

1989

A comparative and predictive model to determine factors related to preparation and entry into the teaching profession

Beverly Jean Young
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to preparation and entry into the teaching profession**

Young, Beverly Jean, Ph.D.

Iowa State University, 1989

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**300 N. Zeeb Rd.
Ann Arbor, MI 48106**

**A comparative and predictive model to determine
factors related to preparation and entry
into the teaching profession**

by

Beverly Jean Young

**A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY**

**Department: Professional Studies in Education
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Ames, Iowa**

1989

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CHAPTER 1

Introduction

For many years, education was seen as the key to unlocking a myriad of opportunities that would lead to achievement and success. Public education has, however, come under severe criticism in the past several years and the once invincible ability of education to deliver its promises is dubious at best (Carnegie Forum on Education and the Economy, 1986).

Teaching is a feminized occupation, taking its current form in the 1930s and 1940s when women were expected to subordinate their careers to childrearing. Teaching salaries, therefore, rank at the bottom of all occupations requiring a college degree (Carnegie Forum on Education and the Economy, 1986; Chapman & Hutcheson, 1982; Darling-Hammond, 1984).

After years of teacher surplus, teaching jobs and applicants were roughly in balance in 1985. For at least the next ten years, however, it is anticipated that jobs will be more abundant than applicants. This demand for teachers is expected to increase due to three factors: student enrollment increases; pupil teacher ratio reforms; and education reforms (U.S. Dept. of Education, 1987).

Although many researchers question the existence of a teacher shortage, using the available supply and demand criteria (Berryman, 1985; Weaver, 1981), other researchers assert a shortage is imminent. The 1970s marked the end of the baby boom and consequently, the demand for significant numbers of new teachers. Since the children of these baby boomers are now entering school, the demand for teachers is expected to rise again. As shown in Table 1, an increase in the demand for elementary teachers is expected through the early 1990s with only 63% of the demand for school teachers expected to be met in 1993 (Harris & Harris, 1988).

The fall in teacher supply can also be attributed to the increased opportunities for women and minorities in other professions (Langway, 1980; A Nation at Risk, 1983). Many of the most accomplished teachers are now declaring they would not choose a teaching career if they had to start all over (National Education Association, 1981; Wangberg et al., 1982; Heyns, 1988).

The academic ability of teacher education graduates has been cast into doubt by many researchers (Chapman & Hutcheson, 1982; Schlecty & Vance, 1982; Weaver, 1979;

Table 1. Estimated supply of new teacher graduates compared to estimated total demand for additional teachers in regular elementary and secondary schools^a

Year (fall)	Estimated supply of new teacher graduates	Estimated demand for additional teachers	Supply as a percent of demand
Intermediate alternative projections			
1983	146	148	98.6
1984	146	142	102.8
1985	144	157	91.7
1986	142	170	83.5
1987	140	160	87.5
1983-87	718	777	92.4
1988	139	164	84.8
1989	139	173	80.3
1990	139	183	76.0
1991	138	195	70.8
1992	137	209	65.6
1988-92	692	924	74.9

^aNational Education Association. Teacher Supply and Demand in Public Schools, 1982-83.

Pavalko, 1970; Chapman & Hutcheson, 1982). Although average Scholastic Aptitude Test scores of high school seniors intending to major in education have risen since 1984, the rise was preceded by more than 10 years of continuous decline unsustained by any other group of college bound students. The scope of these declines remains extensive (Astin et al., 1987; Heyns, 1988; A Nation Prepared: Teachers For The 21st Century, 1986; A Nation at Risk, 1983).

Recent reform proposals have endorsed the idea that attracting higher quality people to teaching is a worthy goal. Additionally, increased subject-matter competence, more standardized testing, the addition of a fifth year to teacher preparation programs, differentiated career opportunities, increased clinical experience, and higher salaries for teachers have also been recommended (Murray, 1986; A Nation Prepared, 1986; A Nation at Risk, 1983).

Some critics argue the very structure of schools and the reward systems therein turn the brightest teacher education students away from teaching. The current structure and organization of schools do not provide incentives for academically able teachers to remain in teaching. The roles, expectations and responsibilities of teaching are the same for the beginning as well as

experienced teacher. The influence exerted on the school by the experienced teacher is no greater than that of the beginner.

Unlike other professions, the capable beginning teacher cannot anticipate increased responsibilities and corresponding increases in capacity and performance. Because these rewards are largely non-existent in teaching, such teachers are driven from teaching while those who perceive themselves as having less attractive alternatives remain (Vance & Schlecty, 1982; Chapman & Holzeman, 1984).

Unlike earlier generations, today's graduates are seeking out professions that not only provide ample financial rewards but also those that allow them to have a sense of contribution and an opportunity to use their imagination, creativity, and analytic skills. The teaching profession, according to these standards, does not satisfy these needs (Holland, 1973; Super and Hall, 1978; Chapman and Hutcheson, 1982).

"A Nation at Risk" (1983) was the forerunner to the landmark national reports of 1986. It accentuated the concern for the nation's public school system. Two additional reports, "A Nation Prepared: Teachers for the 21st Century" and the "Carnegie Report: A Call for

Redesigning the Schools" were issued to assess the status of teaching and teacher training. Although different in form and origin, these reports did converge on the need to reform the country's public schools.

The release of "A Nation Prepared: Teachers for the 21st Century" gave impetus to some of the most controversial recommendations of the report: the establishment of a National Board for Professional Standards, greatly increased pay for teachers, the abolition of the undergraduate major in education, and the creation of Master in Teaching degree programs for professional teacher education. As a result of this education reform movement, states and local school boards have raised standards for students and teachers, substantially raised teacher salaries in many districts, created career ladders, and instituted merit pay plans.

The conditions that characterize teaching are increasingly undesirable to people who qualify for jobs in the upper stratum of the American work force. Most occupations characterized as a "profession" bestow upon their members a certain amount of esoteric knowledge as well as autonomy in performing duties. Members have some input regarding standards used to judge their work, they judge the qualifications of newly entering professionals

in their field, and they have a major voice in deciding what preparation program is appropriate for professionals in their field.

Teaching, conversely, is diffused with bureaucracy. The rules that guide teachers' actions are made by others. The textbook and curriculum dictate what teachers can do (A Nation at Risk, 1983). As much as 50 percent of teachers' workday may be laden with non-instructional duties (e.g., lunchroom duties and hall monitoring). The experienced teacher's skills are used no differently than those of the beginning teacher. Policies continuously constrain the exercise of independent judgement on the part of teachers (Carnegie Forum on Education and the Economy, 1986; Chapman & Hutcheson, 1982).

A major determinant of professionalism for any occupation is salary structure. Most occupations hold the prospect of higher salaries either for the beginner or after years of experience in a profession. The salary configuration of teachers holds no such prospects at either end of the continuum. Beginning teachers' salaries are lower than the majority of all other fields requiring a college degree, even after they are adjusted to reflect a twelve-month base (Darling-Hammond, 1984). Teachers' wages reach a plateau within ten to 12 years after entry

with no prospects for real salary increases. These conditions are driving many capable teachers out of the profession and the task of attracting new students to teaching will reach insurmountable proportions unless fundamental changes are made (Carnegie Forum on Education and the Economy, 1986; A Nation at Risk, 1983; Chapman, 1984; Vance & Schlecty, 1982; Weaver, 1979; Pavalko, 1970; Chapman & Hutcheson, 1982).

