extracurriculum than marginal students in large high schools. Willems came to two conclusions. First, that the impact of school size on activity participation is evidenced mainly with marginal students, and second, that academically marginal students have very different experiences and feelings toward participation in large vs. small high schools.

Two studies have indicated that the relationships between school size and participation in extracurricular activities are independent of community size (Campbell, 1964; Lindsay, 1982). That is, similar effects were found in small schools in large communities as in small schools in small communities. Furthermore, large consolidated schools in small communities were more like large schools in larger cities than

those in smaller cities when participation rates were examined.

These results suggest that the immediate environment is a primary determinant of activity participation. Baird's (1969) findings were also compatible with this viewpoint. His results indicated that high school participation rates did not correlate significantly with college participation rates. Rather, participation rates in college activities were related to college size.

The relationship between school size and activity participation may be complicated by intervening variables such as self-concept and alienation, as evidenced by research conducted by Grabe (1976, 1981). Grabe measured self-concept and alienation from high school as a function of activity participation in 15 small (less than 580 students) and 5 large Iowa high schools. As in the Barker and Gump studies, small-school students had greater frequency and diversity of participation. Small-school students also had the greatest variability in self-concept scores, with the highest scores among successful small-school participants and the lowest scores among unsuccessful small-school male students. Grabe theorized that feelings of self-concept and personal worth were related to the pressures of the high school environment. Students in smaller schools perceived a greater pressure to participate and to achieve success in activities. When unsuccessful in activities, small school students reported a higher level of alienation than did unsuccessful students in large schools.



In summary, there is considerable agreement among findings of studies investigating the relationship between school size and high school activity participation. Students in small schools with underpopulated settings participate in a greater number and variety of extracurricular school activities than students in large schools. There is additional evidence to indicate that satisfaction patterns from participation are different in smaller than in larger schools, and that academically marginal and lower SES students participate more in smaller schools.

Therefore, school size is an important contextual variable when conducting research on extracurricular participation. The sample selected for study should consist of students in schools of various sizes, since the literature suggests that different outcomes are associated with participation in smaller and larger high schools.

#### Academic performance, educational aspirations, and personal/social characteristics as related to participation

Two value positions about schools, the academic and the developmental, were discussed previously. A supporter of the academic view is Coleman (1961, 1965), who argued that the values of an adolescent society, with its emphasis on peer acceptance, are in opposition to the educational goals of schools. A major finding of the Coleman study was that the achievement of status among high school males was primarily a function of athletic involvement. Adolescent

values were operationalized by asking students, "If you could be remembered here at school for one of the three things below, which one would you want it to be?" (1961, p. 268). The choices were, "brilliant student," "athletic star" (boys) or "leader in activities" (girls), and "most popular." The results indicated that the role of athlete was most frequently chosen by males (44%), while female subjects most frequently picked the role of leader in activities (42%). Only 31% of the boys and 33% of the girls chose to be remembered as brilliant students.

Coleman concluded that the adolescent society and its emphasis on extracurricular activities subverted the adult society's purpose of schools; that is, the transmission of academic knowledge. Other researchers have questioned Coleman's assumptions and interpretations of the data.

Following Coleman's (1961) landmark study, researchers in the 1960s and early 1970s conducted a series of studies relating athletic participation to academic achievement. This research was basically a response to Coleman's study and his interpretation of the results. It should be noted that these early studies focused mainly on males involved in athletic participation.

Of particular interest is a replication of Coleman's work by Eitzen (1975). Eitzen's results indicated that high school males were even more enthusiastic about sports in the 1970s than they were in the late 1950s. In Eitzen's study, 47% of the all-male sample wanted to be remembered as athletic stars, while only 23% reported they wanted to

be remembered as brilliant students, and 30% responded most popular.

During the 1970s, researchers became interested in the relationship between activity participation and educational aspirations and their subsequent attainment. Research on educational attainment, along with studies focusing on academic achievement, was also a response to Coleman's (1961) study. Although research during the 1970s focused mainly on males in athletic activities, a limited number of studies included female participants and examined activities in addition to sports.

The examination of personal-social characteristics of both male and female participants became a subject of interest to researchers in the 1980s. Relationships between participation and characteristics such as self-esteem, improved race relations, involvement in young adult political and social activities, and lower delinquency rates were examined and generally found to be positive.

In order to organize the extensive body of research on extracurricular activities, the following section will review selected research in three areas: (a) academic achievement, (b) educational aspirations and attainment, and (c) personal/social characteristics of participants and nonparticipants.

Although not all studies fit exactly into these three areas, the majority of investigations seem to conform to this categorization.

Academic performance Research on academic performance (conducted in the 1960s and early 1970s) focused mainly on the relationship between male athletic participation and academic

achievement. In general, the literature suggests that participation in sports is associated with greater academic performance, as measured by somewhat higher grade point averages (GPAs) of athletes vs. nonathletes (Dowell, Badgett, & Hunkler, 1972; Edwards, 1967; Eidsmore, 1964; Horine, 1968; Keating, 1965; Phillips & Schafer, 1971; Rehberg & Schafer, 1968; Schafer & Armer, 1968). For example, Eidsmore found the overall GPA of male varsity football participants (2.52) in 24 Iowa high schools was higher than the GPAs of male nonparticipants (2.09). However, Eidsmore did not take into account other possible differences between the groups.

Subsequently, Schaffer and Armer (1968) did control for such differences. They demonstrated that when samples were matched on factors that covary with the dependent variable, the relationship between athletic participation and academic achievement was substantially decreased. Prior to matching, male athletes from two midwestern high schools averaged about .50 GPA higher than nonathletes. Following matching on four relevant variables (father's occupation, intelligence, curriculum, and junior high GPA), male athletes' GPA was only .11 higher than nonparticipants. Schaffer and Armer's study indicates that, when comparing participants to nonparticipants in extracurricular research, there is clearly a need to control for relevant intervening variables.

More recent studies that used a mixed sample of male and female athletes failed to find a significant relationship between GPA and

athletic involvement (Hanks & Eckland, 1976; Spreitzer & Pugh, 1973). Further, studies involving only female athletes indicated that GPAs of female athletes did not differ significantly from GPAs of nonathletes (Feltz & Weiss, 1984; Hanks & Eckland, 1976).

When standardized achievement or aptitude tests were used as the measure of academic achievement, the results were quite different. Landers, Feltz, Obermeier, and Brouse (1978) reported that males who participated only in athletics scored lower than the national average on the Scholastic Aptitude Test (SAT). However, males who participated in both athletic and service activities had significantly higher SAT scores than the national average. Similar results were reported by Rehberg and Cohen (1975).

Recent research by Feltz and Weise (1984) indicated a somewhat different relationship in females. Female high school seniors were classified into four groups: athlete-only, service-only, athlete-service, and neither. The groups did not differ significantly on American College Test (ACT) scores. However, both SES and extent of participation predicted ACT scores. Girls from higher SES families had higher ACT scores. Similarly, girls involved in five or more activities had significantly higher ACT scores than students involved in four or fewer activities. These results were consistent with other studies using a variety of activities and a sample of both male and female students (Haensly, Lupkowski, & Edlind, 1986; Landers et al., 1978).

In summary, there appears a positive relationship between academic achievement and participation in extracurricular activities, especially activities of a nonsports nature. The majority of studies have focused on male athletic participation, and have shown that male athletes have consistently had higher GPAs than did nonathletes. However, this relationship has not been demonstrated with female athletes.

Although research has demonstrated that participants in the high school extracurriculum achieve somewhat higher grade point averages than nonparticipants, there is no evidence that participation caused the higher grades. There is the possibility that other factors associated with activity participation may have had effects on GPA. One possible explanation for this relationship is that higher ability students select themselves into activities more often than lower ability students. Furthermore, eligibility requirements based on grade point averages prohibit students with low grades from participating. Other possible explanations include tutorial arrangements for male athletes, enrolling in easier classes, or receiving inflated grades to maintain a higher GPA. An alternative explanation is that activities help students achieve academically, perhaps by teaching them discipline or by helping students structure their time. It is not possible to assess the relative contributions of these explanations on the basis of the available research data. Moreover, the limited research using female athletes prohibits drawing conclusions about relationships between female athletic participation and academic achievement.

Educational aspirations and attainment An additional response to Coleman's (1961) work was a series of studies that examined the relationship between extracurricular participation and educational aspirations and their attainment. Researchers investigated whether the amount of participation in activities influenced aspirations and their attainment, and also whether different types of participation had differential effects. The results generally indicated a positive relationship between amount of activity participation among males and increased educational aspirations and the attainment of these aspirations. Evidence also exists to indicate that this relationship changes as type of activity participation changes.

Selected research on relationships between extracurricular participation and educational aspirations will be reviewed, followed by an examination of studies that focused on the attainment of educational aspirations. Finally, the limited research relating extracurricular participation to occupational attainment will be reviewed.

Agents that influence the socialization of American adolescents toward adulthood include family, schools, and peers. Models of the educational attainment process have attempted to estimate the relative influence of each of the three agents on educational aspirations (Duncan, Featherman, & Duncan, 1972; McDill & Coleman, 1965; Sewell & Hauser, 1975). Literature on peer culture has generally supported the hypothesis that peer involvement is an important agent for the development of educational aspirations (Coleman, 1961; McDill

& Coleman, 1965; Duncan, et al., 1972).

Researchers have studied extracurricular activity participation by high school students to examine peer influences on educational aspirations or goals. These studies have revealed statistically significant relationships between activity participation and educational aspirations (Picou, 1978; Rehberg & Schafer, 1968; Rehberg, 1969; Spady, 1970, 1971; Spreitzer & Pugh, 1973).

Two major studies suggested that the amount or level of participation in activities is positively related to students' educational aspirations. Spady (1970) studied 297 males and reported that participation in more than one type of extracurricular activity (service-leadership activities and athletic activities) had a stronger relationship with educational aspirations than participation in either activity separately. In addition, participation in a single activity was a stronger predictor of aspirations than was nonparticipation. In a similar study, Snyder and Spreitzer (1977) found that only when females participated in both athletic and music activities was there a significant relationship between participation and educational aspirations. Their evidence supported Spady's findings that participation in both athletic and nonathletic activities was associated with the highest levels of educational aspirations. A noteworthy finding in both studies was that the relationships were strongest for lower SES and lower academic ability students. Thus, there is an indication that activity participation may be more beneficial in promoting educational aspirations in students



with lower academic abilities and from more deprived backgrounds.

Research on different types of extracurricular activities has generally focused on athletic participation. In one of the earlier studies, Rehberg and Schafer (1968) reported a positive relationship between male athletic participation and plans to attend college. The relationship was strongest for boys not otherwise disposed toward college (low SES, low academic standing, and little parental encouragement). Spreitzer and Pugh (1973) replicated these findings using a sample of male and female athletes. They also studied the effects of school value or reward climate on the relationship between athletic participation and educational aspirations. In schools where athletes were highly rewarded and valued, the relationship was strongest; in schools where academic excellence was rewarded, the relationship was weakest. Thus, the sample of students selected when conducting extracurricular participation research should represent several schools to account for possible effects of different school value climates.

Finally, Spady (1971) used the same all-male sample from his earlier study to investigate the relationship between educational aspirations and participation in five different categories of activities (varsity sports, performing arts, social, service-leadership, and nonparticipation). Participants in service-leadership activities had the highest educational plans, followed by varsity sports, social activities, and performing arts. Nonparticipants had the lowest level of college aspirations.

In summary, there is evidence that both extent and type of participation in extracurricular activities are positively associated with level of educational aspirations. Although the number of studies using female subjects is limited, the available results indicate that the relationship appears to be similar for both male and female participants.

Studies reviewed in the following section attempted to answer the question: If extracurricular activity participation is associated with higher educational aspirations, is participation also associated with higher levels of educational attainment? Of particular interest to the present investigation are studies by Spady (1970, 1971) and Otto (1975, 1976). Both researchers used all-male samples.

In order to study educational attainment, Spady (1970) collected educational attainment data on his original sample four years after graduation from high school. Level or amount of participation in high school activities accounted for more variability in educational attainment than did family SES, academic ability, or academic performance. Spady then compared the relationship between type of high school extracurricular participation and attainment of educational goals reported when the boys were seniors in high school. The title of Spady's article was indicative of the results, "Lament for the Letterman." Boys who participated only in athletics had high educational aspirations, but low rates of goal fulfillment. Spady lamented that although male athletic participation increased levels of educational aspirations, it did not give participants the necessary skills to fulfill those aspirations.

However, participants in only sports had greater educational goal fulfillment rates than did nonparticipants, who had the lowest educational attainment rate. Spady's findings indicated that the greatest effects on educational attainment were associated with participation in service-leadership activities.

Spady's hypothesis that amount of activity participation among males was associated with higher levels of educational attainment was tested by Otto (1975) on a sample of 340 seventeen-year-old male students who were first contacted in 1957 and followed up in 1972. Multiple regression and path analytic procedures were used to investigate the effect of extracurricular participation on educational attainment while controlling for the effects of SES, academic ability, and academic performance. Otto reported that 57% of the variance in educational attainment was explained by the variables in his model. When level of activity involvement was incorporated into the equations, the explained variance in educational attainment increased by 5%. Furthermore, Otto's results suggested that participation also serves an important mediating function in estimating the effects of family socioeconomic statuses and academic performance. For example, extracurricular participation mediated 20% of the total effect of father's education, 13% of the total effect of mother's education, and 15% of the total effect of academic performance. Otto concluded that the high school extracurriculum serves as a mechanism by which parental socioeconomic advantage is passed on to sons.

One possible explanation for the effects of extracurricular participation on educational attainment is that the extracurriculum acts as a socializing agency that produces achievement and success orientations in the form of educational aspirations. However, when educational aspiration level was incorporated into Otto's model as a control variable, activity participation continued to contribute independently to educational attainment (Otto, 1976).

Using the same all male sample and research design, Otto (1976) also studied occupational attainment and income among respondents 15 years following high school. Similar to educational attainment, both direct and indirect effects were demonstrated on each achievement indicator.

Few studies have focused on the relationship between high school activity participation and educational and occupational attainment among females. The principal study using female subjects was conducted by Hanks and Eckland (1976), who used longitudinal data from high school students who were sophomores in 1955. A model that took into account more variables than Otto's was developed to assess the effects of high school extracurricular participation on educational attainment among females as well as males. Unlike males, there was little relationship between athletic participation and educational outcome for females. In addition, the correlation between high school social participation by females and educational attainment seemed to be due more to moderator variables, like grades or peer and teacher contacts,

than to the direct effects of participation.

The research on the relationship between activity participation among females and educational attainment is thus limited and dated, and the results are inconclusive and conflicting. The pattern appears different for female participants, and therefore a single model as proposed by Otto (1975, 1976) may not accurately describe the relationship for both male and female participants.

There is also evidence that high school female athletes perceive their status among peers differently than do male athletes. A recent replication of Coleman's (1961) work indicated that athletic star continues as the role most frequently chosen by males (36%) to be remembered for after high school (Kane, 1988). In contrast to Coleman's study, females were also presented with the option of athletic star in Kane's study. Only 9% of the females in this sample reported they wanted to be remembered as star athletes. This finding is consistent with earlier studies by Feltz (1978) and Williams and White (1983). It is interesting to note that, in agreement with Coleman's results, the role of leader in activities was selected most often by females (38%).

Kane (1988) also compared type of female sport participation by ranking of female athletes' peer status. Females who participated in more "feminine" sports, such as tennis and golf, had higher peer status ranking than did participants in more "masculine" sports, such as softball and basketball. Kane's results suggested that what is

considered appropriate behavior for female athletes is influenced by traditional views of adolescent gender role orientation. Moreover, it is possible this difference in peer status between male and female athletes may account in part for gender differences in the relationship between activity participation and educational attainment.

Summary: Educational aspirations and attainment The available research indicates that participation in extracurricular activities relates to educational aspirations and their attainment, but what accounts for these relationships is not clear. Otto (1982) reviewed several explanations for the positive results of extracurricular participation. One suggestion is that useful content, such as attitudes or interpersonal skills, is learned. A second explanation is that participation gives students visibility and important future "contacts." Third, participation may elevate a student's peer status, and somehow this transfers to other educational pursuits. A fourth explanation is that perhaps some individuals are born achievers. Finally, encouragement from significant others may raise students' aspirations both in activity performance and in the academic curriculum. Otto concluded that research generally tends to support the higher aspirations explanation, but that his research (Otto, 1976) suggests that some form of learning also takes place that has later payoffs for participants. He adds that one possibility is that interpersonal skills are acquired, and these skills are in general demand in our society.

Studying each gender separately could provide further insights into what accounts for the relationships between extracurricular participation and outcomes, such as educational attainment, that have been associated with adolescent participation. For example, finding a stronger relationship between participation and educational attainment for male athletes than for female athletes would provide support for the peer status rather than the learning interpersonal skills theory. If the mediating effect of participation is learning skills, then it would seem logical that these skills would be learned equally by male and female participants in similar activities. In addition, a stronger relationship between male athletic participation and educational attainment could also be viewed as supporting the "future contacts" and "encouragement from significant others" theories. Since peer status of male and female athletes appears to differ, this difference may extend to visibility in the community and to differing encouragement from parents, teachers, coaches, and peers. It is unfortunate that neither Spady nor Otto extended their research to include female participants. Furthermore, subsequent research on extracurricular participation (conducted in the late 1970s and 1980s) tended to focus more on personal/social characteristics of participants than on educational attainment.

Personal/social characteristics Extracurricular participation has been associated with certain personal/social characteristics of participants such as greater feelings of self-concept, less alienation from school and society, improved race relations in schools, and higher involvement in

young adult political and social activities. Several studies have reported a positive relationship between activity participation and self-concept scores (Dowell, Badgett, & Hunkler, 1972; Grabe, 1976, 1981; Leonardson, 1986; Phillips, 1969). In an early study, a significant positive relationship between extracurricular participation and self-concept across all activities was demonstrated for boys but not for girls (Phillips, 1969). In addition, male first-string athletes had higher self-concept scores than did second-string athletes or nonathletes, but no differences were found among female athletes. Thus, consistent with the results of educational attainment research, gender differences were also indicated in the relationship between activity participation and self-concept. In later studies, researchers did not separate their samples by gender.

Male athletic participation has also been related to a lower incidence of delinquent acts and alienation from school (Landers & Landers, 1978; Schafer, 1969). However, Peek, Picou, Alston, and Curry (1979) have questioned these studies because of irregularities in reporting delinquent acts. The hypothesis that participation in athletics acts as a deterrent to delinquency remains subject to controversy.

Studies designed to investigate which school practices improve race relations have consistently shown a positive relationship between extracurricular participation and improved race relations in high school (Crain, 1981; Crain, Mahard, & Narat, 1982; Scott & Damico, 1983; Slavin & Madden, 1979). Several studies also demonstrated that the

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extracurriculum is the main source of interracial contact for students in secondary schools (Crain, 1981; Scott & Damico). Crain et al. (1982) conducted extensive studies on ways that schools make desegregation work, and concluded that a well-organized extracurricular program is "one of the most effective educational tools a high school can have" (p. 169). Because these studies used a mixed sample of male and female participants, gender differences in the racial effectiveness of activity participation in high school have not been investigated.

Research evidence also supports a positive relationship between high school activity participation and involvement in young adult political and social activities (Hanks, 1981; Lindsay, 1984). Hanks used data from the National High School Longitudinal Study of 1972 to investigate the relationship between participation in high school extracurricular activities and participation in young adult political activities two years after leaving high school. The relationship was greater for high school activities classified by Hanks as instrumental (clubs, student government, yearbooks, social-service) than for expressive activities (sports, debate, music). Lindsay used the same data set to examine relationships between high school activity participation and social participation by young adults who were nonstudents five years after high school. Participation in high school activities had the strongest relationship to young adult social participation, followed by educational attainment and sociability. Moreover, indirect effects of high school participation on young adult social participation were indicated with educational

attainment as the mediating variable. Because Lindsay used data from the NLS of 1972 and did not separate students by gender, the results are dated and in need of verifying with more recent data.

Summary: Extracurricular participation

Two major groups of studies have dominated the research conducted to examine the role of the extracurriculum in secondary schools. One group replicated Barker and Gump's (1964) study that related school size to extent of activity participation. Results consistently supported Barker and Gump's finding of increased activity participation by students in smaller high schools. The second group of studies conducted during the 1960s and 1970s responded to Coleman's (1961) contention that extracurricular programs in high schools divert students' attention away from the academic mission of secondary schools. Consistent with Coleman's original study, the majority of high school males continue to express a desire to be remembered as star athletes. However, research subsequent to Coleman's work has demonstrated a positive relationship among high school activity participation and academic achievement, educational aspirations and their achievement, and occupational achievement. These results suggest that instead of being in conflict with the academic program, the extracurricular program actually may support academic programs. If higher academic achievement is associated with extracurricular participation, it does not seem logical that participation inhibits academic growth. The finding of

less alienation, increased self-concept, improved race relations, and increased participation in adult activities among high school activity participants suggests that the extracurriculum provides opportunities for the development of important personal characteristics in participants regardless of their academic status.

However, although the research on extracurricular participation is expansive in scope, numerous questions remain unanswered. The available research has focused mainly on males involved in athletic participation. Far less research has been conducted with female subjects and with nonathletic activities. Due to inconsistent results with female subjects, there is a particular need for further exploration of the role of activities among female participants. Especially lacking is research on athletic participation among females in secondary schools. Over the last 20 years societal values have changed with respect to female participation in athletics. Female athletic participation receives proportionally greater funding than in previous years, and the rewards of participation have also increased. For example, female athletes receive more publicity, and college scholarship for female athletes are more numerous than when Hanks and Eckland (1976) and Snyder and Spreitzer (1977) collected their data. Furthermore, few studies have related female participation in nonathletic activities to educational and occupational attainment, and the limited number of studies have yielded inconsistent results.

Although research has supported a positive relationship between male high school activity participation and educational attainment, this research has not been extended to educational attainment among teacher education students. Recruitment and retention of quality teachers have become issues of growing concern among educators and policy makers (Chapman & Green, 1986; Darling-Hammond, 1984; Heyns, 1988; Rhodes & Doering, 1983; Sweeney, 1987; Weaver, 1984). It seems reasonable that increased involvement with the high school social or athletic setting would lead to increased numbers of potential teacher education students among high school activity participants. In fact, Chen (1982) reported that participation in school activities during childhood and adolescence does impact on later career choice.

Additional factors that impact on career choice and academic success are demographic characteristics of individuals entering a specific career and job characteristics sought in future employment. Selected research conducted on these topics will be reviewed in the following section.

#### Demographic Characteristics and Job Characteristics Sought by Teacher Education Students

##### Demographic characteristics of teacher education students

Personal and background characteristics of students influence their career decisions and are also related to academic success and

attainment in a chosen career. Demographic characteristics of teacher education students that may influence their educational attainment are academic ability, gender, teaching level, transfer status, and both parental socioeconomic status and parental influence.

Academic ability and achievement Research on the characteristics of teacher education students has focused on the academic ability and academic aptitude of education students. Teacher education students have been compared to students in other academic disciplines by examining grade point averages, standardized tests, and related evidence of academic achievement of students from high school through graduate school.

Results regarding relationships between academic ability and graduation in teacher education are inconsistent and somewhat contradictory. Schechty and Vance (1981) found a strong negative correlation between academic ability, measured by a standardized test of academic ability, and retention in education. Other findings suggest teacher education programs attract students who are academically able and who compare favorably with students in other fields (Andrew, 1983; Fisher & Feldman, 1985). Findings of Galluzzo and Arends (1989) suggest a recent increase in the academic capabilities of students in teacher education. Over three-fourths of the education students in their study ranked in the top 30% of their high school graduating class. Additional evidence was provided by Young (1989), who found that both male and female teacher education graduates who taught the

year following graduation ranked higher in their high school graduating class than non-teaching graduates.

Gender During the colonial era and through the first half of the nineteenth century teaching was predominantly a male profession. Since the 1920s, almost three-fourths of public school teachers have been female (Feistritzer, 1984). In recent years, according to Feistritzer, women in record numbers have chosen fields other than teaching. In spite of this movement of females to non-education careers, three-fourths of aspiring teacher education students in the early 1980s were white females (Roberson, Keith, & Page, 1983).

Bland (1986) found no significant difference in educational attainment between male and female education students who were first surveyed when enrolled in a beginning education course. Bland's results also indicated no relationship between gender and educational attainment among students who transferred from another college or university to Iowa State University.

Transfer status Findings regarding academic success among transfer students to four-year colleges and universities are generally conflicting. While transfer students have a high failure rate in some studies (Kissler, 1980; Kissler, Lara, & Cardinal, 1981), results from other studies suggest that transfer students do as well as native students (Atherton, 1981; Richardson & Daucette, 1980 ). A somewhat consistent difference between transfer and non-transfer students is that transfer students generally require longer to complete a program of

study than do non-transfer students (Klitzke, 1961).

Teaching level . Differences have also been identified between students in elementary and secondary education programs (Book & Freeman, 1986). Male elementary majors were less likely to graduate in education than were female elementary or secondary majors, according to Book and Freeman. In addition, elementary majors reported entering teaching with a desire to work with children, while secondary majors entered teaching to impart knowledge to adolescents.

Parental socioeconomic status and influence Studies that examined relationships among graduation in teacher education, parental socioeconomic status, and family influences reveal that students from low, rather than high, socioeconomic status families are more likely to graduate in teacher education and to remain in the teaching profession (Andrew, 1983; Dworkin, 1980; Johnson, 1983). For students from lower socioeconomic backgrounds, teaching represents an opportunity for upward mobility, whereas for students from higher socioeconomic backgrounds, teaching may be viewed as a step downward in social status (Bloland & Selby, 1980; Lortie, 1975). An additional explanation, suggested by Dworkin (1980), was that teacher education students and graduates from higher socioeconomic backgrounds may have an influential network of acquaintances who can facilitate their entry into a more prestigious career.

Using a sample of college freshmen education majors, Johnson (1983) found that a higher proportion of students had mothers, rather

than fathers, who were either elementary or secondary teachers. Students in this study reported that family influence was second only to teacher influence as a reason for selecting a teaching career.