The inquiry into teacher quality will require school administrators to consider seriously the role of compensation in holding and attracting more capable teachers (U.S. Dept. of Education, 1987). Teaching must offer salaries, benefits and working conditions approximating other professions if the goal is to attract and retain individuals of better than average intellectual ability (Carnegie Forum on Education and the Economy, 1986). It is imperative that teaching become a more desirable occupational pursuit inasmuch as the widening range of careers available to men and women has resulted in a smaller pool of able college graduates willing to opt for a teaching career (Chapman, 1984; Vance & Schlecty, 1982). It is important to make the most efficient use of our teachers but it is more important to make the most efficient use of our very best teachers (Tucker & Mandel, 1986).

Statement of the Problem

The decline in the number of students opting for a teaching career seriously threatens our children and our future as a nation. Teacher education institutions are being confronted with many challenges resulting from students' lack of interest in teaching careers.

This study will investigate selected characteristics that help to identify teacher education students who enroll in a beginning education course, graduate in teacher education and choose to enter the teaching profession from those who cease to persist through this preparation and entry cycle. The sample of teachers remaining will be compared to a representative national sample of beginning teachers based upon certain background characteristics including:

1. Demographic and background variables.
2. Importance of job characteristics.
3. Adequacy of teacher preparation.
4. Academic ability as measured by high school rank and high school grades.
5. Long range career plans.
6. Decision to choose teaching again.
7. High school extracurricular activities.

8. Satisfaction with the teacher preparation program.

Purpose of the Study

According to Borg and Gall (1983), the causal comparative method seeks to discover possible causes of a phenomenon being studied by comparing subjects in whom a characteristic is present with similar subjects in whom the characteristic is absent or present to a lesser degree. The purpose of this study is to examine a causal-comparative model of selected characteristics of students who graduate in teacher education and enter the teaching profession and those who do not. The extent to which these students differ will be investigated via two student samples: an Iowa State University data base of teacher education graduates and "High School and Beyond," a national longitudinal data base. The extent to which these variables predict a student's entry into the teaching profession will also be explored.

Importance of the Study

The enormous turnover in the teaching profession means that decisions made in the next decade will have an impact on the composition of our teaching force for years to come (Carnegie Forum on Education and the Economy,

1986). Previous research examining the rate at which teachers leave the teaching profession has shown that about one of every four teachers eventually changes to another career (Charters, 1970; Mark & Anderson, 1978). Less emphasis has been placed on the differences in characteristics (e.g., skills, abilities, and job perceptions) between those who leave or do not enter teaching and those who remain in the field. Little research has been done examining the types of high school extracurricular activities beginning teachers and their non-education counterparts participate in during high school. Information on such differences can be of considerable importance in the career counseling of prospective teachers and in the design of teacher preparation. Additional insight into the experience of being a teacher may also be obtained from this investigation. This study may have implications for school administrators, curriculum designers, and career counselors.

Issues to Be Addressed

Studies have suggested that high ability students are not opting to go into teaching after college (Chapman & Hutcheson, 1982; Vance and Schlecty, 1982; Weaver, 1979). The present investigation will explore this position.

Spady (1971) and Otto (1975) have found that students' participation in extracurricular activities is a positive influence on educational attainment. This study will explore how this participation correlates with students going into the teaching profession after college.

Independent and Dependent Variables

Dependent variable

The dependent variable to be used in this study is teaching or non-teaching one year after graduation. The dependent variable will be measured by the response to item 1 from the Iowa State questionnaire which asks respondents to check "teaching" or "non-teaching" regarding their current employment situation. The item used to assess the employment situation during the same time period in the High School and Beyond sample will be question 8 (part A) which asks students to list the first job they held since graduating from college.

Independent variables

The independent variables for the dependent variable in both samples are: (1) gender; (2) high school rank; (3) high school grade point average (GPA); (4) participation in high school extracurricular activities; (5) job orientation, TIME1 for the Iowa State sample and TIME3 for High School and Beyond; (6) evaluation of the teacher preparation program; (8) adequacy of teacher preparation program; (9) plan to teach; (10) willingness to "do it over" again; and (11) satisfaction with the teacher preparation program (High School and Beyond only).

Basic Assumptions

1. The survey instruments and data collection procedures utilized by the Research Institute for Studies in Education (RISE) were valid and reliable.
2. The survey instruments and data collection procedures used by the Center for Education Statistics' High School and Beyond Data Base were reliable and valid.
3. The two survey instruments are valid measures for making generalizations about each sample of teacher education students.
4. The data used in this study are accurate.
5. The two year difference in the ages of those students who are on track for the Iowa State sample (college

sophomores in 1980) and High School and Beyond (high school seniors in 1980) is inconsequential to the results of the study.

Delimitations of the Study

1. The data analysis for this study will be limited to cases having complete and usable responses.
2. The Iowa State sample is only representative of Iowa State teacher education students.
3. The Iowa State sample includes only those students who enrolled in Elementary or Secondary Education 204.
4. The High School and Beyond data sample is restricted to only those students who were high school seniors in 1980 and completed the third follow-up questionnaire.

Definition of Terms

Talent loss theory - This refers to the contention that education is losing its most academically talented teachers to other professions.

Beginning teacher - A teacher who has been in the work force one year or less.

Reality shock - The disillusionment experienced by beginning teachers when they graduate from pre-service academic training to the "real world" of the profession.

Organization of the Study

This study is divided into five chapters, an appendix and references. Chapter 1, the introduction, includes some background data pertaining to the teaching profession. Also included are the statement of the problem, purpose of the study, importance of the study, research hypotheses, basic assumptions, delimitations of the study, definition of terms and organization of the study. Chapter II presents a review of the literature summarizing pertinent research related to the teacher shortage, teacher candidates' academic ability, job characteristic items, gender differences in teacher attrition and retention, adequacy of teacher preparation programs, high school extracurricular activities, and the decision of teachers to choose the teaching profession again. Chapter III contains the methodology for this study. The survey instruments and population are described as well as data analysis procedures and techniques. Chapter IV provides analyses and interpretation of the data. Chapter V includes a summary of the research and recommendations for future studies.

CHAPTER II

Review of Selected Literature

Many disciplines are ranked according to their abilities to attract and retain qualified employees. The commitment to these professions seem to be manifest in the very nature of the way they replenish themselves. As employees leave or retire, there is a ready supply of candidates willing to take their places. This kind of stability is not characteristic of the teaching profession, at present. The profession is volatile at best. Persons may leave the field temporarily to take care of children or rear a family; others may leave permanently for financial reasons. At any given time, the teaching force is comprised of individuals from diverse backgrounds and experiences who are constantly making career decisions that impact on the potential supply of teachers (Hafner and Owings, 1988).