#### Job characteristics sought by teacher education students

Findings of research on job characteristics preferred by teacher education students indicate that females traditionally enter teaching for more intrinsic reasons, while males choose a teaching career for more extrinsic reasons. Keith (1980), for example, found that male education graduates selected their employment for advancement opportunities; extrinsic rewards such as salary, status, and benefits; opportunities to use special abilities; and the potential to exercise leadership. Females, in contrast, emphasized interpersonal relationships and serving others. More recently, Young (1989) found that females in her sample of first-year teacher education graduates rated leadership higher than did male graduates.

Using a sample of 486 Iowa State University teacher education graduates, Keith, Warren, & Dilts (1983) found education graduates who planned to teach differed from graduates who did not plan to teach on the importance they placed on job characteristics. Graduates who planned to teach placed the greatest importance on factors such as serving others and opportunities for using creative and special abilities. Graduates who did not plan to teach reported a preference for a job that provided opportunities for advancement (extrinsic rewards).



Book and Freeman (1986) noted differences in job characteristics sought in employment between elementary and secondary teacher education students. In Book and Freeman's study, service orientations were particularly strong among elementary students. In contrast, secondary students were more likely to select a teaching career to apply what they had learned in their major field or to help students gain knowledge and understanding of the subject matter. Students planning to teach at the secondary level also perceived teaching as a career that provides a stepping stone to other careers such as coaching or school administration.

Summary: Demographic characteristics and job characteristics sought by teacher education students

The results of studies that used high school rank as a measure of academic ability indicated that academically able students are more likely to enter teaching. However, when standardized tests are used to measure academic potential, the results indicated that the most academically able students do not enter teaching. One possible explanation for this difference is that high school rank compares teacher education students to all high school students, whereas standardized tests, such as ACT or SAT scores, compare education students only to those students who plan to attend college.

Female teacher education students and education students planning to teach at the elementary level are more likely than males or

secondary majors to graduate in teacher education and to remain in teaching. In addition, students from lower socioeconomic backgrounds are also generally more likely to enter and remain in the teaching profession.

The available research indicates that employment orientations of teacher education students differ between: (a) male and female students, (b) graduates planning teaching and non-teaching careers, and (c) elementary and secondary education majors. Females, graduates planning to teach, and elementary majors most often report reasons for choosing teaching as a career that are service-oriented and child-centered. Males, non-teaching graduates, and secondary majors are more likely to major in education to apply what they had learned in their major field, or to help students gain knowledge of that subject matter.

#### Selecting Teaching as a Career, Teacher Retention, and Satisfaction with Teaching

The published literature on selecting teaching as a career, the retention of qualified teachers, and satisfaction with teaching is voluminous, inconsistent, and sometimes contradictory. In the following section, the major investigations that are relevant to the present study will be reviewed.

Over the past three decades, the supply of graduates from teacher education programs has rarely been in balance with the demand for new teachers. A shortage of teachers during the 1950s and most of the 1960s encouraged large numbers of college students in the late 1960s and early 1970s to prepare for a teaching career (Dillich, 1980). As a result, by 1970 a surplus of newly certified teachers had developed. This oversupply continued for elementary teachers until the mid-1980s when an equilibrium between supply and demand occurred. The late 1980s were marked by the beginning of a shortage of elementary teachers. Due to declining enrollments at the secondary level during the 1980s, the oversupply of certified secondary teachers continued throughout the decade (Heyns, 1988).

However, this situation is subject to change, and a shortage of teachers is projected in the 1990s at both the elementary and secondary level (Carnegie Foundation for the Advancement of Teaching, 1987; Heyns, 1988; Musemeche & Adams, 1978). According to the Carnegie Foundation report, the demand for new teachers between 1990 and 1993 will be 200,000 per year. If the number of college graduates who enter the teaching profession remains at the 1987 level, only 63 percent of the demand for new teachers in 1993 will be met by new teacher graduates. The supply of teachers has thus gone full circle, from a shortage in the 1960s, to a surplus in the 1970s and early 1980s, to another shortage in the 1980s. This shortage is projected to continue in the 1990s.

The imminence of a teacher shortage in the 1990s is based on four factors: (a) a decrease in the number of college students entering teacher education, (b) an increase in the number of school-age children, (c) a lower retention rate among teachers as compared to other professions, and (d) conditions in the labor market that provide increased opportunities for women and minorities. Included in the following section is a discussion of these factors.

#### Selecting teaching as a career

The question, "What motivates students to enter the teaching profession?" has interested educators and researchers since the 1950s (Roberson, Keith, & Page, 1983). Various theories of career choice (Holland, 1973; Krumboltz, 1979; Super, 1957, 1980) have been used to explain factors that may influence individuals to enter the teaching profession. Although these theories have provided valuable information for constructing models of career selection and teacher retention, perhaps a more expedient method is to ask teacher education students to state the motivating reasons behind their choice of teaching as a career. In earlier studies, the reason most often reported by teachers for choosing teaching as a career was the influence of former teachers (Fielstra, 1955; Fox, 1961; Richards, 1960; Wright, 1977). A more recent study indicated a shift toward more personal motivation, such as liking children and previous personal experiences with children (Wood, 1978). When influences from family background characteristics and

intellectual ability were controlled, students planning to enter teacher education indicated the main factors that influenced their career decisions were a desire to work with friendly people and influences from former teachers (Roberson et al., 1983). Assuming the influence of former teachers remains a dominant determinant in selecting teaching as a career, it seems reasonable that high school students who have experienced higher levels of contact with the school environment through extracurricular participation would have an increased likelihood to select teaching as a career.

Evidence exists to suggest a difference between elementary and secondary teacher education candidates in their reasons for selecting a teaching career (Book & Freeman, 1986; Jantzen, 1981). While elementary teachers were more likely to have a child-centered orientation toward teaching, secondary teachers were more likely to have a subject-centered perspective. Likewise, when compared to their secondary counterparts, elementary education majors were more likely to have served as Sunday school teachers, to have baby-sat, and to have worked with handicapped children (Book & Freeman). Based on these results, one would expect a different pattern of activity participation between elementary and secondary education majors. However, no analyses have made this comparison.

Additional research indicates that males and females do not decide to become teachers at the same age (Mori, 1966). According to Mori,

females generally decide to become teachers in elementary school or early secondary school, whereas males tend to decide in later secondary school or in college. Consistent with these results, Book and Freeman (1986) reported that male secondary education students were more likely than females to choose teaching because they were unsuccessful in course work required for their initial career choice.

It is interesting to note that, while Dillich (1980), a labor economist, attributed the declining number of students in teacher education programs during the late 1970s to an oversupply earlier in the decade, educators generally attributed the decrease in teacher education students to low teacher salaries and a lack of prestige for the teaching profession (Darling-Hammond, 1984; Heyns, 1988; Roberson et al., 1983). The selection of teaching as a career is thus a complex process involving personal characteristics and aspirations as well as current social and economic conditions.

In summary, contact and influences from former teachers, along with a desire to work with children, appear to be the most important influences in the career choice of education students. At a time when shortages of newly certified teachers are anticipated, it seems logical that encouraging contact with the school through activity participation could increase contact with teachers and might also increase the number of students selecting teaching as a career.

### Retention of teachers

The retention of quality teachers has become an issue of increasing concern in education. Recent decreases in numbers of teacher education graduates have made the retention of experienced teachers even more essential in maintaining an adequate supply of teachers. There is also evidence that academically talented teachers are the most likely to leave teaching (Heyns, 1988; Schlechy & Vance, 1981; Vance & Schlechy, 1982).

Results of research on teacher retention are particularly inconsistent. For example, earlier studies, where data were collected before the mid-1960s, indicated that attrition was highest among female teachers (Charters, 1967, 1970; Whitener, 1965), while attrition was highest among males in studies using data collected after the mid-1960s (Chapman & Lowther, 1982; Lortie, 1975; Mueller, 1976). This difference may be due in part to changing attitudes toward the employment of women with children that occurred in the 1960s. Support for this premise is evidenced by the work of Mark and Anderson (1978), who studied survival rates of recent graduates entering teaching between 1968 and 1976. Although females were more likely than males to leave teaching each year of the study, the difference between males and females decreased from 5.6 percent in 1968 to 1.1 percent in 1975.

Low teacher salaries have been cited as a major reason why teachers leave the profession (Counts, 1978; Gallup, 1984). Studies

that differentiate teachers who remain in education from those who leave the profession or have never taught indicate that former teachers and those who did not teach assign more importance to salary, autonomy, and responsibility than current teachers (Bloland & Selby, 1980; Chapman & Hutcheson, 1982). However, when salaries of former teachers were compared to those of current teachers, recent studies have indicated higher salaries among current teachers (Heyns, 1988; Seyfarth & Bost, 1986). Seyfarth and Bost also reported that districts with higher pay and more fringe benefits had lower levels of turnover than did districts with lower levels of compensation.

There also appears to be a difference over time in the importance placed on salary by females. Earlier research indicated that females placed less importance on salary than did males (Browning, 1963). In later studies, salary was reported as a major reason for leaving teaching by both males and females (Heffley, 1983; Heyns, 1988). These findings are consistent with recent increased occupational opportunities for females.

Studies have generally indicated that secondary teachers leave teaching at a higher rate than do elementary teachers (Goodlad, 1984; Keith, Warren, & Dilts, 1983). This difference cannot be attributed to gender, since more elementary teachers are female. Harris and Associates (1985) recently surveyed former teachers and found that 73% of former teachers had taught at the secondary level. They suggested that secondary teachers are more likely to leave the profession because



they have greater employment opportunities outside of education than elementary teachers.

Findings from numerous investigations have indicated that teachers from lower socioeconomic family backgrounds remain in teaching at higher rates than teachers from higher socioeconomic backgrounds (Dworkin, 1980; Lortie, 1975; Young, 1989-1990). Lortie attributes this difference to the perception of teaching as a middle-class occupation.

The student teaching experience also appears to have strong effects on the career path of teacher education graduates (Sweeney, 1987). According to Sweeney, students most satisfied with student teaching were most likely to remain in teaching for up to five years following graduation.

The recent work of Heyns (1988) has provided new insights into teacher retention that were based on a national sample of teachers. She used the fifth follow-up data (collected in 1986) from the 1972 National Longitudinal Study to conduct an in-depth study of teacher retention. Findings of this study suggest that retention among teachers has increased somewhat during the past decade. Surprisingly, teachers were more likely to leave better than average schools in favorable locations rather than problem schools in ghetto areas. Moreover, teacher attrition was highest in the type of schools generally associated with higher teacher satisfaction such as private schools, suburban schools, and schools with higher ability students. Consistent with earlier studies, rural schools lost fewer teachers than urban schools.

Heyns' results also suggested that unsatisfactory working conditions in many schools were an important reason for high rates of teacher attrition. She concluded that much reform is needed in education to increase teacher retention, and cited better pay, improved working conditions, and overall improved professional status of teachers as necessary school reforms required to reduce attrition.

### Teacher satisfaction

Closely associated with teacher retention is teacher satisfaction, since teachers who are satisfied with teaching are more likely to remain in the profession. Evidence of a strong relationship between retention and satisfaction was provided by Chapman (1983, 1984), who proposed a model to examine factors that influence teacher retention. Satisfaction played a significant role in teacher retention in Chapman's original model and in subsequent testing of the model (Chapman & Green, 1986).

Factors that influence teacher retention have also been shown to affect career satisfaction of teachers (Chapman & Hutcheson, 1982; Chapman & Lowther, 1982). Specifically, findings by Chapman and Hutcheson indicated that females and elementary teachers were more satisfied with teaching as a career when compared to males and secondary teachers. Other conditions positively related to satisfaction with the teaching profession include teaching in rural areas, having a leadership role, receiving recognition from administrators or supervisors,

and enrollment in graduate education classes (Matthes & Duffy, 1989).

Dissatisfaction with teaching has been attributed to the lack of opportunities for advancement, low professional status as compared to other occupations, and by the reputation of teaching as a job that is boring and stressful (Stark, Austin, Lowther, Chapman, & Hutcheson, 1980). An additional reason cited for dissatisfaction with teaching is a mismatch between original expectations and actual teaching experience (Goodlad, 1984; Grissmer & Kirby, 1987; Young, 1989). Teacher education graduates enter their first job with incomplete information about teaching and the environment of the school (Grissmer & Kirby, 1987). However, teachers whose expectations met the reality of the job and who felt more comfortable with the school environment were more likely to express satisfaction with their initial teaching job. It seems reasonable that increased contact with the school through participation in extracurricular activities while in high school could contribute to a more complete understanding of the contextual aspects of schools, and could help reduce the gap between expectations and experiences for future teachers.

There is evidence to suggest that satisfaction with teaching as a career has been declining in recent years (Darling-Hammond, 1984; McLaughlin, Pfeifer, Swanson-Owens, & Yee, 1986). Numerous explanations have been cited as contributing to this decline. Explanations that seem most plausible include lack of support from administrators and parents, low salaries, large class sizes, lack of

adequate facilities and materials, and policies that standardize and regulate teacher behaviors. Standardized teaching policies, according to Darling-Hammond and Wise (1981), often limit the academic curriculum to subjects and types of thinking that are easily tested, and teachers frequently resist attempts to constrain their classroom decisions.

College students generally enter the teaching profession for service-related reasons and seek intrinsic rather than extrinsic rewards from employment (Thompson, Warren, Dilts, & Blaustein, 1983). In recent years, intrinsic rewards from teaching have been declining along with satisfaction with teaching (Darling-Hammond, 1984). Teachers generally enter the profession because of a desire to help and serve others and to work with students. Emphasis on procedural conformity decreases creativity in teaching and also reduces teachers' ability to respond to individual students' needs. It is conceivable that increased contact with students on a more personal basis by acting as sponsors or advisors to school activities might increase intrinsic rewards for teachers.

Summary: Selecting teaching as a career, teacher retention, and satisfaction with teaching

A serious shortage of classroom teachers is anticipated in the 1990s as fewer college students choose teaching as a career and many young teachers leave for other occupations. Shortages have already been experienced in many areas of the country in subjects such as

mathematics and science (Guthrie & Zusman, 1982; Houndshell & Griffin, 1989). Given the recent increase in numbers of school-aged children, the recruitment and retention of teachers is a subject of major concern for educators. The added dimension of greater interaction with the school environment in high school activities could result in an increased interest in teaching as a career by participants. An additional outcome of high school activity participation could be an increased awareness of the reality of working in an educational environment.

## CHAPTER III. METHODOLOGY

### Introduction

The purpose of this chapter is to describe the methodology used to investigate the research problems that constituted the current study.

The overall study was divided into two components: Study 1 and Study 2. Study 1 examined variables that predict completion of the Iowa State University Teacher Education Program for male and female students enrolled in a beginning education course. Study 2 investigated relationships among participation in high school extracurricular activities and (a) employment patterns of teacher education graduates, (b) adult social participation, (c) advising or coaching high school activities, and (d) satisfaction with teaching as related to advising or coaching activities. In this chapter, a description of the data source used for both studies is first presented. The methods of data collection, the samples, instrumentation, and methods of data analysis are then presented separately for Study 1 and Study 2.

### Data Source

This study used data collected as part of an on-going longitudinal research project conducted by the Research Institute for Studies in Education (RISE), College of Education, Iowa State University (ISU). The RISE study is designed to evaluate the teacher education program at ISU. Data are collected from teacher education students and

graduates at major points in their educational program and professional careers. The time of each data collection point, the name of each study, and a brief summary of the data collected at each survey point are presented in Figure 2. The current studies used data from two data collection points: (a) the Teacher Education Students Survey, and (b) the Follow-up Study of Fifth Year Iowa State Teacher Education Graduates. Data from the permanent record card of each teacher education graduate were also used.

Since Fall Semester, 1980, students have initially been surveyed with the Teacher Education Students Survey during their first education course, Social Foundations of American Education (Elementary Education/Secondary Education 204). One of the major objectives of the Teacher Education Students Survey is to describe the types of students who are attracted to the teaching profession. Items are designed to provide information about students' academic and demographic backgrounds and to describe their primary reasons for enrolling in the beginning education course.

Since Spring Semester, 1985, the Follow-up Study of Fifth Year Iowa State Teacher Education Graduates (Five-Year Follow-up Survey) has been conducted annually. At five years following graduation from the Teacher Education Program respondents are asked about their five-year employment history, occupational characteristics, satisfaction with teaching, teaching performance, demographic information, and

Study	Time of Study	Information Collected
1. Teacher Education Students Survey	First course in teacher Education Program	Background characteristics of students-demographic variables Reasons for selection of teaching as a career Career expectations/plans
2. Evaluation of Selected Student Teaching Characteristics	Following student teaching experience	Evaluation of selected student teaching characteristics by: 1) student teacher 2) cooperating teacher 3) university supervisor
3. Study of Teacher Education Graduates	Semester of graduation from program	Evaluation of program Employment/career plans Academic information Self-evaluation as teacher
4. Follow-up Study of First-Year Teacher Education Graduates	First year after graduation	Evaluation of program Suggestions for program changes Factors related to employment, including satisfaction with teaching and teaching performance
5. Follow-up Study of Fifth-Year Teacher Education Graduates	Fifth year after graduation	Evaluation of program Suggestions for program changes Employment history Teaching performance Satisfaction with teaching
6. Follow-up Study of Tenth-Year Teacher Education Graduates	Tenth year after graduation	Evaluation of program Suggestions for program changes Employment history Teaching performance Satisfaction with teaching

Figure 2. Summary of studies, data collection points, and type of information collected: RISE longitudinal study.



evaluation of the Teacher Education Program. For purposes of the current study, items were added to the 1991 Five-Year Follow-up Survey requesting respondents to indicate extent of high school extracurricular participation, adult social participation, and involvement as advisors, coaches, or supervisors of school activity programs. The 1991 Five-Year Follow-up Survey, along with the Teacher Education Students Survey used with the students in the present study and associated cover letters, are found in Appendix C.

The RISE longitudinal study and accompanying questionnaires were approved by the Iowa State University Committee on the Use of Human Subjects in Research, who concluded that the rights and welfare of human subjects were adequately protected, that risks were outweighed by potential benefits, and that confidentiality of data was assured.

The remainder of the chapter presents the methods of data collection, subjects, instrumentation, and methods of data analysis for each of the two studies separately.

#### Study 1: Educational Attainment Among Prospective Teacher Education Students

The purpose of Study 1 was to examine variables that predict graduation from the Teacher Education Program for male and female

students tested separately. Three types of variables were used to predict graduation: extent of participation and leadership in high school extracurricular activities, demographic characteristics, and job characteristics sought by teacher education students in employment.

### Data collection

In Study 1, existing data from the ongoing longitudinal study conducted by RISE personnel were used. Specifically, the data of interest were responses to all administrations of the Teacher Education Students Survey between Fall, 1981 and Spring, 1986. At each administration, the Teacher Education Students Survey was distributed by instructors to all students enrolled in a beginning education course, Social Foundations of American Education. A cover letter explaining the purpose of the study and enlisting students' voluntary participation accompanied the survey. Completed surveys were returned anonymously to instructors. The current researcher was not involved in these data collection efforts.

### Subjects

The sample for Study 1 consisted of 2,008 students out of a total population of 2,873 students (69.89%), who completed usable Teacher Education Students Surveys while enrolled in Social Foundations of American Education from Fall, 1981 through Spring, 1986. Included among the non-respondents were 131 students who did not provide

social security numbers and were therefore dropped from the study because, without identification, their graduation status could not be ascertained.

Characteristics of the students who comprised this sample are reported in Table 1. Seventy percent of the prospective teacher education students were female, and 30% were male. Over half of the total sample graduated in teacher education within four years after completing Social Foundations of American Education. Females (54.7%) were significantly more likely than males (43.4%) to complete the Teacher Education Program within four years (Chi-square = 21.11,  $df = 1$ ,  $p < 0.001$ ).

### Instrumentation

Dependent variable: Educational attainment The dependent variable in Study 1 was educational attainment, operationally defined as completion of the Teacher Education Program within four years after enrolling in a beginning education course, Social Foundations of American Education. This is a 200 level course and most students who take the course are sophomores, so most graduates in this study are students who completed their college program in five years or less. Graduation lists from the Registrar's Office provided social security numbers of students who graduated in the Teacher Education Program. As shown in Table 1, over half (51%) of the survey respondents

Table 1. Characteristics of teacher education students: Study 1

Characteristic	N	Percent
Gender		
Female	1405	70.0
Male	602	30.0
Missing	1	---
Total	2008	100.0
Graduate/Non-graduate		
Total sample		
Graduate	1029	51.2
Non-graduate	979	48.8
Total	2008	100.0
Female		
Graduate	768	54.7
Non-graduate	637	45.3
Total	1405	100.0
Male		
Graduate	261	43.4
Non-graduate	341	56.6
Total	602	100.0
Time of Survey		
Fall, 1981/Spring, 1982	295	14.69
Fall, 1982/Spring, 1983	403	20.07
Fall, 1983/Spring, 1984	387	19.27
Fall, 1984/Spring, 1985	391	19.47
Fall, 1985/Spring, 1986	532	26.49
Total	2008	100.00

completed the Teacher Education Program. No attempt was made to determine the graduation status of students who did not graduate from the Teacher Education Program.

Three types or categories of predictor variables were studied:

- (a) participation and leadership in high school extracurricular activities,
- (b) demographic characteristics, and (c) job characteristics sought by respondents.

The first type of predictor variable consisted of items that measured the type of activity and degree of involvement in high school activities.

Extracurricular activity participation Participation in extracurricular activities was measured by asking the prospective teacher education students to check, from a list of 17 activities, the extracurricular activities they had been involved in as participants while in high school. The 17 individual participation items included: 4-H, scouts, varsity sports, religious youth activities, youth camps, foreign travel, school music activities, FFA or FHA, speech/debate, student council, cheerleader, school newspaper/yearbook, honor society, service clubs, interest clubs, and other activities. Table 2 reports the number and percentage of male and female respondents who indicated participating in each of the 17 activities. Females reported higher rates of involvement than males on 14 of the 17 extracurricular participation items. Males reported higher rates of participation in sports, scouts, and FFA or FHA.

**Table 2. High school extracurricular activity participation for male and female students: Study 1**

Activity	<u>Participated: Females</u>		<u>Participated: Males</u>	
	N	Percent <sup>a</sup>	N	Percent <sup>a</sup>
4-H	560	40.0	152	25.5
Scouts	533	38.1	278	46.6
Varsity sports	836	59.7	465	78.0
Intramural sports	868	62.0	440	73.8
Religious youth activities	979	69.9	345	57.9
Youth camps	631	45.1	215	36.1
Foreign travel	289	20.6	112	18.8
School music activities	1058	75.6	306	51.3
FFA or FHA	221	15.8	155	26.0
Speech/debate	401	28.6	143	24.0
Student council	567	40.5	215	36.1
Cheerleading	508	36.3	20	3.4
School newspaper/yearbook	594	42.4	150	25.2
Honor society	642	45.9	199	33.4
Service clubs	254	18.1	53	8.9
Interest clubs	399	28.5	136	22.8
Other	283	20.2	78	13.1

<sup>a</sup>The percent column contains the percentage of respondents who checked each activity.

Based on logical combinations of activities, composite variables were formed by combining the 17 participation items into four composite participation categories: (a) sports, (b) non-sport school activities, (c) non-school activities, and (d) other activities. For each composite, the total number of items checked was summed for each respondent. The "sports" category was formed by combining varsity sports and intramural sports. The "non-sport school activities" composite included school music activities, speech/debate, student council, FFA or FHA, cheerleader, school newspaper/yearbook, and honor society. "Non-school activities" were 4-H, scouts, religious youth activities, and youth camps. The "other activities" composite included foreign travel, service clubs, interest clubs, and other clubs. An additional composite, total participation, was formed by summing the total number of participation items checked for each respondent. The number of items in each composite, the mean number of activities participated in by male and female respondents in Study 1, and the standard deviation for each composite are reported in Table 3. With the exception of sports, females reported a higher rate of participation in all composites, including total participation.

Leadership in extracurricular activities Leadership in activities was measured by asking the prospective teacher education students to check, from a list of 13 items, the activities they had been involved in during high school as a leader, counselor, coach, or aide. The 13 leadership

Table 3. Number of items in each composite, mean, and standard deviation of extracurricular participation composites: Study 1

Participation composite	Number of items	Female N = 1405		Male N = 602	
		Mean	S.D.	Mean	S.D.
Sports	2	1.21	.80	1.50	.69
Non-sport school activities	7	2.84	1.60	1.97	1.47
Non-school activities	4	1.92	1.14	1.65	1.14
Other activities	4	0.87	0.92	0.63	0.80
Total participation	17	6.85	2.75	5.75	2.58

items included: 4-H, scouts, varsity sports, intramural sports, religious youth activities, youth camps, foreign travel, youth choir or band, nursery school, elementary school, secondary school, student government, and other leadership activities. Table 4 reports the number and percentage of male and female respondents who checked each leadership category. Female education students reported a higher degree of leadership participation than male students on 7 of the 13 leadership items.

Composite variables were formed by combining the 13 leadership items into 6 leadership composites: (a) sports, (b) non-sport school



**Table 4. Leadership in high school extracurricular activities for male and female students: Study 1**

Activity	<u>Participated: Females</u>		<u>Participated: Males</u>	
	N	Percent <sup>a</sup>	N	Percent <sup>a</sup>
4-H	304	23.7	85	15.8
Scouts	132	10.3	90	16.7
Varsity sports	361	28.1	226	41.9
Intramural sports	274	21.3	184	34.1
Religious youth activities	555	43.2	157	29.1
Youth camps	265	20.6	107	19.9
Foreign travel	17	1.3	9	1.7
Youth choir or band	311	24.2	72	13.4
Nursery school	245	19.1	12	2.2
Elementary school	403	31.4	76	14.1
Secondary school	191	14.9	98	18.2
Student government	284	22.1	121	22.4
Other	314	24.4	127	23.6

<sup>a</sup>The percent column contains the percentage of respondents who checked each activity.

activities, (c) non-school activities, (d) teacher aide activities, (e) foreign travel, and (f) other activities. For each composite, the total number of items checked in each category was summed for each respondent. The "sports" category was formed by combining leadership in varsity sports and intramural sports. "Non-sport school activity" leadership consisted of youth choir/band and student government activities. The "non-school activities" leadership composite included 4-H, scouts, religious youth activities, and youth camps. The "teacher aide" leadership composite consisted of acting as a coach or aide at the preschool, elementary school, or secondary school level. "Foreign travel" leadership was a single item, as was the "other activities" leadership item. Total leadership in activities among respondents was measured by combining the total number of leadership items checked for each of the 13 leadership items into a total leadership composite. The number of items in each composite, the mean number of leadership activities reported by the respondents in Study 1, and the standard deviation of each composite are reported in Table 5. Females reported a higher rate of leadership than males in all composite variables except sports leadership.