Trends in the number and type of bachelor degrees awarded provide useful information to college administrators for program planning. Table 2 (U.S. Dept. of Education, 1987) shows the number of students earning degrees in education has been steadily decreasing since 1972 while the fields of business, engineering and

Table 2. Bachelor's degrees conferred, by field: Selected years 1972-1973 to 1984-1985^a

Field	1972-73	1974-75	1976-77	1978-79	1980-81	1982-83	1984-85
Total	922,362	922,933	919,549	921,390	935,140	969,510	979,477
Arts and sciences	442,873	429,342	400,765	372,191	353,425	344,502	340,800
Sciences	289,613	276,853	254,550	234,242	219,424	211,292	208,595
Physical & biological sciences	85,996	90,700	90,298	83,859	78,246	75,840	77,323
Social sciences	203,617	186,153	164,252	150,383	141,178	135,452	131,272
Humanities	153,260	152,489	146,215	137,949	134,001	133,210	132,205
Technical & professional	479,489	493,591	518,784	549,199	581,715	625,008	638,677
Business	126,263	133,010	150,964	171,764	199,338	226,893	233,351
Education	194,229	167,015	143,722	126,109	108,309	97,991	88,161
Other technical and professional	158,997	193,66	224,098	251,326	274,068	300,124	317,165

^aU.S. Department of Education. Center for Education Statistics. (1983, 1984, 1986, 1987). Digest of Education Statistics. Washington, D.C.: U.S. Department of Education.

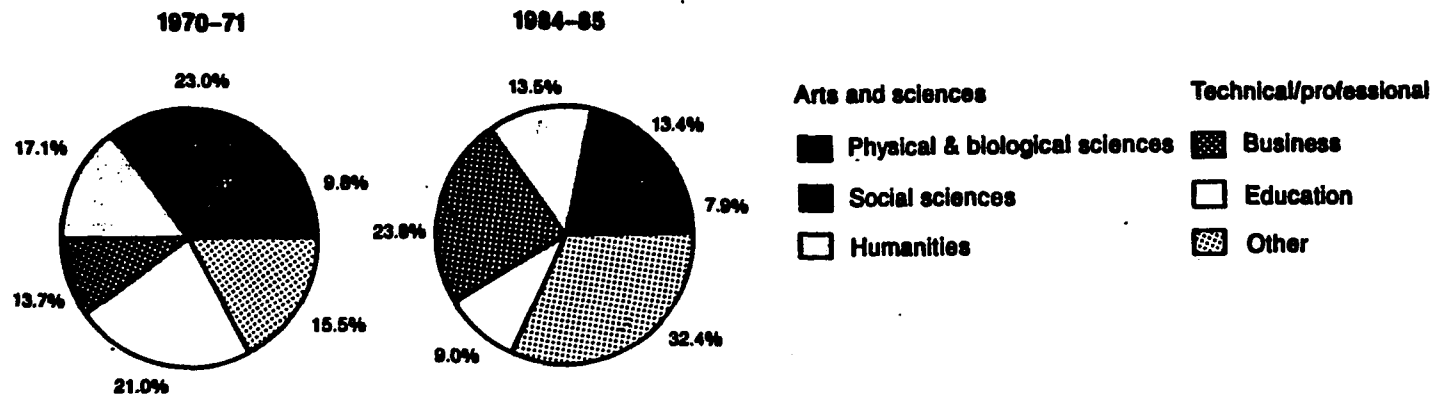
Table 2. Continued

Field	1972-73	1974-75	1976-77	1978-79	1980-81	1982-83	1984-85
Computer & information sciences	4,304	5,033	6,407	8,719	15,121	24,510	38,878
Engineering & engineering technologies	51,265	46,852	49,283	62,375	75,000	89,270	96,105
Other	103,428	141,681	168,408	180,232	183,947	186,344	182,182

computer science have experienced increases. Degrees in Arts and Sciences have been decreasing since 1972 while technical and professional degrees have increased. Proportionately, as demonstrated in Figure 1 (U.S. Dept. of Education, 1987), the percentage of education degrees have decreased from 21 percent in 1971 to just 9 percent in 1985.

Teaching has always been an occupation with somewhat high turnover and little professional status (Lortie, 1975; Heyns, 1972). Teaching has been a predominantly female profession since the Civil War (Tyack & Strober, 1981), and women make up two-thirds of its corp (National Education Association, 1981). For women, a teaching career allowed for more flexibility and although vertical mobility was limited, it did provide geographic and lateral mobility (Heyns, 1972; Langway, 1980).

Despite the flexibility and mobility teaching affords, the number of college graduates pursuing a degree in education after high school graduation has steadily declined, in spite of an overall increase in the total number of students enrolled in higher education institutions. Astin et al. (1987) points out that student interest in education toppled between 1966 when 21.7% of the freshmen were interested in majoring in education and



SOURCE: Center for Education Statistics, *Digest of Education Statistics, 1987*.

Figure 1. Percentage of bachelor's degrees conferred, by field: 1970-71 and 1984-85

1985 when only 6.2% expressed a similar interest. This represents a 71% decrease in the proportion of freshmen planning to launch a teaching career. Within education, interest in a career in secondary education fell by four-fifths from 14.1% in 1966 to 2.4% in 1985. Elementary education fell by roughly one-half, from 7.6% in 1966 to 3.8% in 1985. The percentage of students planning to pursue a teaching career dropped from 21.7% in 1966 to an all time low of 4.7% in 1982. By 1986, however, that figure had risen to 7% (Astin et al. 1987). Even with this increase, student interest in education falls short of previous decades and comes short of the demand anticipated for the 1990s (Astin et al. 1987; U.S. Dept. of Education, 1987).

Table 3 (U.S. Dept. of Education, 1987) shows the proportion of students who were teaching one year after graduation. The number of bachelor degree recipients entering the teaching profession fell by 11,500, representing a 25 percent decrease in education majors overall (U.S. Dept. of Education, 1987). Mark and Anderson (1978) and Chapman and Hutcheson (1982) assert that an estimated twenty-five percent of students who complete a teacher preparation program never enters teaching or leaves the profession within the first five

Table 3. Number and percent of recent bachelor's degree recipients who taught, by major field: 1981 and 1985^a

Major field	1979-80 graduates			1983-84 graduates			Change in number of new graduates teaching, 1981-85
	Total	Teaching in 1981 Number	Percent	Total	Teaching in 1985 Number	Percent	
Total	905,663	94,209	10.4	955,273	82,669	8.7	-11,540
Technical/ professional	476,878	79,111	16.6	495,912	62,298	12.6	-16,813
Engineering	66,975	0	0.0	87,717	256	0.3	256
Business/ management	188,678	361	0.2	224,070	705	0.3	344
Health	65,508	1,105	1.7	63,657	1,182	1.9	77
Education	129,859	77,615	59.8	96,859	59,859	62.0	-17,756
Public affairs/ social services	25,858	30	0.1	23,917	296	1.2	266
Arts and sciences	307,525	12,916	4.2	292,038	13,655	4.7	739

^aU.S. Department of Education. Center for Education Statistics. (1983, 1984, 1986, 1987. Digest of Education Statistics. Washington, D.C.: U.S. Department of Education.

Table 3. Continued

Major field	1979-80 graduates			1983-84 graduates			Change in number of new graduates teaching, 1981-85
	Total	Teaching in 1981 Number	Percent	Total	Teaching in 1985 Number	Percent	
Biological sciences	53,486	1,465	2.7	47,008	1,664	3.5	199
Physical sciences & mathematics	39,779	1,266	3.2	22,807	427	1.9	-839
Psychology	40,350	1,529	3.8	45,310	6,600	3.5	71
Social sciences	93,351	2,595	2.8	93,846	4,443	4.7	1,848
Humanities	80,559	6,061	7.5	83,067	5,521	6.6	-540
Other	121,260	2,182	1.8	167,323	6,716	4.0	4,534
Communications	20,372	0	0.0	43,395	828	1.9	828
Misc. ^b	100,888	2,182	2.2	123,928	5,888	4.8	3,706

^bIncludes agriculture and natural resources, architecture, home economics, law enforcement, and interdisciplinary studies.

years. Other research suggests that figure may be as high as 55% (Hafner & Owings, 1988).