The second type of predictor variable in Study 1 consisted of demographic characteristics of the prospective teacher education students. Demographic characteristics in the current study were: (a) academic achievement, (b) teaching level plans, (c) mother's occupation,

Table 5. Number of items in each composite, mean, and standard deviation of leadership in activities composites: Study 1

Leadership composite	Number of items	Female N = 1405		Male N = 602	
		Mean	S.D.	Mean	S.D.
Sports	2	.45	.67	.68	.74
Non-sport school activities	2	.42	.62	.32	.54
Non-school activities	4	.89	.96	.73	.90
Teacher aide leadership	3	.60	.72	.31	.56
Foreign travel	1	.03	.11	.02	.12
Other activities	1	.22	.42	.21	.41
Total leadership	13	2.60	1.84	2.27	1.64

(d) father's occupation, (e) age, (f) resident status, and (g) transfer status.

Academic achievement Academic achievement was measured by self-reported high school rank and self-reported college grade point average at the time of taking a beginning education course. High school rank was recalculated using a linear transformation of values so that high ranking was indicated by a large number and low ranking

was indicated by a small number. Seventy-six percent (76%) of the female respondents reported graduating in the upper one-fourth of their high school class, while 65.5% of the male respondents reported graduating in the upper one-fourth of their high school class.

The students in Study 1 reported college grade point averages at the time of taking Social Foundations of American Education that ranged from 0.87 to 4.00 on a 4.00 scale. The mean reported grade point average was 2.68 for the entire sample, with females reporting higher college grade point averages than males. Academic indicators of the students in Study 1 are reported in Table 6.

Teaching level Teaching level was operationally defined as the level of teaching indicated by the respondents as their long-range career plan. Respondents were asked to check the most appropriate response concerning their long-range career plans. Students planning preschool or elementary teaching were classified as "elementary," while students planning secondary teaching were classified as "secondary." A third category, "other education," included students who reported long-range career plans of K-12 teaching, college/university teaching, or non-teaching in education. A fourth category, respondents whose long range career plans did not involve employment in the field of education, was not included in the analyses since the purpose of this variable was to differentiate students on the basis of their planned teaching level. The number and percentage of male and female respondents in each category are reported in Table 7.

Table 6. Academic ability indicators: Study 1

Indicator	N	Mean	S.D.
ISU grade point average			
Female	1120	2.71	0.57
Male	467	2.62	0.56
-----			
High school rank	N	Percent	
Female			
Upper 10%	520	37.4	
Upper 11-25%	536	38.6	
Upper 26-50%	258	18.6	
Upper 51-75%	69	5.0	
Lower 25%	6	.4	
Total	1389	100.0	
Male			
Upper 10%	166	27.9	
Upper 11-25%	224	37.6	
Upper 26-50%	155	26.0	
Upper 51-75%	42	7.0	
Lower 25%	9	1.5	
Total	596	100.0	

Table 7. Planned teaching level frequency distribution: Study 1

Planned teaching level	Female		Male	
	N	Percent	N	Percent
Elementary	662	47.2	53	8.9
Secondary	322	23.0	325	54.5
Other education	211	15.1	123	20.7
(Non-teaching)	206	14.7	95	15.9
Missing	4	---	6	---
Total	1405	100.0	602	100.0

Father's occupation and mother's occupation Family influence on respondents' completion of the Teacher Education Program was operationally defined as parental employment in the field of education. Two items on the Teacher Education Students Survey asked respondents, "What was your father's (mother's) occupation most of the time while you were living at home? (Please be specific)." Responses of the prospective teacher education students were initially coded into 15 categories. For this study, categories were dichotomized for each parent so that one category consisted of teachers, principals, superintendents, and university professors (educators), while the second

category consisted of all other occupations (non-educators). As reported in Table 8, the majority of parents were employed outside of the education profession.

Table 8. Parental occupations frequency distributions -- educator vs. non-educator: Study 1

Parental occupation	Female		Male	
	N	Percent	N	Percent
Father's occupation				
Educator	147	10.7	66	11.4
Non-educator	1229	89.3	513	88.6
Missing	29	---	23	---
Total	1405	100.0	602	100.0
Mother's occupation				
Educator	147	10.7	43	7.4
Non-educator	1233	89.3	541	92.6
Missing	25	---	18	---
Total	1405	100.0	602	100.0

Age Respondents were asked to report their age, and the uncategorized responses were used in the analyses. The ages of the teacher education students in Study 1 ranged from 18 years to 50 years. The average age of females was 20.32 years, while males' average age was 21.16 years.

Residency status Residency status of the students enrolled in a beginning education course was measured by asking, "Are you currently a resident of Iowa?" Responses indicated that 86.6% of the respondents (1,732) were residents of the state of Iowa, and 13.4% (267) of the respondents were classified as non-residents. Females were more likely than males to be non-residents, as indicated in Table 9.

Table 9. Residency status frequency distribution: Study 1

Residency status	Female		Male	
	N	Percent	N	Percent
Iowa resident	1200	85.8	532	88.7
Non-resident	198	14.2	68	11.3
Missing	7	---	2	---
Total	1405	100.0	602	100.0

Transfer status Respondents were also asked if they had transferred to Iowa State from another college or university. Twenty-eight percent (557) of the prospective teacher education students in Study 1 entered Iowa State as transfers, while 72% (1,437) entered as first semester freshmen. Males (32.5%) were more likely than females (25.9%) to have transferred to Iowa State from another college



or university (Table 10).

The third type of predictor variable consisted of job characteristics sought by the prospective teacher education students in their future employment.

Table 10. Transfer status frequency distribution: Study 1

Transfer status	Female		Male	
	N	Percent	N	Percent
Transfer	362	25.9	194	32.5
Non-transfer	1034	74.1	403	67.5
Missing	9	---	5	---
Total	1405	100.0	602	100.0

Job characteristics Job characteristics sought by the education students in future employment were measured by 18 items that asked respondents to indicate, "How important is it that a job provide you with the following characteristics?" Response categories for these items were: "very important" (5), "important" (4), "neutral" (3), "unimportant" (2), and "very unimportant" (1). The number of job characteristics was reduced from 18 items to 4 composites as a result of factor analysis conducted by Boatwright (1988). The four factors identified by Boatwright were challenge/leadership, extrinsic rewards, empowerment, and humanity/service. Figure 3 in Appendix B presents the four job

characteristic composites and the survey items in each composite. The estimated internal consistency reliability scores of the students in the current study are presented for the total sample and for male and female students separately in Table 11. The mean and standard deviation of the four job characteristic composites are reported in Table 12.

### Data analysis

Descriptive statistics were calculated on all variables and composites for male and female respondents separately to obtain demographic data and to study the distribution of variables. Internal consistency reliability was estimated for the job characteristic composites using Cronbach's coefficient alpha (1951).

Because highly correlated independent variables adversely affect the accuracy of multivariate analyses, bivariate correlations were computed on all variables and composites to determine relationships among variables. Chi-square analysis was used to examine distributional differences among categorical variables.

In Study 1, both univariate and multivariate analyses were conducted to study whether the relationships between educational attainment and the three types of predictor variables differed for male and female students. Preliminary univariate analyses were used to examine which

Table 11. Reliability coefficients and mean inter-item correlations of job characteristic composites for total sample, females, and males: Study 1

Job characteristic composite/	N	Mean inter-item correlation	Coefficient alpha
<b>Challenge/leadership</b>			
Total sample	1977	.27	.69
Female	1384	.27	.69
Male	592	.26	.68
<b>Extrinsic rewards</b>			
Total sample	1977	.38	.75
Female	1384	.39	.76
Male	592	.36	.74
<b>Empowerment/autonomy</b>			
Total sample	1977	.29	.61
Female	1384	.29	.61
Male	592	.27	.59
<b>Humanity/service</b>			
Total sample	1977	.33	.59
Female	1384	.31	.57
Male	592	.33	.60

Table 12. Mean and standard deviation of job characteristics composites: Study 1

Job characteristic	Female N = 1404		Male N = 602	
	Mean <sup>a</sup>	S.D.	Mean <sup>a</sup>	S.D.
Challenge/leadership	4.05	0.44	3.96	0.44
Extrinsic rewards	3.68	0.55	3.69	0.57
Empowerment/autonomy	4.17	0.45	4.12	0.45
Humanity/service	4.32	0.47	4.09	0.54

<sup>a</sup>5 = very important to 1 = very unimportant.

variables, tested one at a time, differentiated among male and female graduates and non-graduates and would likely contribute to the prediction when the variables were examined simultaneously in a multivariate analysis. For example, a two (gender) by two (graduate/did not graduate) analysis of variance (ANOVA) was used to test for differences between predictor means by gender and Teacher Education Program completion. A statistically significant gender by graduation in education interaction would suggest that a variable discriminates between students who completed the program and those who did not differently for male and female students. Chi-square analyses, conducted on male and female students' scores separately, were used to

examine distributional differences on each categorical variable by graduate/not graduate in the Teacher Education Program.

To obtain a more in-depth understanding of the total relationship among all predictor variables, discriminant analysis was used to investigate differences when the predictor variables were studied simultaneously. These analyses were conducted separately for male and female students. Discriminant analysis is a multivariate statistical technique that uses subjects' scores on two or more predictor variables to predict group membership. The basic principle of discriminant analysis, when there are two groups, is to find a set of weights for forming linear composites of scores so that the ratio of between-groups sums of squares and cross products to pooled within-groups sums of squares and cross products is maximized, thus leading to maximum discrimination between the two groups.

In the current study, four discriminant analyses were conducted to determine which variables, among three types of predictor variables, were the best predictors of educational attainment for male and female students tested separately. For each analysis, a stepwise discriminant analysis was used, with an  $F$  to enter  $\geq 1.0$  and an  $F$  to remove  $\leq 1.0$ . Wilks' Lambda, a statistic that indicates the proportion of error variance, was used to select variables to enter so that the overall Wilks' Lambda value was minimized. The Box M statistic was used in all analyses to test for homogeneity among the two groups'

variance-covariance matrices.

Because no variable in discriminant analysis may be a linear combination of any other discriminating variable, total participation and total leadership were tested in different analyses from the other participation and leadership composites. Therefore, two discriminant analyses were conducted for males and two were conducted for females. In one analysis, for both males and females, the predictor variables were the four extracurricular participation composites, the six activity leadership composites, the eight demographic items, and the four job characteristic composites. In the second analysis, total participation and total leadership replaced the participation and leadership composites, and were tested along with the job characteristic composites and demographic items. Thus, the first analysis examined amount of participation in various types of activity and leadership participation in relation to the other two categories of predictor variables, whereas the second analysis examined total participation and total leadership in relation to the other two categories of variables.

The strength of the resultant discriminant function was measured by several statistics. Standardized coefficients, which measure the relative importance of each variable in the discriminant function, were examined to determine which variables contributed the greatest amount to the function. The larger the magnitude of the standardized coefficient, the greater was the contribution of that variable to the discrimination

between the two groups. However, a limitation of standardized coefficients occurs when two variables are highly correlated. When variables contribute the same information to the discriminant function, the standardized coefficients may be reduced in magnitude, or they may be larger but with opposite signs. In spite of this limitation, because standardized coefficients take into consideration the simultaneous contributions of all other variables, they were useful in interpreting the results of the analyses in the current study.

To compensate for the shortcomings of standardized coefficients, when predictor variables are highly correlated several authors (Bray & Maxwell, 1982; Klecka, 1984; Pedhazur, 1982) recommend using structure coefficients for the interpretation of the discriminant function. Structure coefficients are the bivariate correlation between each discriminating or predictor variable and the discriminant function or vector of predictor variables. In contrast to standardized coefficients, structure coefficients are not affected by relationships with other variables. The square of the structure coefficient of a variable indicates the proportion of variance of that variable accounted for by the discriminant function. Pedhazur (1982) suggests that structure coefficients  $\geq .30$  be considered meaningful when interpreting results.

Two additional tests of the discriminant function's strength were used to interpret the results of the analyses. Differences between the mean discriminant scores, or group centroids, which are the center

points for the scores of all individuals in a group, were examined to determine the ability of the function to discriminate between graduates and non-graduates of the Teacher Education Program. The greater the distance between the centroids, the better the discrimination between groups.

The discriminant function's strength was also tested by classification analysis, or the proportion of actual group members correctly classified. The proportion of correctly classified subjects indirectly indicates the degree of group separation. When evaluating the classification analysis with the data on which it is based, the accuracy of prediction is generally overstated because the chances of correctly classifying subjects is increased.

## **Study 2: Relationships Between High School Extracurricular Participation and Selected Characteristics of Teacher Education Graduates**

The purpose of Study 2 was to test the relationships among high school activity participation and (a) retention of teacher education graduates in the teaching profession, (b) adult activity participation of teacher education graduates, (c) advising or coaching activities by current and former teachers, and (d) satisfaction with teaching as related to advising or coaching activities. Graduates who were followed-up five years after their graduation from the College of



Education were surveyed in Spring, 1991 to obtain data for this portion of the study.

### Data collection

Names and addresses of Fall Semester, 1985 and Spring Semester, 1986 graduates of the ISU Teacher Education Program were obtained from records in the Iowa State University Alumni Office. Every possible attempt was made to locate each graduate. Dillman's (1978) procedures for conducting mail surveys were used to collect data for the 1991 Five-Year Follow-up Study. Graduates were mailed the survey instrument and a cover letter requesting their voluntary participation and explaining the purpose of the survey. After two weeks, a reminder postcard was mailed to non-respondents of the first mailing. Two weeks later, a second copy of the survey and a second cover letter were mailed to individuals who did not respond to the first two mailings. The current researcher was involved in all phases of the 1991 Five-Year Follow-up Study, including data collection, coding, and analysis.

### Subjects

Respondents whose data are included in Study 2 graduated from the Teacher Education Program during the 1985-1986 school year. The sample for Study 2 consisted of 182 graduates of the ISU Teacher Education Program out of a total population of 333 graduates (54.66%)

who completed and returned the 1991 Five-Year Follow-up Survey. Characteristics of the teacher education graduates who comprised this sample are reported in Table 13. Almost 74% of the graduates were female, and over 26% were male.

### Instrumentation

Relevant items for Study 2 from the 1991 Five-Year Follow-up Survey included items that asked graduates to report: (a) their current employment (teaching/not teaching), (b) their employment history since graduation in the Teacher Education Program, and (c) their current job satisfaction. Gender and other demographic characteristics were obtained from students' permanent record cards.

In addition to the previous data, questions were added by the current researcher to the 1991 Five-Year Follow-up Survey that asked subjects to report: (a) high school extracurricular activity participation; (b) advising, coaching, or sponsoring high school activities; and (c) adult activity participation. These items were pilot tested on 28 students in two graduate education classes during the fall of 1990, and minor modifications were made on the original items as a result of evaluations from this testing. Changes suggested by the students who pilot tested the items included adding the category, "Activity not available," to the high school extracurricular participation items, and clarifying the instructions for these items by adding, "For example:

Table 13. Characteristics of teacher education graduates: Study 2

Characteristic	N	Percent
Gender		
Female	134	73.6
Male	48	26.4
Total	182	100.0
Current employment		
Total sample		
Teaching	107	58.8
Non-teaching	75	41.2
Total	182	100.0
Female		
Teaching	86	64.2
Non-teaching	48	35.8
Total	134	100.0
Male		
Teaching	21	43.8
Not-teaching	27	56.2
Total	48	100.0
Teaching level		
Total sample		
Preschool/kindergarten	23	21.7
Elementary	35	33.0
Secondary	34	32.1
K-12	7	6.6
Post secondary	2	1.9
Preschool/elementary	5	4.7
Missing	1	---
Total	107	100.0

Table 13. (Continued)

Characteristic	N	Percent
Female		
Preschool/kindergarten	22	25.6
Elementary	31	36.0
Secondary	19	22.1
K-12	7	8.1
Post secondary	2	2.3
Preschool/elementary	5	5.8
Total	86	100.0
Male		
Preschool/kindergarten	1	5.0
Elementary	4	20.0
Secondary	15	75.0
Missing	1	---
Total	21	100.0

soloist, principal musician, and team captain are defined as leaders."

The variables examined in Study 2 are described in the following section.

Current employment Current employment status was defined as either teaching or not teaching at five years following graduation. One graduate who reported employment in both teaching and non-teaching positions was classified as teaching. Almost 59% of the total sample of teacher education graduates who responded to the Five-Year Follow-up Survey indicated they were currently employed as teachers, and 41% reported employment in non-teaching positions (Table 13). A significantly higher percentage of female graduates (67%), as compared to males (44%), were teaching at five years following graduation (Chi-square = 5.28,  $df = 1$ ,  $p \leq .05$ ). Females who were employed as teachers were more likely to be teaching at the elementary (36%) or preschool/kindergarten (26%) level, while 75% of the male graduates who were currently employed as teachers reported teaching at the secondary level.

Employment pattern The graduates were classified into four groups based on their five-year employment pattern since graduation. At five years following graduation, the teacher education graduates were asked to report their employment history since graduating from the Teacher Education Program. One group, "taught continuously," consisted

of graduates who entered teaching either the first, second, or third year following graduation and continued teaching through the fifth year. The second group, "never taught," reported they had never taught during the five years following graduation. A third group, "taught and left," entered teaching the first year following graduation, left before five years, and did not reenter. Graduates with other combinations of employment patterns were classified as a fourth group, "other." The number of graduates in each of the four employment groups are reported in Table 14. Compared to males, a higher percentage of females had taught continuously after their initial employment as teachers. A higher percentage of male graduates, as compared to female graduates, had either never taught or had taught the first year following graduation and left teaching before five years.

Job satisfaction Job satisfaction, operationally defined as an indicator of satisfaction with teaching, was measured by scores on items included in the 1991 Five-Year Follow-up Survey. Current and former teachers were asked to indicate how satisfied they were with 21 aspects of teaching. The job satisfaction composite used in the current study consisted of nine of these items, and was factor analytically and conceptually derived by Warren and Kemis (1989). The five response categories for the items were: "very satisfied" (5), "satisfied" (4), "neutral" (3), "dissatisfied" (2), and "very dissatisfied" (1).

Table 14. Frequency distribution of five-year employment patterns: Study 2

Subjects/Five-year employment pattern	N	Percent
Total sample		
Taught continuously	84	46.4
Never taught	34	18.8
Taught and left	30	16.6
Other combination	33	18.2
Missing	1	---
Total	182	100.0
Female		
Taught continuously	66	49.6
Never taught	21	15.8
Taught and left	18	13.5
Other combination	28	21.1
Missing	1	---
Total	134	100.0
Male		
Taught continuously	18	37.5
Never taught	13	27.1
Taught and left	12	25.0
Other combination	5	10.4
Total	48	100.0

Items included in the composite asked teachers to rate their current job in terms of salary, benefits, working conditions, administrative support, involvement in decision-making, opportunities for advancement, responsibilities, challenge, and teaching as a career. Figure 4 in Appendix B lists the specific items on the job satisfaction composite. The descriptive statistics, inter-item correlations, and reliability scores for this variable are reported in Table 15. Females who were teaching five years following graduation from the Teacher Education Program rated their current job satisfaction significantly higher than did male graduates who were teaching ( $t = 2.60$ ,  $df = 103$ ,  $p \leq .05$ ).

Table 15. Descriptive statistics and reliability coefficients for job satisfaction composite: Study 2

Subjects	N <sup>a</sup>	Mean <sup>b</sup>	S.D.	Mean inter-item correlation	Coefficient Alpha
Total sample	105	3.50	.57	.28	.76
Female	84	3.57	.55	.26	.74
Male	21	3.22	.58	.26	.74

<sup>a</sup>There were two missing female cases.

<sup>b</sup>5=very satisfied to 1=very dissatisfied.



Participation in high school extracurricular activities One item added to the 1991 Five-Year Follow-up Survey asked respondents to indicate retrospectively their highest level of high school extracurricular participation for each of 17 categories of activities. Response categories were: "participated as leader/officer" (4), "regularly participated" (3), "occasionally participated" (2), "did not participate" (1), and "activity not available" (0). Participation as a leader or officer was further defined in the instructions as soloist, principal musician, or team captain. The "did not participate" and "activity not available" categories were combined to form a single category, "nonparticipation." The 17 participation items were: band/orchestra, cheerleader/pep club, chorus/vocal music, dance/drama, 4-H, hobby/interest clubs, honorary clubs/honor society, intramural sports, religious youth activities, school newspaper/yearbook, school student council/government, scouts, speech/debate, subject-matter clubs, varsity athletic teams, vocational education clubs, and other.

Total involvement in the high school extracurriculum by the teacher education graduates was measured by summing the total score of each respondent on all 17 categories of activity participation. The mean and standard deviation for each of the 17 extracurricular participation items and for the total participation composite are reported in Table 16 for

Table 16. High school extracurricular activity participation by teacher education graduates: Study 2

Activity/ subjects	N	Mean <sup>a</sup>	Standard deviation
Band/orchestra			
Total sample	174	1.78	1.71
Female	128	1.85	1.70
Male	46	1.57	1.77
Cheerleader/pep club			
Total sample	173	1.02	1.44
Female	128	1.29	1.51
Male	45	0.27	0.86
Chorus/vocal music			
Total sample	172	1.92	1.70
Female	128	2.09	1.67
Male	44	1.43	1.73
Dance/drama			
Total sample	172	1.55	1.55
Female	127	1.59	1.61
Male	45	1.44	1.41
4-H			
Total sample	170	1.06	1.62
Female	125	1.02	1.60
Male	45	1.16	1.71
Hobby/interest Clubs			
Total sample	159	0.95	1.55
Female	115	0.99	1.59
Male	44	0.84	1.43

<sup>a</sup>4 = leader or officer,  
3 = regular participant,  
2 = occasional participant,  
1 = did not participate.

Table 16. (Continued)

Activity/ subjects	N	Mean <sup>a</sup>	Standard deviation
Honor society and clubs			
Total sample	173	1.93	1.73
Female	129	1.89	1.70
Male	44	2.02	1.82
Intramural sports			
Total sample	176	1.30	1.54
Female	129	1.30	1.53
Male	47	1.30	1.57
Religious youth activities			
Total sample	175	2.11	1.62
Female	127	2.09	1.65
Male	48	2.17	1.55
School newspaper/yearbook			
Total sample	170	1.05	1.48
Female	127	1.13	1.50
Male	43	0.81	1.40
Student council/government			
Total sample	172	1.40	1.70
Female	127	1.36	1.70
Male	45	1.49	1.71
Scouts			
Total sample	168	0.64	1.29
Female	125	0.45	1.11
Male	43	1.89	1.60
Speech/debate			
Total sample	167	0.87	1.40
Female	126	0.94	1.43
Male	41	0.66	1.32

Table 16. (Continued)

Activity/ subjects	N	Mean <sup>a</sup>	Standard deviation
Subject matter club			
Total sample	154	0.82	1.42
Female	113	0.80	1.41
Male	41	0.83	1.45
Varsity athletics			
Total sample	173	2.15	1.80
Female	126	1.91	1.83
Male	47	2.79	1.55
Vocational education clubs			
Total sample	157	0.61	1.36
Female	117	0.50	1.26
Male	40	0.90	1.61
Other			
Total sample	91	0.79	1.48
Female	67	0.77	1.42
Male	24	0.83	1.66
Total participation composite			
Total sample	180	20.44	9.34
Female	132	20.63	9.36
Male	48	19.92	9.35

the total sample and for male and female graduates separately. The total sample reported the highest rate of participation in varsity sports, followed by religious youth activities, honor society, and chorus or vocal music activities. Although females reported a higher total amount of participation in high school extracurricular activities, the difference between male and female high school participation was not statistically significant.

Adult activity participation Participation in adult activities was measured by asking respondents to check, from a list of 11 items, any group or organization they had voluntarily participated in since graduating from college. The 11 adult activity items were: church or religious activities, community centers or social-action associations, educational organizations, organized volunteer work, political organizations, professional organizations, service organizations, social/hobby clubs, sports teams or clubs, youth organizations, and other. A total adult activity participation composite was formed by summing the number of items checked by each respondent. The number of adult activities reported by the graduates ranged from 1 to 10, with a mean of 3.24 for the total sample. In contrast to participation in high school activities, males reported a higher rate of participation in adult activities than females (Table 17). This difference, however, was not statistically significant.

Table 17. Adult activity participation by teacher education graduates:  
Study 2

Adult activity	Total Sample <sup>a</sup>		Female <sup>b</sup>		Male <sup>c</sup>	
	N	Percent	N	Percent	N	Percent
Church/religious	109	61.9	78	60.9	31	64.6
Community/social action	33	18.8	25	19.5	8	16.7
Educational organizations	71	40.3	55	43.0	16	33.3
Political organizations	17	9.7	11	8.6	6	12.5
Professional/trade associations	74	42.0	52	40.6	22	45.8
Service organizations	16	9.1	9	7.0	7	14.6
Social, hobby, garden club	51	29.0	38	29.7	13	27.1
Sports	83	47.2	54	42.2	29	60.4
Volunteer work	54	30.7	40	31.3	14	29.2
Youth organizations	42	23.9	21	16.4	21	43.8
Other	20	11.4	16	12.5	4	8.3

	Total sample		Female		Male	
	Mean <sup>a</sup>	S.D.	Mean <sup>b</sup>	S.D.	Mean <sup>c</sup>	S.D.
Total adult participation	3.24	1.75	3.12	1.64	3.56	1.98

<sup>a</sup>N = 176.

<sup>b</sup>N = 128.

<sup>c</sup>N = 48.

Involvement as an advisor, coach, or supervisor Current and former teachers were asked to check, from a list of 17 activities, any extracurricular activity they had been involved in as an advisor, coach, or supervisor while employed as a teacher during the five years following their graduation from the Teacher Education Program. The 17 activities were identical to the activity items used to measure high school extracurricular participation. A composite variable, "total advisor to activities," was formed by summing the total number of items checked for each respondent. The number of items checked by the total sample ranged from 1 to 8, with a mean of 2.34 (Table 18). Male graduates who were current or former teachers reported a higher rate of involvement as advisors or coaches than current or former female teachers, although the difference was not statistically significant.

### Data analysis

Descriptive statistics were calculated on all variables for the total sample and for male and female graduates separately to obtain demographic data and to study the distribution of variables.

Hypothesis 1 of Study 2 was tested by computing a two (gender) by four (employment pattern) analysis of variance (ANOVA) to test for differences between the total participation means by gender and employment pattern. The main effects of the factors, as well as the two-way interaction effect, were examined.

Table 18. Involvement of current and formers teachers as advisors, coaches, or supervisors of high school extracurricular activities: Study 2

Activity	Total sample <sup>a</sup>		Female <sup>b</sup>		Male <sup>c</sup>	
	N	Percent	N	Percent	N	Percent
Band/orchestra	8	7.5	4	5.4	4	12.1
Cheerleader/pep club	18	16.8	18	24.3	0	00.0
Chorus/vocal music	9	8.4	9	12.2	0	00.0
Dance/drama	16	15.0	11	14.9	5	15.2
4-H	6	5.6	3	4.1	3	9.1
Hobby/interest clubs	19	17.8	11	14.9	8	24.2
Honor society & clubs	4	3.7	3	4.1	1	3.0
Intramural sports	20	18.7	13	17.6	7	21.2
Religious youth activities	24	22.4	17	23.0	7	21.2
School newspaper/yearbook	11	10.3	7	9.5	4	12.1
Student council/government	14	13.1	13	17.6	1	3.0
Scouts	2	1.9	0	00.0	2	6.1
Speech/debate	5	4.7	5	6.8	0	00.0
Subject matter club	13	12.1	8	10.8	5	15.2
Varsity athletics	35	32.7	16	21.6	19	57.6
Vocational education clubs	9	8.4	2	2.7	7	21.2
Other	37	34.6	28	37.8	9	27.3

	Total sample		Female		Male	
	Mean <sup>a</sup>	S.D.	Mean <sup>b</sup>	S.D.	Mean <sup>c</sup>	S.D.
Total advising/coaching	2.34	1.32	2.27	1.40	2.49	1.12

<sup>a</sup>N = 107.<sup>b</sup>N = 74.<sup>c</sup>N = 33.



Hypotheses 2, 3, and 4 of Study 2 were evaluated by computing Pearson product-moment correlations to examine relationships between variables. Each analysis was conducted on the total sample and on male and female data separately. The difference between male and female correlations for each hypothesis was tested for statistical significance.

For both Study 1 and Study 2, all analyses used the SPSS-X Data Analysis System, Release 3.0. The level of significance for all procedures was set at .05.

## CHAPTER IV. RESULTS

### Introduction

This chapter presents results of the statistical analyses used to test the hypotheses of the current study. The overall study consisted of two components: Study 1 and Study 2.

The purpose of Study 1 was to examine variables that predict graduation from the ISU Teacher Education Program for male and female students tested separately. Existing data collected on 2,008 prospective teacher education students, both when they were enrolled in their beginning education course and at completion of the Teacher Education Program, were used in Study 1.

The purpose of Study 2 was to examine relationships between the extent of high school activity participation and selected characteristics of graduates who were followed-up five years after graduating from the Teacher Education Program. These characteristics were: (a) employment pattern of teacher education graduates, (b) adult activity participation by teacher education graduates, (c) advising or coaching school activities, and (d) satisfaction with teaching as related to advising and coaching youth activities. The data used in Study 2 were collected on 182 graduates of the Teacher Education Program who responded to the ISU College of Education 1991 Five-Year Follow-up Study questionnaire.

Chapter IV is divided into three sections. The results of Study 1 are presented in the first section, the results of study 2 are presented in the second section, and the third section summarizes results of both studies.

Study 1: Educational Attainment Among  
Prospective Teacher Education Students

Hypothesis 1: When the educational attainment of female students enrolled in a beginning education course is predicted by participation in high school extracurricular activities, demographic characteristics of the students, and employment characteristics sought by students, demographic characteristics will be stronger predictors of graduation from the Teacher Education Program than will be high school extracurricular participation and employment characteristics.

Hypothesis 2: When the educational attainment of male students enrolled in a beginning education course is predicted by participation in high school extracurricular activities, demographic characteristics of the students, and employment characteristics sought by students, the degree of student participation in the high school extracurriculum will be a stronger predictor of graduation from the Teacher Education Program than will be demographic characteristics and employment characteristics.

Hypotheses 1 and 2 were evaluated by determining which variables, among three different types of predictor variables, best categorized

prospective teacher education students as graduates or non-graduates of the Teacher Education Program when male and female students were tested separately.

As described in Chapter III, composite variables were computed for participation and leadership in activities and for job characteristics sought by students in teacher education. Seventeen extracurricular participation items on the Teacher Education Students Survey were combined into four composite areas, and thirteen leadership items were combined into six composite areas. In addition, a total participation composite was computed by summing the total number of participation items checked for each respondent. The total number of leadership items checked by each respondent was also summed to compute a measure of total leadership. Eighteen items that measured potential job characteristics sought by respondents were combined, based on previous factor analyses, into four employment characteristic composites.

These 16 composites, plus 8 demographic characteristics, constituted the predictor variables in Study 1. The dependent variable was educational attainment, defined as graduation in the Teacher Education Program within four years after enrollment in a beginning education course.

Both univariate and multivariate statistical techniques were used to test the relationships between educational attainment and the three types of predictor variables. Univariate analyses provided an

examination of the relationship between each individual predictor variable and educational attainment. Multivariate analyses (discriminant analyses) were used to test the predictive ability of the variables when the predictor variables were examined simultaneously.

#### Relationships among variables

Because highly correlated predictor variables can alter the accuracy of the results when conducting discriminant analyses, bivariate correlations were conducted on all variables and composites to examine relationships among variables. The correlation matrices for the 24 predictor variables and the dependent variable (graduate/not graduate in the Teacher Education Program) are presented in Appendix A (Table 30 for females and Table 31 for males).

The correlations among the variables were generally quite low for both male and female students, with over three-fourths of the correlations being less than .15. As expected, the highest correlations were among the four types of participation composites and total participation (range:  $r=.39$  to  $r=.79$ ; average:  $r=.58$ ), and among the six types of leadership composites and total leadership (range:  $r=.08$  to  $r=.69$ ; average:  $r=.44$ ). This was not a problem in the analyses, however, because total participation and total leadership were not entered in the same analyses with the four participation composites or the six leadership composites. The four job characteristic composites

were also moderately correlated for both male and female students (range:  $r=.12$  to  $r=.58$ ; average:  $r=.34$ ). The highest correlations were between challenge/leadership and the other three job characteristic composites (range:  $r=.35$  to  $r=.58$ ; average:  $r=.44$ ).

### Results of univariate analyses

Eighteen continuous variables and six categorical variables were used to predict educational attainment in Study 1. Preliminary univariate analyses were used to examine which variables, when tested individually, differentiated among male and female graduates and non-graduates in the Teacher Education Program. Eighteen two (male/female) by two (graduate/not graduate) analyses of variance (ANOVAs) were conducted, with the 18 continuous variables serving as the dependent variables.

There were significant differences between male and female scores on 15 of the 18 continuous predictor variables (Table 19). The three variables with no gender differences were: other leadership, foreign travel leadership, and extrinsic rewards from employment. Females reported higher scores on 10 of the 12 participation and leadership composites. For both sports participation and sports leadership, males reported higher rates of participation. Female teacher education students had higher scores on the challenge/leadership, humanity/service, and empowerment job characteristic composites, and had higher ISU grade point averages when enrolled in their first education course.

There were significant differences between graduates and non-graduates of the Teacher Education Program on 10 of the 18

Table 19. Mean and standard deviation of continuous predictor variable scores by graduation in Teacher Education Program and gender -- Main effects: Study 1

Variables	Gender		Graduate		F-Value	
	Female	Male	Graduate	Non-graduate	Gender	Graduate
	N=1404	N=602 <sup>a</sup>	N=1028	N=977		
	or 1405 <sup>a</sup>		or 1029 <sup>a</sup>	or 978		
	Mean	Mean	Mean	Mean		
	(S.D.)	(S.D.)	(S.D.)	(S.D.)		
Sports participation	1.21 (.80)	1.50 (.69)	1.34 (.82)	1.26 (.71)	65.80**	10.92**
Non-sport school activities	2.84 (1.60)	1.97 (1.47)	2.73 (1.48)	2.42 (1.46)	122.35**	11.20**
Non-school activities	1.92 (1.14)	1.64 (1.14)	1.95 (1.15)	1.73 (1.14)	21.22**	15.01**
Other activities	0.87 (.92)	0.63 (.80)	0.80 (.88)	0.80 (.90)	32.45**	0.58
Total participation	6.85 (2.75)	5.75 (2.58)	6.82 (2.72)	6.20 (2.75)	62.51**	18.15**
Sport leadership	0.45 (.67)	0.68 (.74)	0.51 (.70)	0.54 (.70)	45.23**	0.10
Non-sport school leadership	0.42 <sup>b</sup> (.62)	0.32 <sup>c</sup> (.54)	0.40 <sup>d</sup> (.60)	0.38 <sup>e</sup> (.61)	8.42**	0.27
Non-school leadership	0.90 <sup>b</sup> (.96)	0.72 <sup>c</sup> (.90)	0.90 <sup>d</sup> (.98)	0.78 <sup>e</sup> (.90)	9.76**	4.32*

Teacher aide leadership	0.60 (.72)	0.31 (.56)	0.60 (.71)	0.42 (.65)	68.31**	25.10**
Foreign travel leadership	.03 (.11)	0.02 (.12)	0.01 (.12)	0.01 (.14)	0.22	0.16
Other leadership	0.22 (.42)	0.21 (.41)	0.23 (.38)	0.21 (.36)	0.26	1.02
Total leadership	2.60 (1.84)	2.27 (1.64)	2.65 (1.81)	2.34 (1.75)	11.76**	11.08**
Age	20.32 (3.13)	21.17 (3.45)	20.53 (3.10)	20.62 (3.24)	28.67**	.01
ISU Grade point average	2.71 <sup>b</sup> (.57)	2.62 <sup>c</sup> (.56)	2.78 <sup>d</sup> (.54)	2.57 <sup>e</sup> (.57)	4.12*	50.45**
Challenge/leadership	4.05 (.44)	3.96 (.44)	4.03 (.42)	4.01 (.45)	17.61**	0.03
Extrinsic rewards	3.68 (.55)	3.69 (.57)	3.64 (.52)	3.72 (.59)	0.12	10.91**
Empowerment	4.17 (.45)	.12 (.45)	4.14 (.44)	4.16 (.46)	5.28*	1.26
Humanity/service	4.32 (.47)	4.09 (.54)	4.30 (.46)	4.19 (.53)	78.38**	18.73**

\* $p \leq .05$ .

\*\* $p \leq .01$ .

<sup>a</sup>except where indicated.

<sup>b</sup>N=1113.

<sup>c</sup>N=462.

<sup>d</sup>N=825.

<sup>e</sup>N=750.



continuous variables (Table 19). For nine of the ten differences, graduates in teacher education had higher scores on the average than non-graduates. Students who completed the Teacher Education Program reported significantly higher mean rates of participation than non-graduates in sports, non-sport school activities, non-school activities, and total participation. Graduates also indicated greater participation as leaders in non-school activities, teacher aide activities, and total leadership. In addition, graduates on the average had significantly higher ISU grade point averages when enrolled in their first education course. Students who graduated in the Teacher Education Program had significantly higher scores than non-graduates on the humanity/service job characteristic composite and significantly lower scores on the extrinsic rewards job characteristic composite.

A problem with conducting repeated univariate analyses is that the chance of making a Type I statistical error increases. At the .05 level, when conducting 36 analyses, two analyses could be significant by chance alone.

An examination of the interaction effects indicated there was a significant interaction in 4 of the 18 ANOVAs that were conducted on the continuous variables (Table 20). The four variables with significant interaction effects were: non-sport school participation, other participation, total participation, and other leadership composites. For three of the four variables, the differences between graduate and

Table 20. Means (and standard deviations) for the gender by graduation in teacher education interaction: Study 1

Variable	Female graduate N = 768	Female non-graduate N = 637	Male graduate N = 261	Male non-graduate N = 341	F-value
Non-sport school participation	2.90 (1.62)	2.76 (1.57)	2.26 (1.55)	1.76 (1.37)	6.25**
Other participation	0.83 (.89)	0.92 (.94)	0.68 (.82)	0.59 (.89)	4.08*
Total participation	6.99 (2.75)	6.68 (2.74)	6.31 (2.57)	5.32 (2.51)	6.74**
Other leadership	0.22 (.41)	0.23 (.42)	0.27 (.44)	0.17 (.37)	8.34**

\* $p \leq .05$ .

\*\* $p \leq .01$ .

non-graduate scores were greater for male than for female students. For example, the difference between female graduate and non-graduate scores on total participation was 0.31, whereas the male difference between graduate and non-graduate scores on total participation was 0.99. The significant interaction effects suggested that, for the four variables, the relationship between participation in high school extracurricular activities and graduation in teacher education differed for male and female students.

Chi-square analyses, conducted on male and female students' scores separately, were used to examine distributional differences between graduates and non-graduates of the Teacher Education Program on the six categorical variables. The results indicated that, for females, there

were significant differences in the distribution of graduates and non-graduates of the Teacher Education Program on two of the six categorical variables: high school rank (Chi-square = 14.13,  $df = 4$ ,  $p \leq 0.01$ ) and teaching level plans (Chi-square = 4.36,  $df = 1$ ,  $p \leq 0.05$ ). Female students who ranked higher in their high school graduating class were more likely to graduate in teacher education than were lower-ranking students, and females planning to teach at the elementary level, as compared to the secondary level, were also more likely to graduate in teacher education. For males, only teaching level plans was significant (Chi-square=5.53,  $df=1$ ,  $p \leq 0.01$ ). Males who planned to teach at the secondary level were more likely to graduate in teacher education than males planning to teach at the elementary level.

Based on univariate analyses, the variables that would most likely contribute to the prediction of graduation/not graduation in teacher education among the teacher education students in the current study were: participation in sports, non-sport school activities, non-school activities, total participation, leadership in non-school and teacher aide activities, total leadership, academic achievement, humanity/service and extrinsic rewards job characteristics, and teaching level. Significant interaction effects were found on four of the composite variables, suggesting the relationship between these variables and educational attainment was different for male and female teacher education students.

### Results of multivariate analyses

Discriminant analysis was used to examine differences between graduates and non-graduates of the Teacher Education Program when the predictor variables were studied simultaneously. Two separate analyses were conducted on male data and two were conducted on female data. The predictor variables in one analysis, for both males and females, consisted of the composites for the four types of extracurricular participation, the composites of the six types of leadership activities, the four job characteristic composites, and the eight demographic items. The predictor variables in the second analysis, for both males and females, consisted of the same job characteristic and demographic variables as in the first analysis. However, in the second analysis the four participation and six leadership composites were replaced by the total participation and total leadership composites.

In each of the four analyses, a step-wise discriminant analysis was conducted in which the variables were allowed to enter the equation one at a time. The  $E$  to enter was  $\geq 1.0$  and the  $E$  to remove was  $\leq 1.0$ , with Wilks' lambda used to select variables until the entry of an additional variable would not significantly change the  $F$ -approximation. The Box M statistic, used to test for homogeneity among the groups' variance-covariance matrices, was not significant in

any of the four analyses.

Discriminant analysis: Female students In the first analysis using the data on females, 11 of the 22 variables entered and remained at the conclusion of the analysis. The discriminant function was significant at the .001 level, indicating that this combination of variables significantly discriminated between graduates and non-graduates of the Teacher Education Program. The canonical correlation ( $R = .324$ ) indicated that the function accounted for 10.50% of the variance in group membership. The 11 variables, the step of entry, the value of Wilks' lambda, the standardized function coefficient, and the structure coefficient of each of the 11 variables are reported in Table 21 for the first analysis conducted on the data on females. The group centroids and Box M statistic for each analysis are also included with each summary table.

Based on the variables that entered the analysis and the magnitude of the standardized coefficients, the variables that were the best predictors of graduation in teacher education in the first analysis using data on females were ISU grade point average when enrolled in a beginning education course, teacher aide leadership activities, participation in sports, humanity/service job orientation, challenge/leadership job orientation, and transfer status. Females with higher humanity/service job orientations, lower challenge/leadership job orientations, and who transferred to ISU were more likely to graduate

Table 21. Summary table of variables remaining at conclusion of analysis, Box M, and group centroids -- Analysis 1, Female: Study 1

Variable	Step Entered	Wilks' lambda <sup>a</sup>	Standardized function coefficient	Structure coefficient
ISU Grade point average	1	.950	0.765	0.736
Teacher aide leadership	2	.934	0.288	0.329
Sports participation	3	.925	0.266	0.222
Humanity/service	4	.918	0.322	0.236
Challenge/leadership	5	.913	-0.168	-0.086
Transfer status (1,2) <sup>b</sup>	6	.908	-0.211	-0.190
Father's occupation (1,2) <sup>c</sup>	7	.905	0.195	0.108
Teaching level plans (0,1) <sup>d</sup>	8	.902	-0.186	-0.096
Non-school participation	9	.899	0.190	0.244
Extrinsic rewards	10	.897	-0.196	-0.225
Resident status (1,2) <sup>e</sup>	11	.895	-0.117	-0.154

Box M (E value = 0.94,  $p = .62$ ).

Group centroids:  
Graduate = 0.276.  
Non-graduate = -0.423

<sup>a</sup>  $p \leq .001$ .

<sup>b</sup> 1 = transferred; 2 = did not transfer.

<sup>c</sup> 1 = educator; 2 = other employment.

<sup>d</sup> 0 = elementary; 1 = secondary.

<sup>e</sup> 1 = resident; 2 = non-resident.

in teacher education. Additional variables that entered the analysis, although contributing less to the discriminant function, were father's occupation (non-educator), elementary teaching level, non-school participation, lower extrinsic rewards job orientation, and resident status.

The item-to-function correlations, or structure coefficients, provided information about the relationship between each variable and the discriminant function. Because structure coefficients are bivariate correlations between each variable and the discriminant function, their magnitude is not affected by relationships with other variables in the analysis. Based on the magnitude of the structure coefficients, participation in non-school activities and a lower level of extrinsic rewards job orientation had higher correlations with the discriminant function than would be expected from their standardized coefficients. This may be caused, in part, by the relatively high correlations between non-school participation and non-school leadership ( $r = .41$ ), and between extrinsic rewards and challenge/leadership job orientations ( $r = .56$ ).

The differences between the group centroids, or mean discriminant scores, were also examined. The group centroid score for female graduates in teacher education was 0.276, while the group centroid score for female non-graduates in teacher education was -0.432, indicating a moderate degree of separation between the two groups.

The average probability of correctly classifying females was 65.3%. Since the accuracy of prediction is often an overstatement when classification is conducted on the data on which it is based, the probability of correct classification may be lower than 65%. Graduation in teacher education was predicted with greater accuracy than non-graduation. The classification table for this analysis is reported in Table 32, Appendix A.

In the second discriminant analysis using female data, total participation and total leadership were used in the analysis in place of the four participation and six leadership composites. The results of this analysis are reported in Table 22. Nine of the 14 variables entered and remained at the conclusion of the analysis. The discriminant function was significant at the .001 level, and the canonical correlation ( $R = .31$ ) indicated the function accounted for 9.61% of the variance due to group membership. Consistent with the first analysis conducted using female data, ISU grade point average was the strongest predictor of graduation from the Teacher Education Program, followed in order by humanity/service and extrinsic rewards job characteristics, planning to teach at the elementary level, and transfer status. Variables that entered but contributed little to the prediction of graduation were father's employment (non-educator), total leadership, challenge/leadership scores, and resident status.



Table 22. Summary table of variables remaining at conclusion of analysis, Box M, and group centroids -- Analysis 2, Female: Study 1

Variable	Step Entered	Wilks' lambda <sup>a</sup>	Standardized function coefficient	Structure coefficient
ISU Grade point average	1	.950	0.793	0.808
Humanity/service	2	.934	0.377	0.259
Extrinsic rewards	3	.926	-0.222	-0.247
Teaching level plans (0,1) <sup>b</sup>	4	.920	-0.242	-0.105
Transfer status (1,2) <sup>c</sup>	5	.916	-0.235	-0.209
Father's occupation (1,2) <sup>d</sup>	6	.912	0.187	0.118
Total leadership	7	.908	0.195	0.284
Challenge/leadership	8	.907	-0.184	-0.094
Resident status (1,2) <sup>e</sup>	9	.905	0.164	0.123

Box M (F value = 1.17, p = .19).

Group centroids:

Graduate = 0.230.

Non-graduate = -0.351.

<sup>a</sup> p ≤ .001.

<sup>b</sup> 0 = elementary; 1 = secondary.

<sup>c</sup> 1 = transferred; 2 = did not transfer.

<sup>d</sup> 1 = educator; 2 = other employment.

<sup>e</sup> 1 = resident; 2 = non-resident.

An examination of the structure coefficients indicated that total leadership had a higher correlation with the function than variables that entered the analysis earlier. In addition, the step entered by the extrinsic rewards and challenge/leadership job orientations was reversed in the second analysis, possibly reflecting the effects of the moderately high correlation (.35) between these variables.

The group centroid score for female graduates was 0.230, and the non-graduate score was -0.351. The function correctly classified 63.87% of the cases, and predicted graduation with greater accuracy than non-graduation in teacher education. The classification table for this analysis is reported in Table 33, Appendix A.

Hypothesis 1, which stated that, for females, demographic variables would be stronger predictors of graduation in teacher education than participating in high school extracurricular activities or job orientations, was partially supported by the data collected on female students. Four demographic variables remained at the conclusion of both analyses conducted on female data. The best predictor of graduation in teacher education was grade point average when enrolled in Social Foundations of American Education. However, this may be reflective of the academic entrance requirement of the Teacher Education Program ( $\text{GPA} \geq 2.5$ ) or requirements for graduation ( $\text{GPA} \geq 2.0$ ) from Iowa State University rather than a characteristic of individual students, since 6.8% of the females and 9.9% of the males in this study had grade

point averages below 2.0.

Discriminant analysis: Male students In the first analysis using the data on males, 7 of the 22 variables entered the stepwise discriminant analysis and remained at the conclusion of the analysis. The discriminant function was significant at the .001 level, and the canonical correlation ( $R = .321$ ) indicated that the function accounted for 10.3% of the variance in group membership. The summary table, Box M statistic, and group centroids for this analysis are reported in Table 23.

Grade point average and planning to teach at the secondary level were the strongest predictors of graduation in teacher education for males, followed by participation in non-sport school activities, lower empowerment job orientation, non-school leadership activities, leadership in other activities, and humanity/service job orientation. The higher structure coefficient of the leadership in other activities composite indicated a higher correlation with the discriminant function than for either empowerment or non-school leadership.

The group centroid score of male graduates in teacher education was 0.358, and the group centroid for male non-graduates was -0.318. In this analysis, 61.45% of the cases were correctly classified. Table 34, Appendix A reports the classification table for this analysis. Non-graduation was predicted with greater accuracy than graduation in teacher education.

Table 23. Summary table of variables remaining at conclusion of analysis, Box M, and group centroids -- Analysis 1, Male: Study 1

Variable	Step Entered	Wilks' lambda <sup>a</sup>	Standardized function coefficient	Structure coefficient
ISU Grade point average	1	.967	0.575	0.546
Teaching level plans (0,1) <sup>b</sup>	2	.937	0.576	0.509
Non-sport school participation	3	.921	0.392	0.427
Empowerment	4	.907	-0.441	-0.254
Non-school leadership	5	.903	0.188	0.192
Other leadership	6	.900	0.193	0.274
Humanity/service	7	.897	0.179	0.137
Box M (E value = 1.31, p = .13).		Group centroids: Graduate = 0.358. Non-graduate = -0.318.		

<sup>a</sup>  $p \leq .001$ .

<sup>b</sup> 0 = elementary; 1 = secondary.

The results of the second analysis conducted on male data are presented in Table 24. Four of the 14 variables entered and remained at the conclusion of the analysis. The discriminant function was significant at the .001 level and the canonical correlation ( $R = .311$ ) indicated that 9.7% of the group membership variance was accounted for. The first two variables that entered the function were the same as the first analysis with male data, followed by total participation in high school activities, and lower empowerment job orientation. With the exception of female college grade point average, the magnitude of both the standardized and structure coefficients was greater for male than for female education students, indicating the individual variables used in the analyses were better predictors of graduation/non-graduation in teacher education for male than for female students.

In the second analysis, the group centroid for male graduates was 0.346 and the group centroid for male non-graduates in teacher education was -0.308. In this analysis, 60.1% of the cases were correctly classified. The classification table for this analysis is reported in Table 35, Appendix A. Thus, although the individual variables were better predictors for male than for female education students, the overall vector of variables classified a greater proportion of cases correctly for females.

Hypothesis 2, which stated that, for males, participation in high school extracurricular activity variables would be stronger predictors of

Table 24. Summary table of variables remaining at conclusion of analysis, Box M, and group centroids -- Analysis 2, Male: Study 1

Variable	Step Entered	Wilks' lambda <sup>a</sup>	Standardized function coefficient	Structure coefficient
ISU Grade Point Average	1	0.967	0.613	0.564
Teaching level plans (0,1) <sup>b</sup>	2	0.937	0.605	0.527
Total participation	3	0.918	0.515	0.439
Empowerment	4	0.903	-0.418	-0.263

Box M (F value = 1.68,  $p = .08$ ).

Group centroids:

Graduate = 0.346.

Non graduate = -0.308.

<sup>a</sup>  $p < .001$ .