The United States particularly is experiencing a severe shortage of trained secondary school mathematics and science teachers (Guthrie & Zusman, 1982; Astin et al., 1987). A nationwide survey by the National Education Association found that of nearly one million college graduates, only about 8,000 elect to prepare to be a teacher in math or science (Graybeal, 1981). Palavin et al. (1984) conclude that, as a result of increased state mandated graduation requirements, the demand for science and math teachers at the secondary level will exceed those projected for the aggregate of education.

A survey conducted by the Association for School, College, and University Staffing reported math and science teacher shortages in at least 42 states (Akin, 1982). The National Education Association reports that as a result of these shortages, 22 percent of all secondary math positions remain vacant or are filled by persons who are not certified to teach the subject (Graybeal, 1981).

This situation is likely to worsen considering many of the teachers who were hired in the 1950s and 60s to meet the teacher demands of the "baby boomers" will be retiring in the 1980s and 90s (Guthrie and Zusman, 1982;

Musemeche & Adams, 1978). If current trends continue, only 75% of the demand for teachers will be met in 1990 (U.S. Department of Education, 1984) and this demand is expected to increase through 1993 (Plisko and Stern, 1985).

Some research fails to confirm that a shortage does exist and asserts that too little data exist to make any conclusions about teacher demand and supply (Berryman, 1985; Weaver, 1978). Hafner and Owings (1988), using national longitudinal teacher education data, found that 61% of the individuals who were trained to teach in 1972 were still teaching in 1986. They found no evidence that attrition among teachers was greater than in previous years.

Although teaching as a career may have lost its appeal during the last fifteen years, some research has shown that a majority of teachers do plan to remain in the classroom (Page et al., 1983; Dravland & Greene, 1980, Keith et al., 1983). The downward trend may also be ending as far as public school parents are concerned. In 1969, 76% of public school parents favored one of their children becoming a public school teacher; in 1983, only 43% expressed this view. In 1984, fully 50% of those interviewed said they would like to see a daughter become

a public school teacher and 46% had the same goal for one of their sons (Gallup Poll, 1984b).

Some research does not confirm that a teacher shortage exists, yet, the majority of the sources cited do warn of a curtailment in the number of available teachers, in the next decade, who are willing and qualified to teach. The fields of mathematics and science are expected to sustain the largest losses. Because of the nature and importance of the shortage areas, the gravity of a possible teacher shortage is evident.

Those Who Leave and Those Who Remain in Teaching

Research has indicated that teachers who remain in education can be differentiated by a desire to work with children or contribute to society (Chapman & Hutcheson, 1982; Wood, 1978), whereas those who leave the profession or never teach assign more importance to salary, autonomy and responsibility (Chapman & Hutcheson, 1982; Bloland and Selby, 1980; Chapman, 1984; Roberson et al., 1983).

The profile of students who remain in education and those who do not has been of considerable interest to researchers. This research can give program administrators insight into some characteristics of students who become teachers compared to their

non-teaching counterparts. Factors inducing teachers to defect from the profession could also be analyzed from these data. This section is divided into major headings to provide a profile of teachers who persist and those who do not.

The beginning teacher

Previous research has shown that one of every four teachers eventually changes to another career (Charters, 1970; Mark & Anderson, 1985). The critical decision to remain in or leave teaching seems to be made within the first three to five years after graduation. The beginning teacher, then, is the most volatile in the teaching profession.

The fact that beginning teachers do not remain in the teaching profession is documented. Mark and Anderson (1985) found that for the teachers in the Missouri public school system, there were rapid dropouts in the first few years of teaching with declining percentages in later years. Twenty-nine percent dropped out within two years, another 30 percent dropped out within seven years and an additional 11 percent did not remain through the 14th year.

The National Education Association (1980) studied 1,738 teachers and found that only 43 percent planned to remain in teaching until retirement; 9 percent wanted to leave the classroom as soon as possible. Moracco et al. (1983) did a similar study of 691 teachers in a large metropolitan school system and found 52 percent of those sampled unwilling to become teachers again if given the choice. Mason (1966) reported that 65 percent of beginning teachers expect to leave teaching within five years and 70 percent of new women teachers hope to be "homemakers," although five of six of these women eventually want to return to teaching.

Gender differences

Gender differences in teacher attrition are small, however, males are more likely to leave teaching than females, especially after a few years of teaching (Charters, 1970; Mueller, 1976). These findings were consistent with Bloland and Selby (1980) who found an interaction between sex, age and marital status with single males and those under thirty more likely to leave education while older males tend to pursue administrative positions. Single women were more likely to leave teaching than married women and older and more experienced

teachers were less likely to seek another career than were younger teachers. Chapman and Hutcheson (1982) found no gender linked differences in their study of graduates from three Indiana universities. When Mark and Anderson (1978) studied successive cohorts of new teachers in St. Louis, they also found no gender linked differences in these groups over time.

Demographics and salary

Certain demographic data have been found to distinguish teachers who remain in the profession from those who do not. The following studies address some methods that have been employed to differentiate between students who enter the profession and those who do not.

Murnane and Olsen (1987) employed an econometric regression method to predict duration in teaching on a large sample of individuals who began teaching careers in 1972, 1973, 1974, or 1975 in Michigan public schools. They found that teachers with the highest salaries were more likely to remain in teaching longer. High school teachers were more likely to leave teaching than elementary teachers (Feldvebel, 1968), and the groups with the most predicted attrition from teaching tended to be in the areas of chemistry, physics, and foreign

languages. They also discovered that a teacher would be more likely to leave teaching if he/she could command a higher salary in another occupation. In addition, women less than thirty years of age were less likely to remain in teaching than women over thirty.

A study by Hafner and Owings (1988) utilizing the National Longitudinal Data Base of 1972, with an excess of one thousand cases, found the positive predictors of teacher retention to be 1) number of years in teaching; 2) satisfaction with job; 3) teaching in public schools; 4) teaching full-time; 5) satisfaction with teaching; 6) number of continuing education activities; 7) number of education credits; and 8) low parental education. The predictors of attrition from teaching were 1) high parental education; 2) teaching as a first job; 3) a large number of children; 4) high satisfaction with pay in 1986; 5) teaching in a secondary school; (Heyns, 1988; Pavalko, 1970; Feldvebal, 1968) and 6) teaching in a large urban school system (Heyns, 1988; Pavalko, 1970; Feldvebal, 1968).

Chapman (1984) and Roberson et al. (1983) found those teachers who left the profession assigned more importance to salary as a criterion of success. Additional analyses revealed those who never taught had the highest levels of

job and life satisfaction and enjoyed more career mobility than those teaching. Those who left teaching reported less career satisfaction.

Job characteristics

The degree to which an occupation provides persons with certain intrinsic and extrinsic rewards is important in attracting people to its ranks. Brayfield et al. (1957) assert that workers function within and outside a number of social systems and that differences in orientation and motivational structure account for variability in job performance and satisfaction (Feldvebel, 1968). This type of job satisfaction has been found to be a good indicator of satisfaction with teaching.

Super and Hall (1978) have identified job autonomy, job challenge, and financial compensation as important considerations in career retention. Fields that inhibit achievement of autonomy, job challenge or compensation are more likely to experience more attrition. The teaching profession seems to be one such field. Several aspects of teaching seemingly contribute to this attrition: first, teachers are bound by the demands of the curriculum with their choice of activities constrained by the desire

students to perform well on standardized tests; secondly, the daily activities of teachers may not change with additional years of experience; and third, the teachers' salary structure is tightly tied to seniority (Chapman & Hutcheson, 1982).

Chapman and Hutcheson (1982) conducted a study to investigate the differences between individuals whose first job after graduation was teaching and remained teaching and those whose first job was teaching but made a subsequent career change.

Based upon Holland (1973) and Super and Hall (1978), Chapman and Hutcheson speculated that teachers who remained in teaching and those who left teaching could be differentiated by their judgements pertaining to career success. Those leaving teaching would assign more value to autonomy than those remaining in teaching. Other distinguishing traits of those remaining in teaching would be the importance placed on the reactions of supervisors and/or administrators, approval from other persons and less emphasis on salary (Roberson et al., 1983). Six hundred ninety students, from three public universities in Indiana, were considered.

Results of the study showed those who remained in teaching and those who left teaching had different

standards for judging career success. Those changing careers were more positive about their abilities at analyzing and evaluating, working on long-term projects, and persuading others to accept their ideas. Those remaining in teaching were more positive about their abilities to organize time effectively, plan or organize activities, and deal with the public (Roberson et al., 1983). Those who left teaching were more positive about their abilities to interpret numerical data, cooperate with a work team, analyze and evaluate, and write effectively. They assigned greater importance to salary increases (Roberson et al., 1983), job responsibility and autonomy, the opportunity to learn new things, and the chance to contribute to important decisions. Those who remained in teaching valued recognition by supervisors and administrators. Those remaining in teaching were characterized as regarding approval from family and/or close friends and recognition by supervisors/administrators as more important in estimating career success.

Chapman (1984) and Roberson et al. (1983) found those teachers who left the profession assigned more importance to salary as a criterion of success. Those who never taught had the highest levels of job and life satisfaction

and enjoyed more career mobility than those teaching. Those who left teaching reported less career satisfaction.

Summary

Research appears to show that the decision to remain or leave the teaching profession is made early in the career of a beginning teacher. Although gender differences in teaching may be decreasing, the majority of teachers who remain in teaching tend to be female, with those who are young and single more likely to switch to another career. Males, as a group are more likely to leave teaching, however, the older ones tend to vie for administrative positions within education. Extrinsic rewards such as autonomy and salary seem to be characteristic of those persons who leave the profession.

Teacher Preparation

The concern for relevancy in teacher training programs has been voiced by teacher education students across the country. The teacher training program is, after all, the conduit between being a student and a professional. For the beginning teacher, this period is suffused with theory as well as application. The success, then, of any teacher training program will depend upon how appropriate the theory and application learned in teacher

training fit the actual job situation. The closer the training to the realities of the job, the better the teacher preparation program. Beginning teachers' assessment of their training program have been sought to provide insight into how well teacher programs are achieving this goal.

There is little doubt that the first year of teaching can be an ordeal for a beginning teacher. The first year teacher must, among other things, establish a favorable reputation among students, faculty and administrators; organize and prepare lessons for courses never taught before; and conform to a role of adult, professional and teacher. Chapman (1984) found the first year teaching experience to be more strongly related to retention in the field than both academic performance and adequacy of teacher training programs. According to Dewey (1904), the task confronting a beginning teacher is enormous. Dewey addressed the task in this way:

"The difficulties which face a beginning teacher who is set down for the first time before a class of from thirty to sixty children, in the responsibilities not only of instruction, but of maintaining the required order in the room as a whole, are most trying. It is almost impossible for an old teacher who has acquired the requisite skill of doing two or three things simultaneously--skill to see the room as a whole while hearing one individual in one class recite, or keeping the

program of the day and, yes, of the week and of the month in the fringe of consciousness while the work of the hour is in its center--it is almost impossible for such a teacher to realize all the difficulties that confront the average beginner."

As a result of the beginning teacher's plight, a kind of "culture shock" takes place produced by the inability to cope with the situation at hand. The teacher becomes insecure at this point because his notions about how to behave are not appropriate. This kind of "culture shock" is intensifying in public schools (Salzillo & Van Fleet, 1977).

Page et al. (1983) investigated a random sample of 300 Georgia first year teachers to ascertain their perception of their teacher education training. They found a majority (80%) of the teachers rated their preparation as good or excellent in the following areas:

- a) identifying and composing instructional objectives; b) planning instruction according to objectives to be achieved; c) using oral reinforcement techniques with students; d) using diverse teaching methods; e) working with individuals, small groups and large groups; f) understanding and using subject matter; g) maintaining an attractive and orderly environment; h) communicating

enthusiasm for learning and i) assisting students in developing a positive self-image.

Forty percent of the respondents rated their preparation fair or poor in the following areas: a) maintaining class discipline (Elliot & Steinkellner, 1979, Warren et al., 1982; Veenman, 1984); b) understanding the role of other school personnel; c) working with parents (Warren et al., 1982); d) understanding legal issues in education (Elliot & Steinkellner, 1979); and e) understanding public school organization. Motivation of students (Veenman, 1984) and dealing with individual differences among students (Veenman, 1984; Warren et al., 1982) were also cited by beginning teachers as inadequate. In addition to the weaknesses cited above, Elliot and Steinkellner (1979) found the inability to manage large blocks of time with a large quantity of materials a problem for the forty teachers in their sample.

Ryan et al. (1979) conducted a field study in which seven researchers observed eighteen teachers, in various geographical locations, throughout their first year, to determine how beneficial their training had been. The two salient themes emerging from the study were the usefulness of first-hand experience and the need for longer student teaching (Warren et al., 1982; Page et al., 1983).

According to the Gallup Poll of Teachers' Attitudes Toward the Public School (1984a), 51 percent of the elementary school teachers and 48 percent of the high school teachers gave their teacher training programs a grade of B or better. A survey by the National Science Teachers Association (Testimony to subcommittee on HUD, 1982), however, found that more than half of the elementary school teachers felt their college training did not prepare them to teach.

In the aggregate, teachers appear to be giving positive ratings to most aspects of their teacher preparation programs. The two areas that consistently seem to be inadequate are length of student teaching experience and effective classroom management.

Do Higher Ability Students Enter Education?

Some research has confirmed that schools are unable to attract high ability students and, once hired, these students are not likely to remain in teaching. Moreover, the more academically talented students tend not to opt for a teaching position after graduating from college (Chapman, 1984; Vance & Schlecty, 1982; Weaver, 1979). A discriminant analysis by Hafner and Owings (1988) found that teachers who left the field had higher aptitude scores than those who remained (Pavalko, 1970) and

individuals who never taught had the highest aptitude scores of the group.

Chapman and Hutcheson (1982) did a discriminant analysis with a sample of 892 teachers with teaching certificates who graduated from the University of Michigan in 1963, 1967, and 1971. They found no achievement related pattern to a teaching career choice (Warren et al., 1982). This finding was consistent with Chapman (1984) who found no differences in grade point averages of those students who entered teaching and those leaving the profession ($n = 2,933$). Research done by Hafner and Owings (1988), using national longitudinal data, found that grades were not strong predictors of attrition, although those with high academic aptitude were more likely to leave teaching ($r = .11, p. < .05$).