<sup>b</sup> 0 = elementary; 1 = secondary.

graduation in teacher education than would be demographic variables or job characteristic variables, was partially supported by the data collected on male teacher education students. Three of the seven variables that entered and remained in the first analysis were high school participation variables. In the second analysis conducted on male data, total participation was one of four variables that made a significant contribution to the prediction of graduation. Similar to the results using female data, the large contribution of college grade point average may reflect entrance requirements of the College of Education.

#### Study 2: Relationships Between High School Extracurricular Participation and Selected Characteristics of Teacher Education Graduates

This section presents the results of testing the four research hypotheses in Study 2. Each research hypothesis is presented, followed by the results of the analysis used to examine the hypothesis.

Hypothesis 1a: There is a significant difference in total high school extracurricular participation (reported retrospectively) among teacher education graduates who were followed-up five years after their graduation and compared on their five-year employment pattern. Specifically, graduates who taught continuously will have a significantly higher mean participation rate.

Hypothesis 1b: There is a significant difference in the total high school participation (reported retrospectively) of male and female

graduates of the College of Education. Specifically, females will have participated more than males.

Hypotheses 1c: There will be significant interaction between gender and five-year employment patterns on their mean high school participation level. Specifically, the effect of participation on employment pattern will be greater for male than for female graduates.

Hypotheses 1a-1c were tested by performing a two (gender) by four (employment pattern) analysis of variance (ANOVA), with total high school participation as the dependent variable. The results are reported in Tables 25 and 26. There was no significant difference in

Table 25. Total high school participation by five year employment pattern and gender: Study 2

Employment pattern	Female			Male		
	N	Mean	S.D.	N	Mean	S.D.
Taught continuously	66	20.09	10.36	18	19.94	5.58
Never taught	21	19.81	6.93	13	21.54	12.71
Taught and left	17	23.65	7.79	12	21.42	8.83
Other combination	28	20.68	9.36	5	12.00	10.20

Table 26. Analysis of variance of total high school participation scores by employment pattern and gender: Study 2

Source of variation	df	Mean square	F Value	Significance
Employment pattern	3	77.80	.89	.447
Gender	1	49.52	.57	.452
Pattern x Gender	3	109.77	1.26	.291
Residual	172	87.31		



total participation scores among the four employment patterns ( $F(3,172) = 0.89, p = .45$ ). There also was no significant difference in total participation scores between male and female graduates ( $F(1,172) = 0.57, p = .45$ ). In addition, there was no significant interaction between employment pattern and gender ( $F(3,172) = 1.26, p = 0.29$ ). Therefore, the data did not support Hypothesis 1 of Study 2.

Hypothesis 2: There is a positive relationship between the degree of involvement in high school activities reported five years following graduation from the Teacher Education Program and amount of adult activity participation. This relationship will be positive for the total sample and for male and female graduates tested separately.

Table 27 presents the correlations of the total high school participation scores with the total adult activity participation scores for the total sample and for male and female graduates separately (the

Table 27. Correlations of total high school participation with total adult activity participation: Study 2

	N	Correlation	Probability
Total sample	176	.18	.01
Female	128	.20	.01
Male	48	.14	.17

means and standard deviations for these variables are found in Tables 16 and 17). The hypothesis that there is a positive relationship between high school activity participation and adult activity participation was supported for the total sample ( $r = .18$ ,  $p \leq .05$ ) and for female graduates ( $r = .20$ ,  $p \leq .05$ ), but was not supported for male graduates ( $r = .14$ ,  $p = .17$ ). Although low, the significant positive correlation for females suggests a greater tendency for female graduates with higher levels of high school participation to participate in adult activities than females with lower levels of high school participation. No significant difference was found between the male and female graduates' correlation coefficients ( $z = 0.33$ ,  $p = 0.37$ ).

Hypothesis 3: There is a positive relationship between the extent of involvement in high school extracurricular activities reported retrospectively by respondents of the 1991 Five-Year Follow-up Survey and the extent of serving as an advisor, coach, or supervisor for activities by graduates who are current or former teachers. This relationship will be positive for the total sample and for male and female graduates tested separately.

The correlations between total high school activity participation scores and total advising or coaching scores for the total sample and for male and female graduates are reported in Table 28 (the means and standard deviations for these variables are found in Tables 16 and

Table 28. Correlations of total high school participation with total advising/coaching: Study 2

	N	Correlation	Probability
Total sample	107	.33	<.001
Female	74	.31	<.001
Male	33	.44	.010

18). The hypothesis of a positive relationship between high school extracurricular participation and involvement as an advisor, coach, or supervisor to activities by current or former teachers was supported for the total sample ( $r = .33$ ,  $p \leq .001$ ), for female graduates ( $r = .31$ ,  $p \leq .001$ ), and for male graduates ( $r = .44$ ,  $p \leq .01$ ). Graduates, both male and female, with higher levels of high school extracurricular participation had higher levels of involvement as advisors or coaches when employed as teachers five years after graduation in teacher education. The difference between the female and male correlation coefficients was not statistically significant ( $z = 0.66$ ,  $p = .26$ ).

Hypothesis 4: There is a positive relationship between the extent of serving as an advisor, coach, or supervisor to school activities as reported by current teachers on the 1991 Five-Year Follow-up Survey and satisfaction with teaching. This relationship will be positive for the total sample and for male and female graduates tested separately.

Table 29 presents the correlations between involvement of current teachers as advisors or coaches to activities and satisfaction with

Table 29. Correlations of total advising/coaching with job satisfaction among current teachers: Study 2

	N <sup>a</sup>	Correlation	Probability
Total sample	79	.24	.02
Female	59	.22	.05
Male	20	.54	.01

<sup>a</sup> Only current teachers who responded to the advising/coaching and job satisfaction items were included in the analysis.

teaching (the means and standard deviations for these variables are found in Tables 15 and 18). The hypothesis that there is a positive relationship between advising or coaching school activities and satisfaction with teaching was supported for the total sample ( $r = .24$ ,  $p \leq .02$ ), for females ( $r = .22$ ,  $p \leq .05$ ), and for males ( $r = .54$ ,  $p \leq .01$ ). For both male and female graduates, higher levels of advising, coaching, or supervising school activities were related to higher levels of satisfaction with teaching. The difference between the correlation coefficients for male and female graduates was not statistically significant ( $z = 1.36$ ,  $p = .86$ ).

### Summary of Results

The results of the statistical analyses used to test the hypotheses of Study 1 and Study 2 were presented in Chapter IV. Both univariate and multivariate analyses were used in Study 1 to test the relationships among educational attainment and three types of predictor variables. Study 2 tested relationships between high school extracurricular participation and selected characteristics of teacher education graduates.

#### Study 1

The results of the univariate analyses indicated that graduates had significantly higher scores on 9 of the 18 continuous predictor variables: participation in sports, non-sport school activities, non-school activities, total participation, leadership in non-school activities, teacher aide activities, total leadership, grade point average, and humanity/service job orientation. Non-graduates had significantly higher scores on only the extrinsic rewards job orientation composite. There were also distributional differences between graduates and non-graduates on two of the categorical predictor variables: planned teaching level, and high school rank. Females planning to teach at the elementary level were more likely to graduate, while males planning to teach at the secondary level were more likely to graduate in teacher education. In addition, students with higher high school rank were also more likely to complete the Teacher Education Program.

Discriminant analysis was used to study the predictive strength of the variables when tested simultaneously. In all analyses, for both male and female students, the best predictor of graduation in teacher education was grade point average when enrolled in a beginning education course.

The best predictors of graduation in teacher education for females, following grade point average, were: participation in teacher aide activities, sports participation, lower extrinsic and challenge/leadership job orientations, planning to teach at the elementary level, transfer status, non-school participation, father's occupation (non-educator), total leadership, and resident status.

For males, following college grade point average, the best predictors of graduation were: secondary teaching plans, non-sport school participation, total participation, lower empowerment job orientation, non-school leadership, other leadership, and humanity/service job orientation.

## Study 2

Hypothesis 1 of Study 2 tested differences among five-year employment patterns of teacher education graduates and between male and female graduates when compared on the total amount of high school activity participation reported retrospectively by graduates of the Teacher Education Program. There were no significant main effects for

either employment pattern or gender, and there was no significant interaction. The data therefore did not support the research hypothesis.

The relationship between participation in high school activities and amount of adult activity participation by teacher education graduates was significant for the total sample and for females, but this relationship was not significant for males (Hypothesis 2). Relationships between total high school activity participation scores and total advising or coaching scores were significant for the total sample, and for female and male graduates tested separately (Hypothesis 3).

Hypothesis 4, which stated there is a positive relationship between serving as an advisor, coach, or supervisor to school activities and satisfaction with teaching, was also supported for the total sample, and for female and male graduates tested separately.

## CHAPTER V. SUMMARY, DISCUSSION, AND RECOMMENDATIONS

This chapter presents a summary and discussion of the major findings of the current study. In addition, recommendations and directions for future research are presented.

The overall study had two parts: Study 1 and Study 2. Both studies used data collected as part of a longitudinal research project of the Research Institute for Studies in Education (RISE), College of Education, Iowa State University. This study extended previous research by predicting the educational attainment of a specific population of students, prospective teacher education students, and by evaluating relationships separately for male and female students.

### Summary and Discussion: Study 1

Study 1 used existing data collected on 2,008 students who were enrolled in a beginning education class between Fall, 1981 and Spring, 1986. Certain demographic characteristics, including graduation status, were obtained from each student's permanent record card.

The purpose of Study 1 was to investigate which variables, among three types of predictor variables, predict graduation from the ISU Teacher Education Program. The three types of predictor variables were: (a) participation and leadership in high school extracurricular activities, (b) demographic characteristics of education students, and (c)



job characteristics sought by prospective teacher education students. Because previous research has suggested differences among predictors of educational attainment for male and female teacher education students, the current study tested male and female students separately.

Composite variables were formed from individual items to study participation and leadership in different types of activities, as well as preference for different types of job characteristics. There were four different types of high school participation variables, six types of high school leadership variables, and four types of job characteristics. Two additional variables, total participation and total leadership, were computed to measure the extent of participation and leadership in high school activities for each student enrolled in a beginning education course. In addition to the 16 composite variables, there were 8 demographic characteristic items. These 24 predictor variables were used to predict the dependent variable (educational attainment) among male and female students.

Relationships between the predictor variables and educational attainment were tested using both univariate and multivariate statistical techniques. The results of testing each variable separately using univariate techniques revealed that, compared to non-graduates, graduates in teacher education were more likely to participate in high school sports activities, non-sport high school activities, and non-school activities. Graduates in teacher education were also more likely to

have served as leaders in non-school activities and to have worked as teacher aides or coaches in preschools, elementary, and secondary schools. In addition, students who completed the Teacher Education Program had higher levels of total participation and total leadership in activities than did students who did not complete the program. Graduates also had higher academic achievements than non-graduates in teacher education. Moreover, males who planned to teach at the secondary level rather than the elementary level, and females planning to teach at the elementary level, were more likely to graduate in teacher education.

Students who graduated in teacher education had different job expectations than did non-graduates. They wanted the opportunity to help and serve others and were less concerned about salary, benefits, or advancement than were non-graduates in teacher education.

Multivariate analyses were also conducted. The results of the multivariate analyses will be discussed for each of the three types of predictor variables.

#### Extracurricular participation

Findings of the current study support previous research that suggests the relationship between activity participation and educational attainment is different for male and female participants. One finding was that for females, participation in teacher aide activities while in high school

contributed significantly to the prediction of graduation in teacher education. This relationship is in harmony with findings of Roberson, Keith, and Page (1983), who concluded that during their high school years female teacher education students have more interaction than males with younger school-aged children and participate to a greater extent in teaching activities involving groups of children. In addition, according to Roberson et. al, females are more likely to chose teaching as a career for child-centered reasons, whereas males express a desire to teach specific subject matter. The results of the current study suggest that high school programs in which students have the opportunity to become involved in the educational process as teacher aides, assistant coaches, or activity supervisors could increase graduation rates in teacher education programs by female students.

An alternate explanation for the relationship between teacher aide activities and graduation in teacher education could be that high school students who participate as teacher aides already have increased interest in teaching. Nevertheless, higher rates of participation in teacher aide activities did contribute to the prediction of graduation among female students, and additional benefits may be derived from activities such as cadet teacher programs. For example, needed assistance is provided to classroom teachers, and potential future teachers have an opportunity to work in classrooms or other educational settings before entering college themselves.

Evidence that a need exists for increased contact with children is provided from responses by graduates of the ISU Teacher Education Program when asked how to improve the program. Graduates most frequently mentioned increased contact with children, and specifically mentioned classroom experiences earlier in their college program.

Another significant contributor to graduation for females was sports participation. This finding is contrary to earlier research by Hanks and Eckland (1976), who concluded that sports activities for females appeared to neither depress nor enhance educational goals and the attainment of these goals. It is possible that recent social changes (i.e., the Women's Movement) have increased the social acceptability of female sport participation, and that, through a heightened identification with the high school peer structure, high school female athletes have an increased tendency to plan a future career in the education profession. In addition, extracurricular activities, both sport and non-sport activities, are usually supervised by school personnel who are academically oriented and who may serve as role models for students. A need exists for further research that clarifies relationships between female sport participation and educational outcome variables. Research that examines different types of sport activities would be particularly beneficial.

The findings for male students differed from those for female students. Participation in non-sport school activities and total

participation were the best activity participation predictors of graduation in teacher education for male students. These results are consistent with previous research conducted on all male data (Hanks & Eckland, 1976; Otto, 1975, 1976; Snyder, 1969; Spady, 1970, 1971). Two additional variables, non-school activity leadership and other leadership, also entered the analysis but contributed little to the prediction of graduation. Neither sports participation nor sports leadership contributed significantly to the prediction of graduation in teacher education for male students; this is in harmony with Hanks and Eckland's findings.

Landers, Feltz, Brouse, & Obermeier (1978) reported that many coaches of high school boys' sports encourage athletes to participate only in athletic activities. In larger high schools, athletes may even specialize in a single sport. Discouraging non-sport extracurricular involvement may promote athletes' short-range athletic goals, but according to previous research (Feltz & Weiss, 1984; Landers et. al, 1978; Spady, 1970, 1971) and the results of the current study, this practice would seem detrimental to male athletes' long-term academic goals.

Several researchers have attempted to explain the relationship between high school activity participation and higher educational goals and their attainment among participants. Otto (1982) theorized that the extracurriculum, like an academic curriculum, provides participants

with the opportunity to acquire and develop skills that are useful in later life situations. Other researchers have attributed the positive educational effects of school activities among male participants to higher peer status (Spady, 1970, 1971), or to increased contact with teachers which, in turn, may lead to better grades and consequently higher attainment (Hanks & Eckland, 1976).

The results of the current study do not lend support to these theories of educational attainment by activity participants as applied uniformly to males and females. If skills that are useful in modern society, such as interpersonal skills, are learned, it would seem likely that female and male students in the same activity would acquire and develop similar skills. Thus, one would not expect to find different predictors for males vs. females. Of course, the results were just the opposite.

In addition, female students had higher rates of participation than did males in all of the extracurricular composites with the exceptions of sports participation and sports leadership. If increased teacher contact leads to greater educational aspirations and their subsequent attainment, the results should have indicated a greater relationship between total participation and graduation in teacher education among female students.

Furthermore, the peer status theory would not seem plausible, since at the time the majority of the students in this sample were in high

school, participation in sports would have been a major source of increased peer status for males. Thus sports participation would have been a logical predictor of educational attainment for the males in the study, but not for the females.

One possible explanation for finding different predictors for males and females in the current study is that male and female high school students, who are socialized differently in our society, may acquire different skills and/or psychosocial characteristics from participating in the extracurriculum. Success in teacher education may require some qualities which are typical of females and others which are typical of males. It may be that in the extracurriculum members of each group have an opportunity to acquire those qualities which are more typical of the other. For example, according to Gilligan (1983), females derive their identity from relationships and from an ethic of care and responsibility. In contrast, Gilligan hypothesized that males base their identity on rights, autonomy, and hierarchical thinking. Based on Gilligan's theory of human development, females may develop certain interpersonal skills and relationships outside of the formal or informal school curriculum. On the other hand, males, who may be less focused on social relationships and interactions, may acquire more interpersonal skills from participation in the high school extracurriculum. Well-developed interpersonal skills would appear to be important characteristics for students in teacher education.

In addition, females may gain experiences from athletic participation that relate more to male than female development, according to Gilligan's viewpoint (1983). That is, the competitiveness of sports and the derivation of identity more from power than from relationships would appear to be more typical of male than of female developmental experiences. Such characteristics may be instrumental in successfully completing the varied requirements of a teacher preparation program. Whatever the underlying reason, the findings of this study indicate that considerable differences exist between male and female students concerning relationships between activity participation and educational attainment in teacher education.

#### Demographic characteristics

For both male and female students, the best predictor of graduation in teacher education was grade point average when enrolled in a beginning education course. As discussed previously, this result may reflect entrance requirements of the Teacher Education Program, rather than characteristics of the students in the study.

Teaching level plans of the prospective teacher education students, either elementary or secondary, also entered each analysis for both males and females. Males who planned to teach at the secondary level and females planning to teach at the elementary level were more likely to graduate in teacher education. These results cannot be



attributed to academic differences, because the college grade point average of elementary male students did not differ significantly from that of secondary males ( $t=0.00$ ,  $df=290$ ,  $p=.998$ ). In addition, the college grade point average of male elementary students did not differ significantly from the college grade point average of female elementary students ( $t=0.26$ ,  $df=544$ ,  $p=.79$ ). Therefore, factors other than academic achievement would seem to contribute to the lower rate of graduation in teacher education among male elementary majors.

The results of the current study are in agreement with previous findings of Book and Freeman (1986), who further contend that while secondary education students may have a stronger academic background in terms of courses taken when they enter college, they may also have a limited range of experience in working with school-aged youngsters. According to Book and Freeman, secondary teacher education programs should provide early, structured field experiences in schools for education students. As discussed previously, participation by high school students in teacher aide activities would also serve to increase secondary students' limited background with children.

The relationship between graduation in teacher education and demographic characteristics of prospective education students differed for male and female students on the remaining demographic characteristics. No other demographic characteristic variable entered either of the two male analyses. For females, however, three additional demographic

variables (transfer status, father's occupation, and resident status) entered each analysis.

The first of these variables to enter each female analysis was transfer status. Female students who transferred to ISU were more likely to graduate in teacher education within four years after enrollment in a beginning education course than female students who started college at Iowa State. This finding could result from the requirement that students achieve a GPA of 2.0 or better to transfer into ISU. Since college grade point average was the overall strongest predictor of graduation in teacher education, it seems logical that a variable partially based on grade point average would also predict graduation. A second possible explanation is that transfer students are more certain of their career choice and select a college that best fulfills their plans. Supporting evidence of this explanation is provided by the significant negative correlation between age and transfer status for females ( $r = -.35$ ,  $p \leq .001$ ). This correlation indicates that older female students, who may have more definite career goals, are more likely to have transferred than younger female students.

Second, in the present study, female students whose fathers were employed in occupations outside of education were more likely to graduate in teacher education than daughters of educators. In an earlier study, Johnson (1983) found that mother's occupation, rather than father's occupation, had a greater influence on freshmen education

students' choice of teaching as a career. Johnson's research, however, was not extended to graduation in teacher education. It seems possible that parental influence on career choice decreases between the freshman year in college and graduation. Parental influence on educational attainment among teacher education students would seem a likely topic for future research.

The final demographic variable that entered both female analyses, resident status, contributed little to the prediction of graduation, and the results of the two analyses were conflicting, possibly due to correlations with participation variables.

#### Job characteristics sought by education students

The relationship between the four job characteristics sought by prospective education students and graduation in teacher education was also different for male and female students. The results of the current study generally support previous research conducted on job orientations of teacher education students.

Consistent with findings reported in the literature (Book & Freeman, 1986; Jantzen, 1981; Keith, 1980; Lortie, 1975), female students who graduated in education had stronger service or interpersonal motives than non-graduates. Although contributing only weakly to the prediction of graduation among males, humanity/service job orientation was the second-most important predictor for females in

the second analysis conducted on female data. The results of this study suggest that females continue to select teaching as a career to work with people and to serve others.

Lower extrinsic rewards scores contributed significantly to the prediction of graduation for females, but extrinsic rewards did not enter the male analyses. Females who placed less emphasis in future employment on salary, social status, fringe benefits, and advancement opportunities were more likely to graduate in teacher education. These results are similar to Keith's (1980) study of characteristics of male and female teacher education graduates.

Consistent with Young's (1989) findings, female students rated leadership/challenge job orientations slightly higher than males. However, lower scores on the challenge/leadership composite for females contributed to differences between graduates and non-graduates in teacher education. The challenge/leadership job characteristic did not significantly differentiate graduates from non-graduates among males.

For male students, lower scores on the empowerment job characteristic variable were predictive of graduation in education. Males who graduated in teacher education planned to seek jobs that involved less leadership, were less adventurous or challenging, and where they would have less control over others. This variable did not differentiate significantly between graduates and non-graduates among females. Using a combined sample of male and female teacher education students, Bland (1986) found that graduates differed from

non-graduates on only the empowerment/autonomy job characteristic.

In summary, the best predictor among the job characteristic variables for females was higher levels of humanity/service job orientations, and for males the strongest predictor was lower levels of empowerment or autonomy job orientation. These results are in agreement with previous research conducted on job characteristics sought by teacher education students.

The results of Study 1 suggested that: (a) College grade point average when enrolled in a beginning education course was the strongest predictor of graduation for both male and female teacher education students; (b) After college grades, variables predicting graduation differed for female and male teacher education students; (c) For females, following college grades, the three best predictors of graduation in teacher education were participating as teacher aides while in high school, humanity/service job orientations, and sports participation; and (d) For males, the three best predictors of graduation after college grades were secondary teaching level, non-sport school participation, and total participation. Although the percentage of variance that was predicted in the four analyses was small, the results are stable due to the large sample size and can be assumed to be more accurate than results from studies with smaller sample sizes.

### Summary and Discussion: Study 2

Study 2 used data collected in Spring, 1991 on 182 teacher education graduates who were surveyed five years following their graduation from the ISU Teacher Education Program. Included in the sample were 138 female and 48 male graduates. Almost 59% of the teacher education graduates reported they were currently teaching.

The purpose of Study 2 was to examine relationships between high school activity participation by graduates who were followed-up five years after graduation from the Teacher Education Program and selected characteristics of these graduates. Characteristics selected for study were: employment pattern since graduation; adult activity participation, involvement as an advisor, coach, or sponsor to school activities by current and former teachers, and satisfaction with teaching by current teachers as related to advising or coaching.

For purposes of the current study, composite variables were formed for total high school extracurricular participation (measured retrospectively), total adult activity participation, and total advising or coaching activities by current and former teachers. Female graduates reported higher rates of high school activity participation, while males reported higher rates of both adult activity participation and advising or coaching activities.

In Study 2, four hypotheses were tested. The results of each of the four hypotheses will be presented and discussed separately.

The first hypothesis of Study 2 investigated differences in total high school extracurricular participation by graduates in education among four employment patterns and between female and male graduates of the Teacher Education Program. Based on their five-year employment pattern, the graduates were classified into four groups. These groups were: taught continuously, never taught, taught and left, and other combinations of employment. The differences among the five-year employment patterns of the graduates and between male and female graduates were tested on total high school extracurricular participation. The results indicated there were no significant differences in total participation among the four employment patterns or between male and female graduates. In addition, no significant interaction between employment pattern and gender was found. These results were in contrast to Otto's (1976) findings of a relationship between high school activity participation and occupational attainment when using an all male sample.

The results of the current study suggest that other variables related to employment patterns of teacher education graduates are operative in differentiating employment paths among teacher education graduates. As part of the Five-Year Follow-up Survey, non-teachers in the current study were asked to indicate reasons that contributed to their decisions not to teach. The responses most frequently reported were inability to find a teaching position, inadequate salaries in the teaching profession,

and family obligations.

Previous research that examined teacher career paths has suggested several explanations why certain graduates remain in teaching and other graduates seek employment outside of education. Factors found to have a positive influence on teacher retention are higher teacher salaries and benefits (Seyfarth & Bost, 1986), elementary teaching level (Keith, Warren, & Dilts, 1983), lower levels of academic achievement (Schlechy & Vance, 1981), and satisfaction with student teaching (Sweeney, 1987). Moreover, female teachers and teachers from low to middle socioeconomic backgrounds are more likely than males or teachers from higher socioeconomic backgrounds to remain in teaching (Dworkin, 1980; Vance & Schlechy, 1982). Teacher retention appears to be a complex process involving numerous diverse personal, employment, and socioeconomic factors.

The second hypothesis of Study 2 tested the relationship between high school activity participation and adult activity participation by graduates who were surveyed five years after graduating from the ISU College of Education. Correlation coefficients were calculated to examine relationships between total high school activity participation and adult activity participation for the total sample and for male and female graduates tested separately. The results indicated a significant positive correlation between high school activity participation and amount of adult activity participation for the total sample and for



female graduates but not for male graduates. Although the correlations were modest, it may be inferred that there is some relationship between the socializing impact of high school experiences and later life behaviors of teacher education graduates.

The finding of a positive relationship for the total sample was in agreement with results of Lindsay (1984), who found that high school participation had the strongest relationship with young adult participation by individuals who were non-students five years after high school graduation. The results of the current study provide evidence that this relationship extends up to five years beyond college graduation.

One plausible explanation for the relationship between high school and adult participation is that involvement in high school activities provides participants with attitudes, incentives, and personal skills necessary for effective adult participation. An alternative interpretation is that some unknown factor determines both adolescent and adult participation. One possible factor is that some individuals are by nature more likely to be participants in activities and to join organizations. The results of the current study do not resolve the causes of this relationship, nor do they provide an explanation why high school participation was not related to adult participation among male students.