Some research suggests that students who aspire to teaching careers tend to be of lower ability as measured by grades when compared to the average high school senior planning to complete college (Roberson et al., 1983; Vance & Schlechty, 1982; U.S. Dept. of Education, 1986). According to Peng (1982), this gap between students planning to major in education and those in other fields widened between 1972 and 1980. Even though there was a concomitant drop in achievement scores overall during this

period, there was a precipitous decline among the teaching group. Astin et al. (1987) found that today's aspiring teachers were the least prepared of all career groups.

The same pattern seems to be manifested in the National Teacher Examination (NTE) scores. In North Carolina, teachers who scored above average on the NTE were more likely to leave teaching; two-thirds of the teachers who scored in the top decile in 1973 left teaching by 1980, whereas only one-third of the bottom decile had done so (Schlechty and Vance, 1982).

The talent loss theory was partially supported by Heyns (1988), examining a national longitudinal data base of teachers, who found that former teachers tended to score better than current teachers on the SAT and high school achievement tests in Math. They tended to score lower on tests of verbal skills, however. Overall, teachers who took a break from teaching and those who entered the profession late tended to be more talented. The talent loss to other professions was thought to eventually be restored to the teaching profession at some future time since the majority of the sample either entered or re-entered teaching after 1980. Also, nearly half of the former teachers indicated a desire to return to teaching at some point.

Stein and Williams (1986) contrasted the Scholastic Aptitude Test (SAT) scores and cognitive test scores of the National Longitudinal Study of the High School Class of 1972 (NLS-72) with three groups of 1972 high school seniors: (1) teachers who taught from the fall of 1976 through the fall of 1979; (2) teachers who taught in the fall of 1976 but changed careers by the fall of 1979; and (3) all bachelor degree recipients from the high school class of 1972. The data suggested that both teachers who left teaching and those teachers who stayed scored lower on standardized tests than the average college graduate; additionally, the teachers who left teaching were more academically skilled than those who remained in teaching (see Table 4).

Dravland and Greene (1980) compared a group of students who entered the teacher education program at the University of Lethbridge with those students who did not based upon certain biographical and academic characteristics. Grade point averages at admission to the teacher education program did not reveal any significant differences for the two groups, however, the mean entering and termination grade point averages for females who entered teacher education was higher than those who did not. Male grade point averages revealed no differences.

Table 4. Test scores of teachers and all college graduates^a

Performance measure	Teachers ^b who stayed ^b	Teachers ^b who left ^b	All college graduates
Mean level of performance			
SAT (Total)	921.57	935.32	1011.80
NLS (Total test)	1.39	1.45	2.25

^aU.S. Department of Education (1987).

^bDifferences between teachers who stayed and teachers who left are not statistically significant.

This finding is inconsistent with other research showing the academic ability of aspiring teachers is diminishing (Schalock, 1979; Schlechty & Vance, 1981).

A study by Roberson et al., utilizing subjects from High School and Beyond, a national longitudinal data base of 1980 high school seniors, representing approximately 1,015 schools across the country, revealed that females who aspired to teach were less capable academically. This finding contrasts that of Dravland and Greene (1980). Ability for males was found to have no direct effect on becoming a teacher.

Villeme and Hall (1983-84, Winter) found no significant differences in the grade point averages of 458 University of Florida students who were employed in teaching and those who were not. This relationship also held true for ACT scores. The graduates who demonstrated high intellectual capacity were as likely as those of low intellectual capacity to express satisfaction with teaching, indicate plans to stay in teaching and express a positive attitude toward pursuing a teaching career. A post hoc comparison, however, revealed the students with the highest grade point average tended to be in teaching.

The talent loss theory in teacher education still appears to be far from resolved. Although some research

found no differences in the academic ability of those students entering and remaining in teaching and those leaving or never entering the profession, several studies do support the idea that the academically talented students are not opting for teaching careers.

Job Characteristics

Research on sex differences in job factor preferences have traditionally categorized job factors into intrinsic and extrinsic job dimensions (Herzberg et al., 1957). Herzberg found that intrinsic factors such as achievement, recognition, and advancement were more important to men while extrinsic factors such as working conditions and interpersonal relationships were more salient for women. It is hypothesized that boys, as a result of identifying with their fathers, learn the importance of being good providers while girls acquire the socio-emotional concerns of their mothers. These roles are said to persist into adulthood with women emphasizing affiliation and an orientation toward persons rather than objects, whereas men's roles tend to be instrumental and reward independence, aggressiveness and competitiveness (Pleck & Sawyer, 1974; Feldvebel; 1968). These roles are theorized to be reflected in sex-linked preferences for job outcomes (Keith, 1980).

Several studies have addressed gender preferences as they relate to occupational attributes. Keith (1980), using an adaptation of Rosenberg's (1957) study, surveyed 207 men and 281 women education graduates from three public universities in the Midwest to determine the importance of 11 job characteristics in selecting their present employment. Factor analysis using the Varimax rotation yielded the following factors: (a) opportunity for advancement, (b) opportunity to use special abilities and aptitudes, (c) opportunity to be creative and original, (d) help and serve others. She found that women did not emphasize extrinsic rewards and potential to exercise leadership. The men were more likely to value the opportunity to use special abilities, to engage in self-expression in their work, salary, status, opportunities for advancement, and benefits as overriding factors in their present occupation. Service to others was found to be equally important to both groups. Younger graduates, irrespective of sex, were found to be less concerned with personal development and long range career plans.

Keith et al. (1983) conducted an investigation to determine the effect of career plans and teaching level on job preference factors of 486 teacher education

graduates. The respondents rated the importance of eighteen job characteristics on a scale of 5 (very important) to 1 (very unimportant). Results showed a comparable tendency on the part of men and women to seek extrinsic rewards from work. Career plans were, however, sex-linked with more men desiring non-academic employment. Teaching level was found to be more closely linked to job preferences than to gender.

Manhardt (1972) queried 365 male and 301 female employees at a large eastern insurance company over a four-year period to assess gender differences related to 25 job characteristics. Significant sex differences were found on 11 of the 25 items. He found that men emphasized long-term career outcomes (Bartol, 1974) and women valued a comfortable work environment and pleasant interpersonal relationships (Lortie, 1975; Wangberg et al., 1982).

Brenner and Tomkiewicz (1979) replicated the Manhardt study to ascertain whether gender differences in job orientation decreased. The sample consisted of 127 male and 122 female graduating seniors from the School of Business at an eastern state university. Gender differences were found to be present but to a lesser degree than in the previous study. A noteworthy trend found in the second study was that women were more

concerned with self-development as shown in their preference for positions which develop skills, knowledge and intelligence.

Centers and Bugental (1966) studied 692 employed adults and found few overall sex differences, however, women did assign more importance to co-workers and men placed higher value on self-expression. Still other research has shown that women have a stronger preference for jobs that offer the opportunity to help and serve others than do men (Rosenberg, 1957; Singer & Stefflre, 1954).

Research has shown that although gender differences in job orientations may be diminishing, they have not disappeared completely. Males and females still differ in job orientation but the research seems to indicate the gender gap may be narrowing (Brenner & Tomkiewicz, 1979).

Would You Choose Teaching Again?

Many researchers feel a good indicator of job satisfaction can be derived by asking persons in their chosen profession if they would choose the same occupation if they were allowed to make the choice again (Heyns, 1988; the National Education Association, 1980; Wangberg et al., 1982). Several studies have asked this question

of teachers at varying points in their careers as a gauge of teachers' satisfaction with teaching.

As shown in Table 5, a majority of beginning teachers in the 1960s indicated the desire to become teachers again if they had to "do it over"; by the 1980s, less than one quarter shared that view. Those more likely to choose the teaching profession again are female and elementary teachers (Harris and Harris, 1988).

Teaching dissatisfaction is not limited to beginning teachers but also to teachers who remain in education (Wangberg et al., 1982). The National Education Association (1981) conducted a survey to assess teaching satisfaction and found that less than one-fourth of the teachers interviewed would "certainly" become a teacher again if they could start over. Over half (53.6%) thought the chances to be about even that they would choose teaching again and only 22% indicated they "certainly" would not or that they were unsure. When the sample was asked this question in 1966, over half (52.6%) said they would "certainly" choose teaching again.

Wangberg et al. (1982) surveyed a cross-sectional 20 percent of the female elementary classroom teachers (n = 255) of four school districts and found that 40 percent of the women said if they had to do it over, they would

Table 5. Teachers' attitudes toward being a teacher again^a

Item	1961	1966	1971	1976	1981	1983
Percentage distribution by responses to question "Suppose you could go back to college and start over again. Would you become a teacher?"						
Total	100	100	100	100	100	100
Certainly would	50	53	45	38	22	24
Probably would	27	25	30	26	25	34
Chances are even	12	13	13	18	18	1
Probably not	8	7	9	13	24	30
Certainly not	3	2	4	6	12	13
Percent indicating that they certainly would not become teachers again						
Elementary	57	60	50	44	26	28
Secondary	40	45	39	32	18	20
Male	35	38	33	27	16	19
Female	57	59	51	42	25	27

^aHarris and Harris (1988).

not choose a teaching career. The National Education Association (1980) studied 1,738 teachers and found that only 41 percent would choose a teaching career if they had to do it over.

Heyns (1988) studied a national sample of teachers who were seniors in high school in 1971 and found 29 percent of those students who were teaching in 1986 willing to enter the teaching profession if they could "do it over"; 18 percent of former teachers felt this way.

Based upon the studies cited above, teaching seems to be losing the grip it had on so many teachers years ago. Based upon the literature consulted, the majority of teachers, it seems, are not satisfied with their chosen career option. The degree of job satisfaction teachers enjoy appears to have diminished significantly over the years.

Extracurricular Activities and Educational Aspirations

Past research has shown a positive relationship between participation in extracurricular activities in high school and educational and occupational achievement (Snyder, 1969; Rehberg & Schafer; 1968; Schafer & Armer, 1968; Spady, 1971). The relationship is hypothesized to be ostensible into adult life (Lindsay, 1984). This

participation is based in part on theory that posits a process of selection whereby students with particular attitudes and dispositions select or compete for extra-curricular roles which they feel will enhance their status and success orientations.

These auxiliary activities tend to attract certain kinds of students to its ranks and influences members' college aspirations above and beyond their high school academic performance. The precursors to high school social participation is believed to be curriculum track placement and academic performance, which, in turn, are affected by individual student background characteristics such as academic ability, socioeconomic status, gender and sociability. Research has suggested that students of high socioeconomic status are more likely to participate in most activities except athletics and hobby clubs (Lindsay, 1984). Extracurricular activities tends to enhance a student's popularity and visibility, thereby increasing the likelihood of contact with college-bound peers and school personnel (Coleman, 1961; Rehberg, 1969).

Hanks and Eckland (1976) assert that extracurricular participation consolidates school and college by promoting the transference of status across adolescent and adult social systems. This participation serves as a conduit

between parents and their children where socioeconomic advantages are transmitted and mechanisms are set in place for student compliance (Spady, 1970; Otto, 1976; Hyman and Wright, 1971).

Hanks and Eckland (1976) developed a path model to determine what role the extracurricular program plays in the educational attainment process. Students who were high school sophomores in 1955 were sampled, using national longitudinal data. They found that athletics did not have a strong effect on educational attainment (Spady, 1971) whereas social participation had a direct effect on academic performance and achievement in both school and college for males and females (Spady, 1971; Kerckhoff, 1974). Middle class and lower class males were found to be equally as likely to participate in high school sports, however, low ability students were more likely to participate than high ability students.

Spady (1971), in a study controlling on background socioeconomic status, mental ability, and academic performance, found that extracurricular participation does affect levels of educational attainment (Snyder, 1969). According to Spady (1970) and Otto (1976), extracurricular

activities provide important socialization experiences for students with mobility aspirations and participation facilitates development and use of these organizational and leadership skills.

Snyder (1969) used longitudinal data on a 1962 high school graduating class (n = 186) in a small Midwestern community to assess relationships among students' high school values, social participation and educational and occupational achievement. Parental socioeconomic status and intelligence were control variables. Weighted scores were assigned to each activity to indicate its importance in the school social structure (i.e., class officer given more weight than pep clubs). The results of the study showed that students who were athletes or leaders in social activities in high school were more likely to complete college than students who were not. A positive correlation between high school social participation and occupational status five years after graduation was established.

Spady (1971) gathered information on 297 male seniors who graduated from two West Coast high schools in 1963; they were sampled again in 1967. The purpose of the study was to clarify the influences of athletics and service-leadership roles as catalysts for success goals,

controlling for peer status, formal academic achievement capacity, and intrinsic motivation of the student. Patterns of involvement seemed to differentiate between the college and non-college aspirant. He found that service-oriented students were about 15% more likely to have college goals and to be successful in college. Athletes were no different than average students. Results also indicated that students who did not participate in a major extracurricular activity, regardless of grades or performance, were 30% less likely to have college aspirations. Additionally, those who were unsuccessful in academic and extracurricular endeavors were nearly 60% less likely, than those who were successful, to have college aspirations as a future goal.

Research has also shown a positive relationship between athletic involvement and educational attainments. Rehberg and Schafer (1968) found, in their study of 785 males, that 62% of the athletes expected to go to college compared to 45% of the non-athletes. This finding was strongest among those athletes less disposed to college. Edismore (1963) studied participants and non-participants in varsity football teams from twenty-four of the top thirty Iowa high school teams. The grade point average (on a scale of 4.0) of the athletes across all subjects

was 2.523 whereas the non-athletes grade point average was 2.085. Spreitzer and Pugh (1973) found that of the 1,638 male and female students they sampled in five Connecticut school districts, 71% were in a college preparatory curriculum compared to 58% of the non-athletes.

Otto and Alwin (1977) gathered follow-up data from males who were seventeen years old and enrolled in certain Michigan high schools in 1957. Data gathered from the 340 respondents to the 1972 survey confirmed that participation in athletics has a positive effect on both educational aspirations and educational attainment. This effect was observable even after controlling on variables usually associated with the status attainment process such as socioeconomic origins, mental ability, academic performance, significant others influence, aspirations, and attainments.

By far, the greatest facilitator of college success seems to be extracurricular involvement of students during high school. Participants in these activities have a 37% greater chance of realizing their college goals than do non-participants, net of their academic performance and intrinsic motivation. The majority of the research studies consulted confirms that the formal and informal achievement systems of high school have considerable

influence on students' desires for further education which cannot be traced to achievement alone. Furthermore, the type of participation also appears to affect the chances of students' consummating their goals. The role athletics plays in educational and occupational attainment is less clear (Spady, 1971).