An additional point of interest in the current study is that, although females reported higher levels of high school extracurricular

participation, males reported higher levels of adult activity participation. This may be related to research on powerlessness among high school students that has indicated an inverse relationship between the number of extracurricular activities in which students were involved and both societal and high school feelings of powerlessness (Burbach, 1974). In Burbach's study, high school females reported higher levels of activity participation and lower levels of powerlessness feelings than did males. Burbach interpreted his results as indicating that as students participate in their social system, they tend to feel more in control of events in their lives. Because the findings were correlational, it is also possible that students who felt more in control of events in their lives were more likely to participate in extracurricular activities. Applying this interpretation to the current study, one possible explanation for the reverse in level of activity participation reported between high school and adult activity participation by males and females could be that in high school females have greater feelings of control over their social environment and participate in more activities in that environment. In contrast, positions of power in the adult society are generally more readily accessible to males than females and males tend to feel more in control of their environment, which may in turn lead to increased participation in adult activities.

An additional explanation for the increased participation of males in adult activities could center on the fact that there are more

opportunities for adult male participation. Whether related to male dominance in adult society, or number of opportunities, or other as yet unknown reasons, the reversal of participation rates by males and females from high school to adulthood would seem to be a subject in need of future research.

The third hypothesis of Study 2 examined the relationship between total high school activity participation and involvement of current or former teachers as advisors, coaches, or sponsors of school activities. This relationship was significant for the total sample, and for female and male graduates tested separately.

It would seem logical that graduates with higher levels of high school activity participation would be more likely to serve as advisors or coaches to activities when employed as teachers. The results of this study suggest that by encouraging high school extracurricular participation by students planning a teaching career, the pool of teachers who would serve as advisors, coaches, or sponsors of activities might conceivably be increased.

Consistent with the rate of participation in adult activities, males also reported higher levels of advising and coaching activities. The reasons presented earlier for higher levels of male adult activity participation might also be valid for increased involvement as advisors or coaches to activities by current and former male teachers. In addition, there is the possibility that males seek additional school duties

for the monetary rewards of advising and coaching. An additional explanation for the higher rate of advising and coaching among male teachers, as compared to females, is that a greater proportion of males are teaching at the secondary level where there are more opportunities to advise, coach, or sponsor activities. Further research, using multivariate statistical techniques, would be helpful in examining relationships among high school activity participation, adult activity participation, and involvement of teachers as advisors, coaches, or sponsors of school activities.

The final hypothesis of Study 2 investigated relationships between involvement of current teachers as advisors, coaches, or sponsors of school activities and satisfaction with teaching. Job satisfaction was measured by nine items that asked graduates to indicate how satisfied they were with various aspects of teaching. The relationship between serving as an advisor or coach and satisfaction with teaching was positive for the total sample and for male and female graduates tested separately. This relationship suggests that, for the teacher education graduates who were teaching at five years following graduation, teacher satisfaction increased as involvement as advisors, coaches, or sponsors of school activities increased. This is contrary to the prevailing belief that increased involvement with non-teaching assignments is associated with decreased satisfaction with teaching. These results raise certain questions about how satisfaction with teaching is related to other

aspects of teaching as a career.

Research has indicated that teachers enter the teaching profession to work with students and to help serve others. Darling-Hammond (1984) has maintained that teacher satisfaction is declining due, in part, to a decrease in intrinsic rewards derived from teaching. With an emphasis in recent years on conformity to prescribed objectives at the expense of more creative forms of teaching, dissatisfaction by teachers has tended to increase due to an inability of teachers to respond to individual students' needs. It seems possible that satisfaction with teaching may be fostered by increased involvement with students while acting as an advisor, coach, or sponsor of school activities.

An additional explanation for the relationship between teacher satisfaction and serving as an advisor or coach to school activities is the extra pay teachers receive for additional duties. A further incentive might include a lightened teaching schedule for activity advisors and coaches.

Furthermore, person-environment interaction theories maintain that as contact with the environment increases, satisfaction with that environment tends to increase (Astin, 1977). Thus, it seems possible that increased contact with the school environment, specifically contact with students outside of the classroom, may actually increase rather than decrease satisfaction with teaching as a career.

The results of Study 2 suggested that: (a) When compared on their total high school activity participation, teacher education graduates did not differ on their five-year employment pattern or by gender; (b) Participation in high school extracurricular activities was positively related to adult activity participation for female but not for male teacher education graduates; (c) Participation in high school activities was positively related to advising, coaching, or sponsoring activities for both male and female education graduates; and (d) Serving as an advisor, coach, or sponsor of school activities was positively related to satisfaction with teaching for both female and male graduates who were currently teaching.

#### Recommendations for Future Research

The following recommendations for future research are based on the findings of the current study. General considerations for future research are considered first, followed by specific research topics.

Results of the current study revealed differences among predictors of educational achievement for male and female students who were enrolled in a beginning education course. Gender differences were also evident in the extent of activity participation both in high school and in adult activity participation. Therefore, it seems apparent that research focusing on both teacher education students and extracurricular participation should be conducted on each gender separately.

In order to clarify relationships among variables that predict educational attainment in teacher education and other careers, longitudinal multivariate investigations are needed. Longitudinal designs permit researchers to follow students' educational aspirations and achievements over time, such as from early high school through college.

Three recommendations derive specifically from Study 1. First, the analyses conducted to predict graduation in teacher education should be replicated with the sample split by teaching level instead of gender (i.e., elementary vs. secondary) with gender as one of the demographic predictor variables. It is possible the differences between male and female teacher education students were due to the large proportion of females planning to teach at the elementary level and the high proportion of males planning secondary teaching careers. An additional research design would be to divide the sample into four groups by gender and teaching level. The analyses could then be conducted for elementary females, secondary females, elementary males, and secondary males.

Second, the intercorrelations between the participation and leadership variables would be eliminated by collecting participation data on a continuous scale by level of participation for each activity similar to the high school participation variables in Study 2.

Third, additional predictor variables should be included in the analyses to increase the amount of variance accounted for and to increase the accuracy of prediction. Based on previous research,

variables for consideration are former teacher influences, high school size, self-concept, motivation to teach, effect of working, and sociability. For example, Richards (1960) concluded that the most important factor in choosing teaching as a career was the influence of former teachers. When studying extracurricular participation, high school size is an important variable because students in small schools participate in a greater number and variety of activities than do students in larger schools. In addition, satisfaction patterns from participation have been shown to be quite different for students in large schools when compared to small schools (Barker & Gump, 1964). Previous research has also indicated that teachers with higher levels of self-confidence and who have more social abilities are more satisfied with teaching and have higher retention rates in the profession (Chapman & Lowther, 1982).

Other recommendations that follow from the findings of the current studies include research that examines relationships between female athletic participation and various outcome variables such as educational achievement and attainment. Recent social changes have increased the social acceptability of female sport participation, but according to Kane (1988), type of sport participation produces a differential status level among female as compared to male athletes. Therefore, further research that investigates the role of participation in the female attainment process should differentiate between type of sport participation.



In the current study, there were gender differences on the amount of high school participation, adult activity participation, and involvement of teachers as advisors and coaches to school activities. Future research is needed to clarify relationships among these three variables.

Educational attainment by teacher education students is a complex process involving both characteristics of the students themselves and prevailing social as well as economic conditions. Participation in extracurricular activities is also a complex research topic since students self-select themselves into or out of activities. Preexisting differences between participants and nonparticipants may account for differences between the groups, rather than the act of participation itself. Therefore, results should be interpreted with caution when conducting research on both extracurricular participation and characteristics of teacher education graduates.

Nevertheless, the results of this study indicate that there are decided differences in the factors that predict graduation in teacher education for male and female students. Moreover, the results suggest that extracurricular activity participation may play a role in the completion of the Teacher Education Program by prospective teacher education students. Finally, positive relationships among high school activity participation, adult activity participation, and involvement of teachers as activity advisors or coaches suggest that the effects of certain developmental experiences in high school may continue beyond college and into adulthood.

## REFERENCES

- Adler, M.J. (1983). Paideia problems and possibilities. New York: Macmillan.
- Andrew, M.D. (1983). The characteristics of students in a five-year teacher education program. Journal of Teacher Education, 34(1), 20-23.
- Astin, A.W. (1977). Four critical years. San Francisco: Jossey-Bass.
- Atherton, F. (1981). Community college student performance in Florida Universities. Tallahassee, FL: Florida State University Community College Coordinating Board. (ERIC ED 203 960).
- Baird, L.L. (1969). Big school, small school: A critical examination of the hypothesis. Journal of Educational Psychology, 60, 253-260.
- Barker, R.G., & Gump, P.V. (1964). Big school, small school: High school size and student behavior. Stanford, CA: Stanford University Press.
- Berzonsky, M.D. (1981). Adolescent development. New York: Macmillan.
- Biernat, N.A., & Klesse, E.J. (1985). The third curriculum: Student activities. Reston, VA: National Association of Secondary School Principals.
- Bland, Z.L. (1986). Career plans of students enrolled in a beginning teacher education class at Iowa State University. Doctoral dissertation, Iowa State University, Ames, IA.
- Bloland, P.A., & Selby, T.J. (1980). Factors associated with career change among secondary school teachers: A review of the literature. Educational Research Quarterly, 5(3), 13-24.
- Boatwright, M.A. (1988). A factor analysis approach to job characteristic items of Iowa State teacher education students and graduates using selected variables. Doctoral dissertation, Iowa State University, Ames, IA.

- Book, C.L., & Freeman, D.J. (1986). Differences in entry characteristics of elementary and secondary teacher candidates. Journal of Teacher Education, 37(2), 47-51.
- Bray, J.H., & Maxwell, S.E. (1982). Analyzing and interpreting significant MANOVAs. Review of Educational Research, 52, 340-367.
- Brenner, O.C., & Tomkiewicz, J. (1979). Job orientation of males and females: Are sex differences declining? Personnel Psychology, 32, 741-750.
- Browning, C. (1963). How to tackle the problem of teacher turnover. School Management, 7, 80-82.
- Burbach, H.J. (1974). An empirical study of powerlessness among high school students. High School Journal, 55, 343-354.
- Campbell, W.J. (1964). Some effects of high school consolidation. In R.G. Barker & P.V. Gump (Eds.), Big school, small school: High school size and student behaviors (pp. 139-155). Stanford, CA: Stanford University Press.
- Carnegie Forum on Education and the Economy. (1986). A nation prepared: Teachers for the 21st century. New York: The Report of the Task Force on Teaching as a Profession.
- Carnegie Foundation for the Advancement of Teaching. (1987, March/April). Prospective teachers: Career choices. Change, pp. 31-35.
- Chapman, D.W. (1983). A model of the influences on teacher retention. Journal of Teacher Education, 35(5), 43-49.
- Chapman, D.W. (1984). Teacher retention: The test of a model. American Educational Research Journal, 21, 645-658.
- Chapman, D.W., & Green, M.S. (1986). Teacher retention: A further examination. Journal of Educational Research, 79, 273-279.

- Chapman, D.W., & Hutcheson, S.M. (1982). Attrition from teaching careers: A discriminant analysis. American Educational Research Journal, 19, 93-105.
- Chapman, D.W., & Lowther, M.A. (1982). Teachers' satisfaction with teaching. Journal of Educational Research, 75, 241-247.
- Charters, W.W., Jr. (1967). Stability and change in the communication structure of school faculties. Educational Administration Quarterly, 3, 15-38.
- Charters, W.W. (1970). Some factors affecting teacher survival in school districts. American Educational Research Journal, 7, 1-27.
- Chen, K.C. (1982). Characteristics associated with university teacher education program applicants, graduates, and practicing teachers. Doctoral dissertation, Iowa State University, Ames, IA.
- Clark, D.L., & Astuto, T.A. (1986). The significance and permanence of changes in federal education policy. Educational Researcher, 15(8), 4-13.
- Coleman, J.S. (1961). The adolescent society. New York: Free Press.
- Coleman, J.S. (1965). The adolescent and the schools. New York: Basic Books.
- Commission on the Reorganization of Secondary Education. (1917). Cardinal principles of education, Bulletin No. 35. Washington, D.C.: USGPO.
- Conant, J.B. (1959). The American high school today. New York: McGraw-Hill.
- Counts, G.E. (1978). Senior teachers: An endangered species. (ERIC ED 159 132).
- Crain, R.L. (1981). Making desegregation work: Extracurricular activities. Urban Review, 13, 121-126.
- Crain, R.L., Mahard, R.E., & Narat, R.E. (1982). Making desegregation work: How schools create social climates. Cambridge, MA: Ballinger.

- Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.
- Darling-Hammond, L. (1984). Beyond the commission reports. The coming crisis in teaching. Santa Monica: The Rand Corporation.
- Darling-Hammond, L., & Wise, A.E. (1981). A conceptual framework for examining teachers' views of teaching and educational policies. Santa Monica: The Rand Corporation.
- Dewey, J. (1938). Experience and education. New York: Macmillan.
- Dillich, L.S. (1980). The job market for teachers in the 80's: Signs of improvement. Occupational Outlook Quarterly, 24(3), 22-27.
- Dillman, D.A. (1978). Mail and telephone surveys: The total design method. New York: Wiley.
- Dowell, L., Badgett, J., & Hunkler, R. (1972). The relationship between high school athletic achievement and the variables of self-concept and academic achievement. Psychology, 9, 48-52.
- Downey, R.G. (1978). Differences between entering freshmen from different size high schools. Journal of College Student Personnel, 19, 353-358.
- Duncan, O.D., Featherman, D.L., & Duncan, B. (1972). Socioeconomic background and achievement. New York: Seminar.
- Dworkin, A. (1980). The changing demography of public school teachers: Some implications for faculty turnover in urban areas. Sociology of Education, 53, 65-73.
- Edwards, T.L. (1967). Scholarship and athletics. Journal of Health, Physical Education and Recreation, 38, 75-77.

- Eidsmore, R.M. (1964). High school athletes are brighter. Journal of Health, Physical Education and Recreation, 35, 53-54.
- Eitzen, D.S. (1975). Athletics in the status system of male adolescents: A replication of Coleman's The Adolescent Society. Adolescence, 10, 267-276.
- Eskenazi, G. (1989, March 5). Arena of big-time athletics is showcasing a younger act. New York Times, p. 1.
- Faunce, R.C. (1960). Extracurricular activities. In C.W. Harris (Ed.), Encyclopedia of Educational Research (pp. 506-511). New York: Macmillan.
- Feistritzer, C.E. (1984). The making of a teacher. A report on teacher education and certification. Washington, DC: National Center for Education Information.
- Feltz, D. (1978). Athletics in the social status system of female adolescents. Review of Sport and Leisure, 3, 98-108.
- Feltz, D.L., & Weiss, M.R. (1984). The impact of girls' interscholastic sport participation on academic orientation. Research Quarterly for Exercise and Sport, 55, 332-339.
- Fielstra, C. (1955). An analysis of factors influencing the decision to become a teacher. Journal of Educational Research, 48, 659-667.
- Fisher, R.L., & Feldmann, M.E. (1985). Some answers about the quality of teacher education students. Journal of Teacher Education, 36(3), 37-40.
- Fox, R.B. (1961). Factors influencing career choice of prospective teachers. Journal of Teacher Education, 12, 427-432.
- Frederick, R.W. (1965). Student activities in American education. New York: Center for Applied Research in Education.

- Fretwell, E.K. (1931). Extra-curricular activities in secondary schools. Boston: Houghton Mifflin.
- Gallup, A. (1984). The Gallup Poll of teachers' attitudes toward the public schools. Phi Delta Kappan, 66, 97-107.
- Galluzzo, G.R., & Arends, R.I. (1989). The RATE project: A profile of teacher education institutions. Journal of Teacher Education, 40(4), 56-58.
- Gholson, R.E. (1985). Student achievement and cocurricular activity participation. National Association of Secondary School Principals Bulletin, 69(483), 17-20.
- Gholson, R.E., & Buser, R.L. (1983). Cocurricular activity programs in secondary schools. Reston, VA: National Association of Secondary School Principals.
- Gilligan, C. (1983). In a different voice. Cambridge, MA: Harvard University Press.
- Goodlad, J.I. (1984). A place called school. New York: McGraw-Hill.
- Grabe, M. (1976). Big school, small school: Impact of the high school environment. Contemporary Educational Psychology, 1, 20-25.
- Grabe, M. (1981). School size and the importance of school activities. Adolescence, 61, 21-31.
- Greenberger, E., & Sorenson, A.B. (1974). Toward a concept of psychosocial maturity. Journal of Youth and Adolescence, 3, 329-358.
- Grissmer, D.W., & Kirby, S.N. (1987). Teacher attrition: The uphill climb to staff the nation's schools. Santa Monica, CA: The Rand Corporation.
- Gump, P.V., & Friesen, W.V. (1964). Satisfaction derived from nonclass settings. In R.G. Barker & P.V. Gump (Eds.), Big school, small school: High school size and student behavior (pp. 75-93). Stanford, CA: Stanford University Press.

- Guthrie, J.W., & Zusman, A. (1982). Teacher supply and demand in mathematics and science. Phi Delta Kappan, 64, 28-32.
- Haensly, P.A., Lupkowski, A.E., & Edlind, E.P. (1986). The role of extracurricular activities in education. High School Journal, 69, 110-119.
- Hanks, M. (1981). Youth, voluntary associations and political socialization. Social Forces, 60, 211-223.
- Hanks, M.P., & Eckland, B.K. (1976). Athletics and social participation in the educational attainment process. Sociology of Education, 49, 271-294.
- Harris, L. & Associates, Inc. (1985). The Metropolitan Life survey of former teachers in America. (Conducted for Metropolitan Life Insurance Company). New York: Author.
- Harris, S., & Harris, L. (1988). The teacher's almanac 1987-88. New York: Facts on File Publications.
- Havighurst, R.L. (1972). Developmental tasks and education. New York: McKay.
- Heffley, R.C. (1983). Factors affecting teacher turnover in Kansas. Doctoral dissertation, University of Kansas, Lawrence, Kansas.
- Herzberg, F., Mausner, B., Peterson, R.O., & Capwell, D.F. (1957). Job attitudes: Review of research and opinion. Pittsburgh: Psychological Service of Pittsburgh.
- Heyns, B. (1988). Educational defectors: A first look at teacher attrition in the NLS-72. Educational Researcher, 17(3), 24-32.
- Holland, J.L. (1973). Making vocational choices: A theory of careers. Englewood Cliffs, NJ: Prentice-Hall.



- Horine, L.E. (1968). Attendance and scholarship of high school athletes. Athletic Journal, 48, 52-53.
- Houndshell, P.B., & Griffin, S.S. (1989). Science teachers who left. Science Education, 73, 433-443.
- Jantzen, J.M. (1981). Why college students choose to teach: A longitudinal study. Journal of Teacher Education, 32, 45-48.
- Joekel, R.G. (1985). Student activities and academic eligibility requirements. National Association of Secondary School Principals Bulletin, 69(483), 3-9.
- Johnson, B. (1983). Why students select education as a career. Tennessee Education, 13(2), 27-30.
- Kane, M.J. (1988). The female athlete role as a status determinant within the social systems of high school adolescents. Adolescence, 23, 253-264.
- Keating, J.W. (1965). Character or catharsis. Catholic Educational Review, 63, 300-306.
- Keith, P.M. (1980). Sex, occupation, year of graduation and perceptions of job factors. Journal of Employment Counseling, 17, 180-187.
- Keith, P.M., Warren, R.D., & Dilts, H.E. (1983). Teacher education graduates. Sex, career plans, and preferences for job factors. Urban Education, 18, 361-375.
- Kissler, G.R. (1980). Trends affecting undergraduate education in the University of California. Presentation at the Board of Regents of the University of California. (ERIC ED 194 138).
- Kissler, G.R., Lara, J.F., & Cardinal, J.L. (1981). Factors contributing to the American difficulties encountered by students who transfer from community colleges to four-year institutions. Presented at the annual meeting of the

- American Educational Research Association, New York. (ERIC ED 203 920).
- Klecka, W.R. (1984). Discriminant analysis. Beverly Hills, CA: Sage Publications.
- Kleinert, E.J. (1969). Effects of high school size on student activity participation. National Association of Secondary School Principals Bulletin, 53(335), 34-46.
- Klitzke, L.L. (1961). Academic records of transfers in teacher training. Junior College Journal, 31, 255-257.
- Krumboltz, J. (1979). A social learning theory of career decision making. In A.M. Mitchell, G.B. Jones, & J.D. Krumboltz (Eds.), Social Learning and Career Decision Making (pp. 19-49). Cranston, RI: Carroll.
- Landers, D.M., Feltz, D.L., Obermeier, G.E., & Brouse, T.R. (1978). Socialization via interscholastic athletes: Its effect on educational attainment. Research Quarterly, 49, 475-483.
- Landers, D.M., & Landers, D.M. (1978). Socialization via interscholastic athletics: Its effects on delinquency. Sociology of Education, 51, 299-303.
- Leonardson, G.R. (1986). The relationship between self-concept and selected academic and personal factors. Adolescence, 21, 467-474.
- Lewis, A.C. (1989). The not so extracurriculum. Phi Delta Kappan, 71, K1-K8.
- Lindsay, P. (1982). The effect of high school size on student participation, satisfaction, and attendance. Educational Evaluation and Policy Analysis, 4(1), 57-65.
- Lindsay, P. (1984). High school size, participation in activities, and young adult social participation: Some enduring effects of schooling. Educational Evaluation and Policy Analysis, 6(1), 73-83.

- Lortie, D.C. (1975). Schoolteacher: A sociological study. Chicago: University of Chicago Press.
- Mark, J.H., & Anderson, B.D. (1978). Teacher survival rates--a current look. American Educational Research Journal, 15, 379-383.
- Matthes, W.A., & Duffy, W.E. (1989). Teacher retention and satisfaction: A comparison of M.A.T. and B.S./B.A. graduates in teacher education. Research in Rural Education, 6, 1-5.
- McDill, E.L., & Coleman, J.S. (1965). Family and peer influences in college plans of high school students. Sociology of Education, 38, 112-126.
- McKowen, H.C. (1952). Extracurricular activities. New York: Macmillan.
- McLaughlin, M.W., Pfeifer, R.S., Swanson-Owens, D., & Yee, S. (1986). Why teachers won't teach. Phi Delta Kappan, 67, 420-426.
- Morgan, D.L., & Alwin, D.F. (1980). When less is more: School size and student social participation. Social Psychology Quarterly, 43, 241-252.
- Mori, T. (1966). Analysis of factors influencing motivations for becoming a teacher. Journal of Educational Research, 60, 174-179.
- Mueller, D. (1976). Where the graduates are. St. Louis: Harris Teachers College. (ERIC ED 115 631).
- Murtaugh, M. (1988). Achievement outside the classroom: The role of nonacademic activities in the lives of high school students. Anthropology and Education Quarterly, 19, 382-395.
- Musemeche, R., & Adams, S. (1978). The coming teacher shortage. Phi Delta Kappan, 59, 691-693.

- National Commission on Excellence in Education. (1983). A nation at risk. (Stock No. 065-000-00177-2). Washington, DC: U.S. Government Printing Office.
- Nelson, J.L. (1973). Participation and college aspirations: Complex effects of community size. Rural Sociology, 38, 7-16.
- Office of Educational Research and Improvement. (1986). Extracurricular activity participants outperform other students, (CS 85-213b). Washington, D.C: U.S. Department of Education.
- Otto, L.B. (1975). Extracurricular activities in the educational attainment process. Rural Sociology, 40, 162-176.
- Otto, L.B. (1976). Extracurricular activities and aspirations in the status attainment process. Rural Sociology, 41, 217-233.
- Otto, L.B. (1982). Extracurricular activities. In H. Walberg (Ed.), Improving Educational Standards and Productivity (pp. 217-227). Berkeley, CA: McCutchan.
- Otto, L.B., & Alwin, D.F. (1977). Athletics, aspirations, and attainments. Sociology of Education, 42, 102-113.
- Pedhazur, E.J. (1982). Multiple regression in behavioral research. New York: Holt, Rinehart, and Winston.
- Peek, C.W., Picou, J.S., Alston, J.P., & Curry, E.W. (1979). Interscholastic athletics and delinquent behavior: Appraisal or applause? Sociology of Education, 52, 238-243.
- Phillips, R.E. (1969). Student activities and self-concept. Journal of Negro Education, 38, 32-37.
- Phillips, J.C., & Schafer, W.E. (1971). Consequences of participation in interscholastic sports. Pacific Sociological Review, 14, 328-338.

- Picou, J.S. (1978). Race, athletic achievement, and educational aspirations. Sociological Quarterly, 19, 429-438.
- Powell, A.G., Farrar, E., & Cohen, D.K. (1985). The shopping mall high school. Boston: Houghton Mifflin.
- Rehberg, R.A. (1969). Behavioral and attitudinal consequences of high school interscholastic sports: A speculative consideration. Adolescence, 4, 69-88.
- Rehberg, R.A., & Cohen, M. (1975). Athletes and scholars: An analysis of the compositional characteristics and images of these two culture categories. International Review of Sports Sociology, 10, 91-107.
- Rehberg, R.A., & Schafer, W.E. (1968). Participation in interscholastic athletics and college expectations. American Journal of Sociology, 73, 732-740.
- Rhodes, S.R., & Doering, M. (1983). An integrated model of career change. Academy of Management Review, 8, 631-639.
- Richards, R. (1960). Prospective students' attitudes toward teaching. Journal of Teacher Education, 11, 375-380.
- Richardson, R.C., & Doucetti, D.S. (1980). Persistence, performance and degree achievement of Arizona's community college transfers in Arizona's public universities. (ERIC ED 197 785).
- Roberson, S.D., Keith, T.Z., & Page, E.B. (1983). Now who aspires to teach? Educational Researcher, 12(6), 13-21.
- Schafer, W.E. (1969). Participation in interscholastic athletics and delinquency: A preliminary study. Social Problems, 17, 40-47.
- Schafer, W.E., & Armer, M. (1968). Athletes are not inferior students. Trans-action, 6, 61-62.

- Schlechty, P.C., & Vance, S.V. (1981). Do academically able teachers leave education? The North Carolina case. Phi Delta Kappan, 63, 106-112.
- Schmidt, D.K., & Sedlacek, W.E. (1972). Variables related to university student satisfaction. Journal of College Student Personnel, 13, 233-237.
- Schoggen, P., & Schoggen, M. (1988). Student voluntary participation and high school size. Journal of Educational Research, 81, 288-293.
- Schubert, W.H., & Walberg, H.J. (1982). Extracurricular activities: Discussion. In H.J. Walberg (Ed.), Improving educational standards and productivity (pp. 228-233). Berkeley, CA: McCutchan.
- Scott, E.S., & Damico, S.B. (1983). Extracurricular activities and interracial contact. Integrated Education, 21, 140-142.
- Sewell, W.H., & Hauser, R.M. (1975). Education, occupation and earnings: Achievement in the early career. New York: Academic Press.
- Seyfarth, J.T., & Bost, W.A. (1986). Teacher turnover and the quality of worklife in schools: An empirical study. Journal of Research and Development in Education, 20, 1-6.
- Slavin, R.E., & Madden, N.A. (1979). School practices that improve race relations. American Educational Research Journal, 16, 169-180.
- Snyder, E. E. (1969). A longitudinal analysis of the relationship between high school values, social participation, and educational-occupational achievement. Sociology of Education, 42, 261-270.
- Snyder, E.E., & Spreitzer, E. (1977). Participation in sports as related to educational expectations among high school girls. Sociology of Education, 50, 47-55.

- Spady, W.G. (1970). Lament for the letterman: Effects of peer status and extracurricular activities on goals and achievement. American Journal of Sociology, 75, 680-702.
- Spady, W.G. (1971). Status, achievement, and motivation in the American high school. School Review, 79, 379-403.
- Spreitzer, E., & Pugh, M. (1973). Interscholastic athletics and educational expectations. Sociology of Education, 46, 171-182.
- Stark, J.S., Austin, A.E., Lowther, M.A., Chapman, D.W., & Hutcheson, S.M. (1980). Teacher certification recipients at the University of Michigan 1946 through 1976: A 1980 follow-up study. (ERIC ED 209 209).
- Super, D.E. (1957). The psychology of careers. New York: Harper & Row.
- Super, D.E. (1980). A life-span, life-space approach to career development. Journal of Vocational Behavior, 16, 282-298.
- Sweeney, J.C. (1987). Development and testing of a longitudinal model designed to examine the factors that influence the career paths of Iowa State University teacher education graduates. Doctoral dissertation, Iowa State University, Ames, IA.
- Thompson, A.D., Warren, R.D., Dilts, H.E., & Blaustein, M.H. (1983, April). First year job characteristics of teacher education graduates: Occupational realities vs. expectations. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- U.S. Department of Education. Center for Education Statistics. (1987). Digest of Education Statistics. Washington, DC: U.S. Department of Education.
- Vance, V.S., & Schlechty, P.C. (1982). The distribution of academic ability in the teaching force: Policy implications. Phi Delta Kappan, 64, 22-27.

- Warren, R.D. (1990, October). A Longitudinal Examination of Teaching Potential, Career Paths, and Teacher Retention of Teacher Education Graduates. Paper presented at the annual meeting of the Mid-Western Educational Research Association, Chicago, IL.
- Weaver, W.T. (1984). Solving the problem of teacher quality, part 1. Phi Delta Kappan, 66, 108-115.
- Whitener, J.E. (1965). An actuarial approach to teacher turnover. Dissertation Abstracts, 26, 4412.
- Willems, E. (1964). Forces toward participation in behavioral settings. In R.G. Barker & P.V. Gump (Eds.), Big school, small school: High school size and student behavior (pp. 115-135). Stanford, CA: Stanford University Press.
- Willems, E. (1967). Sense of obligation to high school activities as related to school size and marginality of student. Child Development, 38, 1247-1260.
- Williams, J.M., & White, K.A. (1983). Adolescent status systems for males and females at three age levels. Adolescence, 70, 381-389.
- Wood, K.E. (1978). What motivates students to teach? Journal of Teacher Education, 29, 48-50.
- Wright, B.D. (1977). Our reason for teaching. Theory into Practice, 16, 225-230.
- Young, B.J. (1989). A comparative and predictive model to determine factors related to preparation and entry into the teaching profession. Doctoral dissertation, Iowa State University, Ames, IA.
- Young, M.W. (1989-1990, Winter). Characteristics of high potential and at risk teachers. Action in Teacher Education, 11(4), 35-40.



## ACKNOWLEDGEMENTS

For her guidance and encouragement throughout my graduate studies and especially during this study, I express my sincere appreciation and thanks to my major professor, Dr. Mary E. Huba. Her continued enthusiasm and help in organizing this study were invaluable. I'm glad I had the opportunity to be her student for two graduate studies at Iowa State University.

I also wish to express thanks to my committee members, Dr. Frederick Brown, Dr. Anton Netusil, Dr. Mack Shelley, and Dr. Richard Warren for their assistance and support during my doctoral studies. I am especially grateful to Dr. Warren for his professional guidance as director of RISE and for the use of the longitudinal data that were analyzed in the current study.

I also thank the many individuals on the RISE staff for their part in conducting the Teacher Education Student Survey each year. Thanks to the graduate students I had the opportunity to work with for their personal friendships and encouragement. I would also like to thank the many teacher education students and graduates who took the time to complete the surveys.

A special thanks to my family for their understanding patience during the years I have been in school. To my husband, Les, many thanks for his patience, continued support, and assistance during this project. And to my three sons, thanks for your individual

contributions: Steve, who was a subject in the Teacher Education Student Survey while an undergraduate at ISU, for his professional input as a current educator; Dan for his positive attitude about life throughout personal adversity; and Ted for his cheerful manner and thoughtfulness.

**APPENDIX A: ADDITIONAL STATISTICAL TABLES**

Table 30. Correlation among all variables -- females: Study 1

Variables	1	2	3	4	5	6	7	8	9
1. Graduate	1.00								
2. Sports participation	.07	1.00							
3. Non-sport school participation	.04	.17	1.00						
4. Non-school participation	.07	.14	.32	1.00					
5. Other participation	-.05	-.01	.11	.11	1.00				
6. Total participation	.06	.44	.78	.68	.41	1.00			
7. Sports leadership	.01	.49	.12	.05	.06	.25	1.00		
8. Non-sport school leadership	-.01	.10	.36	.19	.10	.35	.15	1.00	
9. Non-school leadership	.06	.06	.25	.56	.05	.41	.08	.23	1.00
10. Teacher aide leadership	.12	.06	.12	.14	.06	.17	.08	.09	.22
11. Foreign travel leadership	.01	.02	.03	.05	.02	.05	.01	.03	.04
12. Other leadership	.02	-.03	-.02	-.01	.12	.03	-.03	-.01	-.01
13. Total leadership	.08	.27	.35	.43	.11	.50	.50	.56	.73
14. Age	.04	-.17	-.11	-.03	.06	-.18	-.12	-.06	.05
15. ISU grade point average	.06	-.05	.16	.03	.10	.12	-.06	.04	.03
16. High school rank	.08	.12	.35	.14	.06	.29	.02	.15	.11
17. Resident status	-.01	-.03	-.17	-.13	.02	-.15	.02	-.07	-.09
18. Transfer status	.02	.07	.07	.03	.03	.03	.02	.03	-.01
19. Mother's occupation	-.02	.02	-.02	.00	-.08	-.03	-.01	-.01	.04
20. Father's occupation	.01	-.05	.01	-.07	.02	-.05	-.06	-.06	.01
21. Planned teaching level	-.06	-.01	.12	.01	.02	.07	-.01	.06	.07
22. Challenge/leadership	.02	.12	.09	.05	.08	.13	.15	.07	.08
23. Extrinsic rewards	-.07	.03	.06	-.03	.01	.04	.07	.02	-.05
24. Empowerment	.00	.01	.07	.01	.10	.08	.07	.06	.05
25. Humanity/service	.11	.06	-.01	.01	.02	.02	.06	.02	.04

10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1.00															
.06	1.00														
-.02	.01	1.00													
.58	.08	.21	1.00												
.03	-.01	-.02	-.03	1.00											
.02	.03	.05	.02	.10	1.00										
.07	.01	.03	.14	-.03	.42	1.00									
.00	-.02	.01	-.07	-.08	-.04	-.06	1.00								
.00	.03	.02	-.07	-.35	-.04	.05	.07	1.00							
-.02	.02	.03	.00	.04	-.04	.01	-.06	.00	1.00						
-.06	-.01	-.01	-.05	.01	-.03	-.03	-.01	.02	.26	1.00					
-.08	.02	.00	.02	.01	.07	-.02	-.02	.01	.01	-.01	1.00				
.08	.01	.01	.12	-.09	-.06	-.03	.04	.01	-.04	-.01	.06	1.00			
.01	-.03	.02	.02	-.07	-.07	-.06	.02	.01	-.05	-.02	.03	.41	1.00		
.02	.04	.02	.05	.02	-.01	-.03	.04	-.02	-.06	-.02	.13	.58	.35	1.00	
.13	.03	.02	.17	.03	-.02	-.04	.03	-.04	-.02	-.02	-.04	.41	.16	.29	1.00

Table 31. Correlation among all variables -- males: Study 1

Variables	1	2	3	4	5	6	7	8	9
1. Graduate	1.00								
2. Sports participation	.08	1.00							
3. Non-sport school participation	.17	.16	1.00						
4. Non-school participation	.13	.20	.32	1.00					
5. Other participation	.06	-.06	.11	.09	1.00				
6. Total participation	.19	.43	.79	.71	.39	1.00			
7. Sports leadership	-.05	.44	-.01	.05	-.03	.13	1.00		
8. Non-sport school leadership	.05	.14	.41	.21	.07	.39	.10	1.00	
9. Non-school leadership	.06	.09	.27	.60	.10	.47	.06	.28	1.00
10. Teacher aide leadership	.09	.12	.06	.02	.11	.11	.13	.14	.06
11. Foreign travel leadership	.03	.01	.04	.02	.01	.04	.01	.03	.05
12. Other leadership	.02	-.02	-.03	.03	.02	.03	-.02	-.02	.01
13. Total leadership	.06	.34	.30	.44	.11	.34	.56	.58	.69
14. Age	-.01	-.20	-.13	-.05	.14	-.10	-.11	-.10	-.01
15. ISU grade point average	.18	-.08	.14	-.01	.19	.12	-.12	.10	-.02
16. High school rank	.09	.06	.36	.11	.09	.30	-.12	.19	.04
17. Resident status	-.04	-.06	-.06	-.13	-.10	-.14	.08	-.02	-.04
18. Transfer status	-.05	.01	.16	-.02	-.01	.09	.02	.01	.01
19. Mother's occupation	-.04	.00	.00	-.08	-.07	-.06	.04	-.06	.01
20. Father's occupation	-.01	-.09	.01	.04	-.06	-.05	-.04	.01	.03
21. Planned teaching level	-.04	-.09	.04	.08	.05	.05	.01	.08	.05
22. Challenge/leadership	.03	.11	.06	.08	.05	.12	.14	.08	.06
23. Extrinsic rewards	-.09	.03	-.05	.03	.03	-.02	.09	.03	-.02
24. Empowerment	-.08	-.03	.08	-.06	.08	.09	.01	.07	.04
25. Humanity/service	.08	.13	.07	.07	.03	.11	.10	.04	.10

10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1.00															
.08	1.00														
-.02	.01	1.00													
.48	.10	.19	1.00												
-.01	-.02	-.01	-.09	1.00											
.01	.04	.02	-.04	.11	1.00										
.04	.02	.03	.04	-.20	.33	1.00									
-.01	.01	.02	.00	-.05	-.07	-.09	1.00								
-.05	-.01	-.01	-.01	-.32	.04	.22	.01	1.00							
-.07	-.03	.02	-.03	.01	-.04	-.09	-.05	.07	1.00						
-.02	.01	.03	-.01	.01	-.08	-.01	-.12	.03	.24	1.00					
-.01	.00	.02	.06	.04	.08	-.06	.04	-.03	.01	.01	1.00				
.11	.02	-.01	.16	-.11	-.01	-.03	.01	-.02	-.06	-.01	.11	1.00			
.07	-.02	.02	.06	-.05	-.18	-.14	.05	-.08	-.07	-.04	.06	.39	1.00		
.07	.02	.02	.07	.01	.09	.06	.02	.01	-.11	-.02	.11	.50	.22	1.00	
.18	.03	-.01	.18	.06	.03	-.02	-.02	-.04	-.04	-.07	.03	.35	.12	.24	1.00

Table 32. Results of classification analysis for female discriminant analysis 1:  
Study 1

Group	Prior probability <sup>b</sup>	Number of cases <sup>c</sup>	<u>Predicted group membership<sup>a</sup></u>	
			Non-graduate	Graduate
Non-graduate	39.5%	388	145 (37.4%)	243 (62.6%)
Graduate	60.5%	589	96 (16.3%)	493 (83.7%)

<sup>a</sup>Overall, 65.3% of all cases were correctly classified.

<sup>b</sup>Based on 964 cases in the analysis; 441 cases were excluded because data for at least one discriminating variable were missing.

<sup>c</sup>For this classification, 977 cases were used with 428 cases excluded because data for at least one discriminating variable were missing.

Table 33. Results of classification analysis for female discriminant analysis 2:  
Study 1

Group	Prior probability <sup>b</sup>	Number of cases <sup>c</sup>	<u>Predicted group membership<sup>a</sup></u>	
			Non-graduate	Graduate
Non-graduate	39.5%	391	136 (34.8%)	255 (65.2%)
Graduate	60.5%	591	102 (17.3%)	489 (82.7%)

<sup>a</sup>Overall, 63.87% of all cases were correctly classified.

<sup>b</sup>Based on 964 cases in the analysis; 441 cases were excluded because data for at least one discriminating variable were missing.

<sup>c</sup>For this classification, 982 cases were used with 423 cases excluded because data for at least one discriminating variable were missing.



Table 34. Results of classification analysis for male discriminant analysis 1: Study 1

Group	Prior probability <sup>b</sup>	Number of cases <sup>c</sup>	<u>Predicted group membership<sup>a</sup></u>	
			Non-graduate	Graduate
Non-graduate	52.9%	229	156 (68.1%)	73 (31.9%)
Graduate	47.1%	199	97 (48.7%)	102 (51.3%)

<sup>a</sup>Overall, 61.45% of all cases were correctly classified.

<sup>b</sup>Based on 395 cases in the analysis; 207 cases were excluded because data for at least one discriminating variable were missing.

<sup>c</sup>For this classification, 428 cases were used with 174 cases excluded because data for at least one discriminating variable were missing.

Table 35. Results of classification analysis for male discriminant analysis 2: Study 1

Group	Prior probability <sup>b</sup>	Number of cases <sup>c</sup>	<u>Predicted group membership<sup>a</sup></u>	
			Non-graduate	Graduate
Non-graduate	52.9%	229	154 (67.2%)	75 (32.8%)
Graduate	47.1%	199	90 (45.2%)	109 (54.8%)

<sup>a</sup>Overall, 60.1% of all cases were correctly classified.

<sup>b</sup>Based on 395 cases in the analysis; 207 cases were excluded because data for at least one discriminating variable were missing.

<sup>c</sup>For this classification, 428 cases were used with 174 cases excluded because data for at least one discriminating variable were missing.

**APPENDIX B: JOB CHARACTERISTIC AND JOB  
SATISFACTION COMPOSITES**

---

**Composite**
**Item statement**


---

**Challenge/leadership**

Opportunity to exercise leadership

Adventure

Variety in the work

Responsibility

Control over what others do

Challenge

**Extrinsic rewards**

Opportunity to earn a good deal of money

Social status and prestige

Opportunity for advancement

Opportunity for a relatively stable and secure future

Fringe benefits (health care, retirement benefits)

**Empowerment/autonomy/use abilities**

Opportunity to be creative and original

Opportunity to use special abilities or aptitudes

Relative freedom from supervision by others

Control over what I do

**Service/people oriented**

Opportunity to work with people rather than things

Opportunity to effect social change

Opportunity to help and serve others

---

**Figure 3. Job characteristic composites and items in composites: Study 1**

---

Salary

General working conditions

Amount of administrative support received

Extent of involvement in decision making

Job benefits

Job responsibilities

Extent to which job challenged and provided for professional growth

Opportunities for advancement

Teaching as a career

---

Figure 4. Items in job satisfaction composite: Study 2

**APPENDIX C: SURVEY INSTRUMENTS AND  
COVER LETTERS**

Iowa State University of Science and Technology Ames, Iowa 50011



Research Institute for Studies in Education  
College of Education  
The Quadrangle  
Telephone 515-294-7009

Dear Teacher Education Student:

We are currently engaged in a research project designed to evaluate and improve the Teacher Education Program at Iowa State University.

Students in various phases of the program are being contacted to participate in the study. As a student beginning your Teacher Education classes, you can provide valuable information for our project. Your voluntary participation would be greatly appreciated.

You may be assured of complete confidentiality. We ask you for your social security number for data analysis procedures; we will match information from this questionnaire with instructor class information such as year in school and curriculum, and your evaluations of the Teacher Education Program as you progress through your program and careers. New identification numbers are assigned for data analysis and the information is analyzed in terms of groups, not in terms of individuals. Names and social security numbers are used only for contacting and matching purposes. The information provided is for use in this research project only.

We ask that you complete the attached questionnaire and return it by the end of the class period. If you have questions about this study, please contact the Research Institute for Studies in Education Office (294-7009).

Thank you for your assistance in our project; the information you provide should help us to continually improve the Teacher Education Program.

Sincerely,

Harold E. Dilts  
Associate Dean

HED/pjd

First we would like to ask you some questions about your current relationship with the Teacher Education Program.

1. Please check the response which best describes your current position on applying to the Iowa State Teacher Education Program.

- ☐ I have been admitted to Teacher Education
- ☐ I have applied for admission to Teacher Education
- ☐ I plan to apply for admission to Teacher Education
- ☐ I am uncertain on whether or not I will apply for admission to Teacher Education
- ☐ I plan to complete a Teacher Education Program at another institution
- ☐ I do not plan to apply to a Teacher Education Program

2. Check the response which best describes your primary reason for enrolling in Education 204.

- ☐ It is a requirement for the Teacher Education Program
- ☐ I wanted to obtain more information on a teaching career
- ☐ My advisor recommended the class
- ☐ Friends recommended the class
- ☐ It was the only class available at this time
- ☐ Other ----> Specify \_\_\_\_\_

3. In what way has Education 204 influenced your decision on teaching as a career?

- ☐ It has confirmed my previous decision to become a teacher
- ☐ It has caused me to decide to become a teacher
- ☐ It has confirmed my previous decision not to become a teacher
- ☐ It has caused me to decide not to become a teacher
- ☐ It has caused uncertainty about my decision to become a teacher
- ☐ It has caused uncertainty about my decision not to become a teacher
- ☐ It has not affected my decision

Now, we would like to ask you some questions about your plans for the future.

4. What is your current long-range career plan?

- ☐ Elementary Teaching ----> Specify Specialty Area(s) (if any) \_\_\_\_\_
- ☐ Secondary Teaching ----> Specify Subject Area(s) \_\_\_\_\_
- ☐ K-12 Teaching ----> Specify Subject(s) \_\_\_\_\_
- ☐ College or University Teaching ----> Specify Subject(s) \_\_\_\_\_
- ☐ School Counselor
- ☐ School Administrator
- ☐ Business or Industry ----> Specify \_\_\_\_\_
- ☐ Government Employment (Other Than Military) ----> Specify \_\_\_\_\_
- ☐ Military
- ☐ Full-time Homemaker
- ☐ Other ----> Specify \_\_\_\_\_

5. How important is it that a job provide you with the following characteristics? Please circle one number for each characteristic. Use the following response categories.

Very Important.....5  
 Important.....4  
 Neutral.....3  
 Unimportant.....2  
 Very Unimportant.....1

Please circle your response

- |    |  |   |   |   |   |   |
|----|--|---|---|---|---|---|
| a. | Opportunity to be creative and original...                 | 5 | 4 | 3 | 2 | 1 |
| b. | Opportunity to use special abilities or aptitudes.....     | 5 | 4 | 3 | 2 | 1 |
| c. | Opportunity to work with people rather than things.....    | 5 | 4 | 3 | 2 | 1 |
| d. | Opportunity to earn a good deal of money..                 | 5 | 4 | 3 | 2 | 1 |
| e. | Social status and prestige.....                            | 5 | 4 | 3 | 2 | 1 |
| f. | Opportunity to effect social change.....                   | 5 | 4 | 3 | 2 | 1 |
| g. | Relative freedom from supervision by others.....           | 5 | 4 | 3 | 2 | 1 |
| h. | Opportunity for advancement.....                           | 5 | 4 | 3 | 2 | 1 |
| i. | Opportunity to exercise leadership.....                    | 5 | 4 | 3 | 2 | 1 |
| j. | Opportunity to help and serve others.....                  | 5 | 4 | 3 | 2 | 1 |
| k. | Adventure.....   | 5 | 4 | 3 | 2 | 1 |
| l. | Opportunity for a relatively stable and secure future..... | 5 | 4 | 3 | 2 | 1 |
| m. | Fringe benefits (health care, retirement benefits).....    | 5 | 4 | 3 | 2 | 1 |
| n. | Variety in the work.....                                   | 5 | 4 | 3 | 2 | 1 |
| o. | Responsibility.....  | 5 | 4 | 3 | 2 | 1 |
| p. | Control over what I do.....                                | 5 | 4 | 3 | 2 | 1 |
| q. | Control over what others do.....                           | 5 | 4 | 3 | 2 | 1 |
| r. | Challenge.....   | 5 | 4 | 3 | 2 | 1 |



6. When did you begin your course work at Iowa State?

\_\_\_\_\_ Month \_\_\_\_\_ Year

7. What was your approximate rank in your high school graduating class?  
(check one)

\_\_\_\_\_ in upper 10%  
\_\_\_\_\_ in upper 11-25%  
\_\_\_\_\_ in upper 26-50%  
\_\_\_\_\_ in upper 51-75%  
\_\_\_\_\_ in lower 25%

8. Did you transfer to Iowa State from another college or university?  
(check one)

\_\_\_\_\_ Yes ---> Go to Question 9  
\_\_\_\_\_ No ---> Go to Question 11

9. (Transfers only) How many semester hours did you transfer to Iowa State?

\_\_\_\_\_ Semester hours (Semester hours = quarter hours x 2/3)

10. (Transfers only) What was your approximate G.P.A. at the time of transfer? (check one)

\_\_\_\_\_ below 2.00  
\_\_\_\_\_ 2.01 - 2.50  
\_\_\_\_\_ 2.51 - 3.00  
\_\_\_\_\_ 3.01 - 3.50  
\_\_\_\_\_ above 3.50

11. What was your approximate G.P.A. (earned at Iowa State) at the beginning of this semester? \_\_\_\_\_

12. Have you worked in a full-time (40 hours per week) job? (check one)

\_\_\_\_\_ Never ---> skip to 14  
\_\_\_\_\_ Occasionally ---> (including summers and vacations)  
\_\_\_\_\_ Continuously from 1 - 3 years  
\_\_\_\_\_ Continuously for more than 3 years

13. Please describe the occupation in which you worked the majority of the time. (Please be specific)
- 

14. Please check any of the following activities in which you have been involved as a participant.

- ☐ 4-H
- ☐ Scouts
- ☐ Varsity Sports
- ☐ Intra-mural Sports
- ☐ Church Youth Activities
- ☐ Youth Camps
- ☐ Foreign Travel
- ☐ School Music Activities
- ☐ FFA or FHA
- ☐ Speech/Debate
- ☐ Student Council
- ☐ Cheerleading
- ☐ School Newspaper/Yearbook
- ☐ Honor Society
- ☐ Service Clubs --> Please Specify \_\_\_\_\_
- ☐ Interest Clubs --> Please Specify \_\_\_\_\_
- ☐ Other --> Please Specify \_\_\_\_\_
- ☐ Other --> Please Specify \_\_\_\_\_

15. Please check any of the following activities in which you have been involved as a leader, counselor, coach or aide.

- ☐ 4-H
- ☐ Scouts
- ☐ Varsity Sports
- ☐ Intra-mural Sports
- ☐ Church Youth Activities
- ☐ Youth Camps
- ☐ Foreign Travel
- ☐ Youth Choir or Band
- ☐ Nursery School
- ☐ Elementary School
- ☐ Secondary School
- ☐ Student Government
- ☐ Other --> Please Specify \_\_\_\_\_

16. What is your age? \_\_\_\_\_

17. Sex: (Circle)      M      F

18. What is your Social Security Number? \_\_\_\_\_

19. What was your father's occupation most of the time while you were living at home? (Please be specific)
-

20. What was your mother's occupation most of the time while you were living at home? (Please be specific)
- \_\_\_\_\_

21. Are you currently a resident of Iowa? (Please check) ☐ YES ☐ NO  
If "NO", what is your state or country of residency? \_\_\_\_\_

22. What was the approximate size of your high school graduating class? (Please check one)

- (a) 0 - 100 students \_\_\_\_\_  
(b) 101 - 250 students \_\_\_\_\_  
(c) 251 - 500 students \_\_\_\_\_  
(d) 501 - 1000 students \_\_\_\_\_  
(e) Over 1000 students \_\_\_\_\_

Now we would like to ask you questions about your current attitudes toward education.

23. What do you think are the two most serious problems in the public schools today?

- (1) \_\_\_\_\_  
(2) \_\_\_\_\_

24. What two things do you think the public schools are doing most effectively today?

- (1) \_\_\_\_\_  
(2) \_\_\_\_\_

25. Please think about the best teacher you know or have known. What were the characteristics that made that teacher outstanding?

- (1) \_\_\_\_\_  
(2) \_\_\_\_\_  
(3) \_\_\_\_\_

**IOWA STATE UNIVERSITY**  
OF SCIENCE AND TECHNOLOGY

Research Institute for Studies in Education

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E265 Lagomarcino Hall  
Ames, Iowa 50011-3190  
515 294-7009  
FAX 515 294-9725  
Bitnet E1.RDW@ISUMVS  
Internet E1.RDW@ISUMVS.IASTATE.EDU

January 14, 1991

Dear Teacher Education Graduate of 1985/1986:

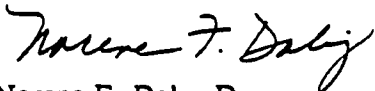
In an effort to improve and update the current Teacher Preparation Program at Iowa State University, we are seeking information from you about the program and your activities since graduation. We need your opinions, observations, and employment history in order to modify our current program and develop new programs.

Many of you participated in similar evaluation projects five years ago at the time of your graduation, and one year after that. We now seek updated information from you about your experiences since graduating from Iowa State. In order to ensure that the results are representative of Iowa State graduates with five years of experience, it is important that each questionnaire is completed and returned. Your voluntary participation in this phase of our study would be appreciated.

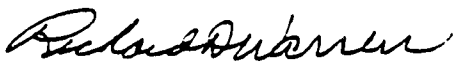
We ask that you complete the enclosed questionnaire, tape it closed, and place it in a mailbox (no stamp required). You may be assured of complete confidentiality. The questionnaire has an identification number for mailing and matching purposes. Your name will not be placed on the questionnaire. The information provided will be analyzed and reported in terms of group summarizations, not individual responses.

We thank you for your cooperation in completing the questionnaire and for your continuing role in helping to shape and improve the Teacher Preparation Program at Iowa State University. We wish you success in all your future activities.

Sincerely,



Norene F. Daly, Dean  
College of Education



Richard D. Warren, Director  
Research Institute for Studies in Education

/pjd  
Enclosure

Iowa State University  
Ames, Iowa 50011  
January 28, 1991

Dear Teacher Education Graduate:

We would like very much to include your responses in our study of the Teacher Education Program. If you have mailed the questionnaire recently, we want to express our thanks to you.

If you have not mailed your questionnaire, we would truly appreciate it if you would complete it and drop it in a mailbox. Thank you!

Sincerely,

A handwritten signature in cursive script, reading "Richard D. Warren".

Richard D. Warren, Director  
Research Institute for Studies in Education  
(515) 294-7009

**IOWA STATE UNIVERSITY**  
OF SCIENCE AND TECHNOLOGY

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February 11, 1991

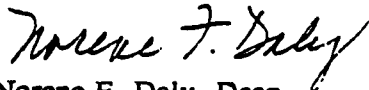
Dear Teacher Education Graduate of 1985/1986:

We know that this is a very busy time for you but we do need your help! You recently received a questionnaire from us asking you to evaluate the Teacher Preparation Program and provide your employment history and information about your activities since graduation. To date, we have not received your completed questionnaire. If you have mailed it recently, we want you to know your participation is appreciated.

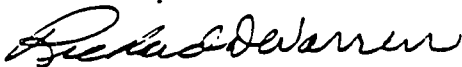
If you have not mailed your questionnaire, we would ask you to complete the enclosed questionnaire (or the first one) and drop it in a mailbox. We have had a very good completion record and return rate from our graduates and would like very much to have your responses to include in the tabulation.

Thank you for your voluntary participation in the study. We appreciate the time and effort involved, and believe that your responses will be useful for the improvement of the Teacher Preparation Program at Iowa State University.

Sincerely,



Norene F. Daly, Dean  
College of Education



Richard D. Warren, Director  
Research Institute for Studies in Education

/pjd  
Enclosure

1991

#### **A Note to Respondents**

In recent years, the teaching profession has been marked by rapid change and the emergence of a number of issues and concerns. It is essential that teacher preparation programs be responsive to these concerns. Therefore, the ISU College of Education is developing a comprehensive model to evaluate and to improve the quality of the teacher preparation program. Your reactions to and responses about your preparation and subsequent employment experiences are major ingredients of this model.

Various approaches are used by colleges of education to evaluate, improve, and modify programs for the preparation of educational personnel. Among these approaches in the evaluation process is a follow-up study of graduates from preparation programs. To provide the necessary information for program improvement, the data need to be collected on a regular basis and over a period of time. These longitudinal studies are beneficial in providing insights about program strengths and weaknesses and in assisting in program improvement and modification.

Since 1979, the Research Institute for Studies in Education (RISE) has been collecting data from teacher education graduates at major points in their preparation and careers. Now, five years after graduation, we are contacting you again for information about your current attitudes, competencies, and personal characteristics and about your employment history since graduation. The information we receive is summarized and presented in a report that is discussed by faculty in the College of Education as they plan changes for improving and updating the teacher preparation program. As mentioned in the accompanying letter, no individual responses are ever reported.

These data, collected over the past eleven years, have been very helpful in keeping the ISU Teacher Preparation Program current and responsive to changing educational needs. Your input is very much appreciated.

FIRST, we would like to ask you questions about your current employment.

1. What is your current employment situation?

\_\_\_\_\_ Teaching ---> Please answer PART A, then skip to page 3, PART C.

\_\_\_\_\_ Nonteaching ---> Please skip to PART B, page 2.

**PART A (Teaching)**

(a) What level do you teach?

\_\_\_\_\_ Preschool/Kindergarten

\_\_\_\_\_ Elementary (Grades 1-6)

\_\_\_\_\_ Secondary (Grades 7-12)

\_\_\_\_\_ K-12

(b) Are you teaching ...

\_\_\_\_\_ ... Full time?

\_\_\_\_\_ ... Part time?

\_\_\_\_\_ ... Permanent substitute?

\_\_\_\_\_ ... Day-to-day substitute?

\_\_\_\_\_ ... Other?

(c) At the present, what subject area(s) do you teach? \_\_\_\_\_

(d) What are your plans for next year?

\_\_\_\_\_ Remain in same position

\_\_\_\_\_ Seek similar position elsewhere

\_\_\_\_\_ Seek full-time teaching position

\_\_\_\_\_ Seek employment in education other than teaching

\_\_\_\_\_ Educational specialist (i.e., consultant, counselor, in a school district, AEA)

\_\_\_\_\_ School administrator in a local school district

\_\_\_\_\_ Position at college/university/government-department of education

\_\_\_\_\_ Other

\_\_\_\_\_ Seek employment outside education (Please specify--> \_\_\_\_\_)

\_\_\_\_\_ Temporarily out of work force (family care, continue education, military, etc.)

\_\_\_\_\_ Other (Please specify --> \_\_\_\_\_)



## PART B (Nonteaching)

- (a) What are your reasons for not teaching at the present time? Check as many as apply.

- ☐ Graduate study. (Please specify area \_\_\_\_\_)
- ☐ Could not find a teaching position.
- ☐ Inadequate salaries and benefits.
- ☐ General working conditions (nonteaching duties, hours, classroom size, work load).
- ☐ Student related (motivation, lack of discipline, general attitudes).
- ☐ Feelings of ineffectiveness.
- ☐ Administrator related (lack of support, dissatisfaction with administration, incompetent administration).
- ☐ Lack of respect.
- ☐ Emotional aspects (stress, burnout, frustration, boredom).
- ☐ Lack of support from parents and community.
- ☐ Lack of advancement opportunities.
- ☐ Family obligations.
- ☐ Had not planned to teach.
- ☐ Better salaries and career opportunities in other fields.
- ☐ Other (Please specify--> \_\_\_\_\_)

- (b) What are your employment plans for next year?

- ☐ Remain in same position
- ☐ Seek another position
- ☐     ☐ Similar position elsewhere
- ☐     ☐ Teaching position
- ☐     ☐ Other education-related position
- ☐     ☐ Other type of position (Please specify \_\_\_\_\_)
- ☐ Other (Please specify--> \_\_\_\_\_)

## PART C (All Respondents)

- (a) We are interested in your employment history (jobs) for the last five years. Using the occupational code below, please list your major employment for each of the last five years, starting with your current position.

- |                             |                                    |
|-----------------------------|------------------------------------|
| 1 Teacher                   | 8 Clerical/Secretarial/            |
| 2 Education-related (i.e.,  | Administrative support             |
| specialist, counselor,      | 9 Service (including teacher aide) |
| school administrator)       | 10 Homemaker                       |
| 3 Other professional        | 11 Farmer                          |
| 4 Technical                 | 12 Student                         |
| 5 Managerial/Administrative | 13 Unemployed                      |
| 6 Sales/Business            | 14 Other (specify) _____           |
| 7 Craftsman/Operative       |                                    |

YEAR (Following graduation)	POSITION (Occupational Code Number)	LOCATION (State/Country)
Fifth Year (Current Position)	_____	_____
Fourth Year	_____	_____
Third Year	_____	_____
Second Year	_____	_____
First Year	_____	_____

Any comments about your employment history: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- (b) Five years from now, do you plan to be...

\_\_\_\_\_ Teaching

\_\_\_\_\_ Employed in education other than teaching

\_\_\_\_\_ Educational specialist (consultant, counselor, etc., in a school district, AEA)

\_\_\_\_\_ School administrator in a school district

\_\_\_\_\_ Position at college/university/government-department of education

\_\_\_\_\_ Other

\_\_\_\_\_ Employed outside the field of education (Please specify--> \_\_\_\_\_)

\_\_\_\_\_ Temporarily out of work force (family care, continue education, military, etc.)

\_\_\_\_\_ Other (Please specify--> \_\_\_\_\_)

## ALL RESPONDENTS

2. On a scale of 0 to 10, how would you rate your general satisfaction with your current (most recent\*) job?

Very Low

Very High

.....  
 0 1 2 3 4 5 6 7 8 9 10

\*Note: If you are currently unemployed, please answer questions 2 through 5 as they pertained to your most recent position.

3. How important was each of the following factors in your decision to accept your most recent position? Please circle one number for each factor. Use the following response categories.

Very Important . . . 5  
 Important . . . . . 4  
 Neutral . . . . . 3  
 Unimportant . . . . . 2  
 Very Unimportant . . . 1  
 Not Applicable . . . N

-----  
 Please circle your response

a. Desirable location . . . . .	5	4	3	2	1	N
b. Salary offered . . . . .	5	4	3	2	1	N
c. Type of position . . . . .	5	4	3	2	1	N
d. Size of organization . . . . .	5	4	3	2	1	N
e. Reputation of school, firm or organization . . . . .	5	4	3	2	1	N
f. Liked people with whom I interviewed . . . . .	5	4	3	2	1	N
g. Spouse has a job in the community. . . . .	5	4	3	2	1	N
h. Only job I was offered . . . . .	5	4	3	2	1	N

4. What do (did) you find most rewarding and satisfying about your current (most recent) position?

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NOW we would like you to evaluate the Teacher Preparation Program. Please answer all questions on pages 6, 7, and 8 regardless of your employment since graduation.

6. We would like you to rate your Teacher Preparation Program in specific areas: first, rate the adequacy of preparation; second, indicate how important the area is (was) to your most recent position.

	Very Adequate. . . . .	5	Very Important . . . . .	5
	Adequate . . . . .	4	Important. . . . .	4
	Neutral. . . . .	3	Neutral. . . . .	3
	Inadequate . . . . .	2	Unimportant. . . . .	2
	Very Inadequate. . . . .	1	Very Unimportant . . . . .	1
	Not Applicable . . . . .	N	Not Applicable . . . . .	N
1)	Planning units of instruction and individual lessons . . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
2)	Preparing and using media. . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
3)	Maintaining student interest . . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
4)	Understanding and managing behavior problems in the classroom . . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
5)	Teaching basic skills. . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
6)	Consultation skills in interacting with other professionals . . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
7)	Developing student-student relationships. . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
8)	Referring students for special assistance . . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
9)	Skills for mainstreaming handicapped students. . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
10)	Methods of working with children with learning problems . . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
11)	Assessing learning problems. . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
12)	Developing tests . . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
13)	Interpreting and using standardized tests . . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
14)	Content preparation in your area of specialization . . . . .	5 4 3 2 1 N	5 4 3 2 1 N	
15)	Professional ethics and legal obligations. . . . .	5 4 3 2 1 N	5 4 3 2 1 N	

		ADEQUACY						IMPORTANCE					
16)	Psychology of learning and its application to teaching. . .	5	4	3	2	1	N	5	4	3	2	1	N
17)	Evaluating and reporting student work and achievement . . . . .	5	4	3	2	1	N	5	4	3	2	1	N
18)	Relating activities to interests and abilities of students. . . .	5	4	3	2	1	N	5	4	3	2	1	N
19)	Using written communication effectively. . . . .	5	4	3	2	1	N	5	4	3	2	1	N
20)	Locating and using materials and resources in your specialty area	5	4	3	2	1	N	5	4	3	2	1	N
21)	Evaluating your own instruction.	5	4	3	2	1	N	5	4	3	2	1	N
22)	Individualizing instruction. . .	5	4	3	2	1	N	5	4	3	2	1	N
23)	Selecting and organizing materials. . . . .	5	4	3	2	1	N	5	4	3	2	1	N
24)	Using a variety of instructional techniques . . . .	5	4	3	2	1	N	5	4	3	2	1	N
25)	Understanding teachers' roles in relation to administrators, supervisors, and counselors. . .	5	4	3	2	1	N	5	4	3	2	1	N
26)	Working with parents . . . . .	5	4	3	2	1	N	5	4	3	2	1	N
27)	Working with other teachers. . .	5	4	3	2	1	N	5	4	3	2	1	N
28)	Assessing and implementing innovations. . . . .	5	4	3	2	1	N	5	4	3	2	1	N
29)	Appreciating and understanding individual and intergroup differences in values and lifestyles . . . .	5	4	3	2	1	N	5	4	3	2	1	N
30)	Using community resources. . . .	5	4	3	2	1	N	5	4	3	2	1	N
31)	Techniques of curriculum construction . . . . .	5	4	3	2	1	N	5	4	3	2	1	N
32)	Influence of laws and policies related to schools . . . . .	5	4	3	2	1	N	5	4	3	2	1	N
33)	Techniques for infusing multicultural learning . . . . .	5	4	3	2	1	N	5	4	3	2	1	N
34)	Developing your own teaching style by observing others . . .	5	4	3	2	1	N	5	4	3	2	1	N

7. On a scale of 0 to 10, how would you rate the quality of the Teacher Preparation Program at Iowa State University? (Please circle the appropriate number.)

Very Poor Very High

.....

0 1 2 3 4 5 6 7 8 9 10

8. On a scale of 0 to 10, how would you rate the contribution of the Teacher Preparation Program at Iowa State University to being prepared for your current (most recent) position?

No Contribution Major Contribution

.....

0 1 2 3 4 5 6 7 8 9 10

9. In what three ways did the teacher preparation program provide the most valuable professional preparation for you?

(1) \_\_\_\_\_

(2) \_\_\_\_\_

(3) \_\_\_\_\_

10. In what three ways should the program have offered more preparation?

(1) \_\_\_\_\_

(2) \_\_\_\_\_

(3) \_\_\_\_\_

11. If you had it to do over again, would you prepare to become a teacher?

\_\_\_\_\_ Certainly would

\_\_\_\_\_ Probably would

\_\_\_\_\_ Undecided

\_\_\_\_\_ Probably would not

\_\_\_\_\_ Certainly would not

12. In terms of lifetime satisfactions, how does a teaching career compare to other possible careers?

Other Careers Teaching

Definitely More Definitely More

Satisfying Satisfying

.....

0 1 2 3 4 5 6 7 8 9 10

13. On a scale of 0 to 10, please rate how important teaching as a professional career is for you.

Not at all Extremely

Important Important

.....

0 1 2 3 4 5 6 7 8 9 10

14. Have you upgraded your skills through formal education since graduating from the teacher preparation program?

If yes, please check as many purposes as apply for participating in the formal education activities, and for each purpose you check, indicate where you participated in the activity.

PURPOSE	LOCATION			
	4-Year college/university	2-Year college	Area Education Agency (AEA)	Other (specify)
Prepare for different type teaching position (certification)				
Prepare for different type position in education--nonteaching				
Prepare for different type position outside education				
Recertification, job requirement				
Professional development				
Personal growth				

[illegible]

15. We would like you to think back to when you were in high school (grades 9-12). To what extent did you participate in the activities listed below? Use the following response categories and record your highest level of participation. For example: soloist, principal musician, and team captain are defined as leaders.

Participated as leader/officer . . . . . 4  
 Regularly participated . . . . . 3  
 Occasionally participated. . . . . 2  
 Did not participate. . . . . 1  
 Activity not available . . . . . 0

Please circle your response

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| a. Band/Orchestra . . . . .                    | 4 | 3 | 2 | 1 | 0 |
| b. Cheerleader/Pep Club . . . . .              | 4 | 3 | 2 | 1 | 0 |
| c. Chorus/Vocal Music . . . . .                | 4 | 3 | 2 | 1 | 0 |
| d. Dance/Drama . . . . .                       | 4 | 3 | 2 | 1 | 0 |
| e. 4-H . . . . .                               | 4 | 3 | 2 | 1 | 0 |
| f. Hobby/Interest Clubs . . . . .              | 4 | 3 | 2 | 1 | 0 |
| (Please specify-->_____)                       |   |   |   |   |   |
| g. Honorary Clubs/Honor Society . . . . .      | 4 | 3 | 2 | 1 | 0 |
| h. Intramural Sports . . . . .                 | 4 | 3 | 2 | 1 | 0 |
| i. Religious Youth Activities . . . . .        | 4 | 3 | 2 | 1 | 0 |
| j. School Newspaper/Yearbook . . . . .         | 4 | 3 | 2 | 1 | 0 |
| k. School Student Council/Government . . . . . | 4 | 3 | 2 | 1 | 0 |
| l. Scouts . . . . .                            | 4 | 3 | 2 | 1 | 0 |
| m. Speech/Debate . . . . .                     | 4 | 3 | 2 | 1 | 0 |
| n. Subject-Matter Clubs . . . . .              | 4 | 3 | 2 | 1 | 0 |
| (Please specify-->_____)                       |   |   |   |   |   |
| o. Varsity Athletic Teams . . . . .            | 4 | 3 | 2 | 1 | 0 |
| (Please specify-->_____)                       |   |   |   |   |   |
| p. Vocational Education Clubs . . . . .        | 4 | 3 | 2 | 1 | 0 |
| (Please specify-->_____)                       |   |   |   |   |   |
| q. Other . . . . .                             | 4 | 3 | 2 | 1 | 0 |
| (Please specify-->_____)                       |   |   |   |   |   |



16. Please check any of the following groups or organizations in which you have voluntarily participated since graduating from college.

☐ Church or religious activities (in addition to attending services)  
☐ Community centers, neighborhood improvement or social-action association  
☐ Educational organizations (such as PTA, academic group)  
☐ Organized volunteer work  
☐ Political organizations  
☐ Professional, union, farm, or trade association  
☐ (Please specify--> \_\_\_\_\_)  
☐ Service organizations (such as Rotary, Chamber of Commerce, Veterans, etc.)  
☐ Social, hobby, garden club or group  
☐ Sports teams or sports clubs  
☐ Youth organizations (such as Little League Coach, Scouting)  
☐ Other (Please specify--> \_\_\_\_\_)

If you have NEVER TAUGHT during the five years following graduation, go to page 15. CURRENT AND FORMER TEACHERS, please answer questions 17 through 22 first.

#### CURRENT AND FORMER TEACHERS ONLY

17. Please check any of the following extracurricular activities that you have been involved in as an advisor, coach, or assistant while employed as a teacher:

☐ Band/Orchestra  
☐ Cheerleader/Pep Club  
☐ Chorus/Vocal Music  
☐ Dance/Drama  
☐ 4-H  
☐ Hobby/Interest Clubs (Please specify--> \_\_\_\_\_)  
☐ Honorary Clubs/Honor Society  
☐ Intramural Sports  
☐ Religious Youth Activities  
☐ School Newspaper/Yearbook  
☐ School Student Council/Government  
☐ Scouts  
☐ Speech/Debate  
☐ Subject-Matter Clubs (Please specify--> \_\_\_\_\_)  
☐ Varsity Athletic Teams (Please specify--> \_\_\_\_\_)  
☐ Vocational Education Clubs (Please specify--> \_\_\_\_\_)  
☐ Other (Please specify--> \_\_\_\_\_)

18. We would like you to rate your perception of your teaching behavior in each of the following areas. Using the scale below, circle the number for each area that indicates how well you are doing or did in your most recent teaching position.

		Very Low												Very High
a.	Providing a setting conducive to learning . . . . .	0	1	2	3	4	5	6	7	8	9	10		
b.	Motivating students . . . . .	0	1	2	3	4	5	6	7	8	9	10		
c.	Demonstrating knowledge of subject matter. . . . .	0	1	2	3	4	5	6	7	8	9	10		
d.	Monitoring and evaluating student progress and understanding. . . . .	0	1	2	3	4	5	6	7	8	9	10		
e.	Providing clear, concise explanations and examples. . . . .	0	1	2	3	4	5	6	7	8	9	10		
f.	Managing instructional activities efficiently and ensuring student time on task. . . . .	0	1	2	3	4	5	6	7	8	9	10		
g.	Communicating effectively with students. . . . .	0	1	2	3	4	5	6	7	8	9	10		
h.	Demonstrating effective planning and organization skills . . . . .	0	1	2	3	4	5	6	7	8	9	10		
i.	Exhibiting a positive self-concept. . . . .	0	1	2	3	4	5	6	7	8	9	10		
j.	Using evaluation activities appropriately . . . . .	0	1	2	3	4	5	6	7	8	9	10		
k.	Implementing the lesson plans effectively . . . . .	0	1	2	3	4	5	6	7	8	9	10		
l.	Maintaining high expectations for student achievement . . . . .	0	1	2	3	4	5	6	7	8	9	10		
m.	Incorporating effective questioning techniques. . . . .	0	1	2	3	4	5	6	7	8	9	10		
n.	Maintaining high standards for student behavior. . . . .	0	1	2	3	4	5	6	7	8	9	10		
o.	Maintaining effective working relationships with peers and administrators . . . . .	0	1	2	3	4	5	6	7	8	9	10		

19. We also would like your perceptions about employment factors related to teaching. Please indicate how satisfied you are/were with each of the following aspects of teaching. Use the following response categories.

Very Satisfied . . . . 5  
 Satisfied . . . . . 4  
 Neutral . . . . . 3  
 Dissatisfied . . . . . 2  
 Very Dissatisfied . . . 1  
 Not Applicable . . . . NA

Please circle your response

a. Salary . . . . .	5	4	3	2	1
b. General working conditions . . . . .	5	4	3	2	1
c. Amount of administrative support received . . . . .	5	4	3	2	1
d. Relationship with other teachers . . . . .	5	4	3	2	1
e. Extent of involvement in decision making . . . . .	5	4	3	2	1
f. Job benefits . . . . .	5	4	3	2	1
g. Job responsibilities . . . . .	5	4	3	2	1
h. Extent to which job challenged and provided for professional growth . . . . .	5	4	3	2	1
i. Level of job performance . . . . .	5	4	3	2	1
j. Opportunities for advancement . . . . .	5	4	3	2	1
k. Method with which job performance evaluated . . . . .	5	4	3	2	1
l. Frequency with which job performance evaluated . . . . .	5	4	3	2	1
m. Size of community in which employed . . . . .	5	4	3	2	1
n. Support given by family and friends for choice of teaching as a career . . . . .	5	4	3	2	1
o. Amount of time spent working at job . . . . .	5	4	3	2	1
p. Relationship with students . . . . .	5	4	3	2	1
q. Level of parental involvement . . . . .	5	4	3	2	1
r. Role played in professional associations . . . . .	5	4	3	2	1
s. Community support for education . . . . .	5	4	3	2	1
t. Teaching as a career . . . . .	5	4	3	2	1
u. Community respect for teachers as professionals . . . . .	5	4	3	2	1

20. The influence of various groups and approaches in assisting students to realize their potential has often been discussed. Using the scale below, please rate each of the following in terms of your perceptions of influence on student overall growth and development.

Makes No Difference Makes a Major Difference

-----  
0 1 2 3 4 5 6 7 8 9 10

Your rating

\_\_\_\_ Schools in general  
\_\_\_\_ Teachers in general  
\_\_\_\_ Students' socio-economic background  
\_\_\_\_ Students' interest in learning  
\_\_\_\_ Parents of students  
\_\_\_\_ You as a teacher

21. For each of the following groups, how confident are you in working with students in achieving their potential? Use the rating scale below.

Not Confident Very Confident

-----  
0 1 2 3 4 5 6 7 8 9 10

Your rating

\_\_\_\_ Talented and gifted student  
\_\_\_\_ Somewhat above average students  
\_\_\_\_ Average students  
\_\_\_\_ Somewhat below average students  
\_\_\_\_ At-risk students  
\_\_\_\_ Unmotivated students

22. Many teachers indicate that one or more of the following activities are helpful in becoming a better teacher.
- (a) Which activities do you view as most helpful?
- (b) Which activities are least helpful? (Check as many as apply.)

(a) Most helpful      (b) Least helpful

_____	_____	Observe and/or be observed by other teachers and talk with them.
_____	_____	Establish mentor relationship with experienced teacher.
_____	_____	Read professional journals/publications.
_____	_____	Take additional graduate courses in education.
_____	_____	Take additional graduate courses in areas other than education.
_____	_____	Participate in teacher inservices/workshops.

NOW we would like to ask you some general questions about you and your family.

23. Marital status
- \_\_\_\_\_ Single (never married)
- \_\_\_\_\_ Married
- \_\_\_\_\_ Divorced, separated, or widowed
24. Do you have any children?
- \_\_\_\_\_ Yes --> How many? \_\_\_\_\_
- \_\_\_\_\_ No
25. What is the population of the community where you are currently or were most recently employed?
- |                     |                       |
|---------------------|-----------------------|
| _____ Under 1,000   | _____ 10,000 - 24,999 |
| _____ 1,000 - 2,499 | _____ 25,000 - 50,000 |
| _____ 2,500 - 4,999 | _____ Over 50,000     |
| _____ 5,000 - 9,999 |                       |
26. Which of the following categories best describes your total income during last year? (If married, include spouse's income)
- |                            |                            |
|----------------------------|----------------------------|
| _____ less than \$ 9,999   | _____ \$25,000 to \$29,999 |
| _____ \$10,000 to \$14,999 | _____ \$30,000 to \$49,999 |
| _____ \$15,000 to \$19,999 | _____ \$50,000 and over    |
| _____ \$20,000 to \$24,999 |                            |

If you have any additional comments about teacher preparation or teaching in general, please use the space below.

The College of Education and the Research Institute for Studies in Education appreciate the time you have taken to complete this questionnaire.

Postage for the questionnaire is prepaid, so all you need to do is tape it and drop it in a mailbox.