CHAPTER III

Methodology

Two data sets will be examined for the purposes of this study. The first data set includes teacher education students at Iowa State University. The second data set entitled, "High School and Beyond," was derived from a national sample of students who were high school seniors in 1980. Only those students who majored in teacher education in college will be examined in this study.

The Iowa State University Sample

The Research Institute for Studies in Education (RISE) implemented a comprehensive model to assess and improve the teacher preparation program at Iowa State University (ISU). This model incorporates longitudinal data from students at various stages in their career development. With its inception in 1974, RISE began compiling profile data on students who entered the teacher preparation program in the College of Education at ISU. These profile reports are generated annually and are available for public review.

Subjects

The target population for this study includes all students who took Education 204 during the academic years 1980-81 and 1981-82. The population includes the 829 students who were identified by the College of Education as enrolled in the course and completed the questionnaire.

Demographic information about the population is provided in Table 6. Nearly three-fourths (74%) of the respondents were female, and one-fourth (25.1%) were male. Of those students who took Education 204 in the spring, winter, or fall quarters of the academic year 1980-81, more than half (74.1%) reported they graduated in the top 20% of their high school class. More than three-fourths (82.2%) of the students surveyed during the 1981-82 academic year reported they ranked in the top 40% of their high school graduating class.

Procedures

During the fall, summer, and winter quarters of 1980-81 and the fall and spring semesters of 1981-82, each instructor of Education 204 administered a questionnaire to students enrolled in his/her class. The questionnaire was designed to obtain information from students to

Table 6. Demographic characteristics of Teacher Education 204 students (Iowa State Sample)

Characteristic	Number	Relative Percent	Adjusted Percent
Time of survey 1980-81 (quarter)			
Fall 80	183	35.5	35.5
Winter 81	187	36.2	36.2
Spring 81	<u>146</u>	<u>28.3</u>	<u>28.3</u>
Total	516	100.0	100.0
Time of survey 1981-82 (semester)			
Fall 81	134	42.8	42.8
Spring 82	<u>179</u>	<u>57.2</u>	<u>57.2</u>
Total	313	100.0	100.0
Gender			
Female	620	74.8	74.8
Male	208	25.1	25.1
Not specified	<u>1</u>	<u>0.1</u>	<u>0.1</u>
Total	829	100.0	100.0
High school rank (summer, spring and winter quarters 1981-1982)			
Upper 10%	98	31.3	31.7
Upper 11-25%	134	42.8	43.4
Upper 26-50%	55	17.6	17.8
Upper 51-75%	20	6.4	6.5
Lower 25%	2	.6	.6
Not specified	<u>4</u>	<u>1.3</u>	
Total	313	100.0	100.0
High school rank (fall and spring semesters 1980-1981)			
Top 20%	307	59.5	59.8
Second 20%	115	22.3	22.4
Middle 20%	82	15.9	16.0
Fourth 20%	8	1.6	1.6
Lowest 20%	1	.2	.2
Not specified	<u>3</u>	<u>.6</u>	
Total	516	100.0	100.0

evaluate and improve the teacher education program at Iowa State University. Each questionnaire contained a cover sheet explaining the nature of the questionnaire and an assurance of confidentiality of responses. Social security numbers were requested of students for purposes of tracking students through their program. Participation in the survey was voluntary.

Data pertaining to students' academic ability were obtained from their permanent record cards. The following information pertaining to academic ability will be used in this study: (1) gender; (2) GPA at the time of graduation; and (3) high school rank.

Instrumentation

This study will utilize data obtained from three survey instruments developed by RISE personnel. Each of the survey instruments is designed to obtain data regarding the attitudes and perceptions of students enrolled in the Teacher Education Program at Iowa State University. The questions from each survey instrument that are of significance to this study will be described. The Education 204 questionnaire contains 25 items. Seven questions are relevant to this study. They include: (1) long-range career plans (item 4); (2) importance of job

characteristics (item 5-18 elements); (3) students' rank in high school graduation class (item 7); (4) participation in high school extracurricular activities (item 14-17 subunits); (5) gender (item 17); (6) father's occupation (item 19); and (7) mother's occupation (item 20).

The Teacher Education one year follow-up survey contains 18 items. The items to be examined in this study are: (1) willingness to become a teacher again if "you had to do it over" (item 7); (2) adequacy of the teacher preparation program (item 13a-33 categories); (4) long-range career plans (items 15 and 16); and satisfaction with the quality of the teacher preparation program (question 9); high school rank, (question 2); plan to teach (question 1-part D); and importance of job characteristics (item 17-18 elements).

High School and Beyond Senior Cohorts

The data for the second set of analyses came from "High School and Beyond," a national longitudinal study of students who were high school seniors in 1980. These students were asked to complete additional questionnaires in February 1982 (first follow-up), February 1984 (second follow-up), and February 1986 (third follow-up). These

surveys included questions about employment, postsecondary educational and occupational aspirations, marital status, demographics (race, ethnicity), and family background. Questions inquiring about students' beliefs were also included (NCES, 1983).

A data file containing the merged base year and follow-up files were used to obtain data for this study. The merged file included base year and follow-up data information on school, family, work experience, educational and occupational aspirations, values, and test scores for sample participants.

Subjects

The population for the High School and Beyond survey represented the total number of high schools in the United States. Schools were selected with probabilities proportional to their 12th grade enrollments. The Base Year survey, conducted in 1980, was a highly stratified national probability sample of 1,100 secondary schools in the first stage of selection. Thirty-six seniors were randomly selected from each school. All seniors in a particular school were selected if fewer than 36 seniors were enrolled. More than 28,000 seniors participated in the base year survey. Each student was assigned a weight

equal to the number of students in the universe they represented. Only the students who declared themselves to be teacher education majors in college and have completed base year and all follow-up information will be included in this study. The sample for this study totals 76,097 weighted cases (NCES, 1983). Demographic information about this sample is presented in Table 7. The majority of the respondents were female (87%) while 13% were male. More than three-fourths (78%) of the participants reported having a "B" average or above. Nearly two-thirds (63%) of the students reported they were enrolled in a college preparatory program in high school.

Data collection techniques

Base year data were collected from students in 1,015 high schools between February 1 and May 15, 1980. Personnel from the National Opinion Research Center and/or School Coordinators explained the survey procedures and answered questions. An orientation day was held prior to administering the questionnaire explaining the purpose of the study, tasks to be undertaken, and assurances of confidentiality. Parental permission was secured, where required. Each student was provided with a Student Identification Pages (SIP) booklet, which requested

Table 7. Demographic characteristics of teacher education students (High School and Beyond sample)

Characteristic (Weighted cases)	Number	Valid Percent
1982 first follow-up		
1984 second follow-up		
1986 third follow-up	76,097	100
Gender		
Male	9,910	13
Female	66,187	87
High school grades (1980 base year)		
Mostly A	4,720	6.2
Half A/Half B	15,818	20.9
Mostly B	18,675	24.7
Half B/Half C	19,852	26.2
Mostly C	14,877	19.6
Half C/Half D	1,659	2.2
Below D	100	.1
Not specified	98	
Total	<u>76,097</u>	<u>100.0</u>
High school program type		
General	25,469	34.0
College prep	47,728	63.7
Agricultural	341	.5
Business	689	.9
Distributive education	289	.4
Health	59	.1
Home economic education	322	.4
Not specified	1,199	
Total	<u>76,097</u>	<u>100.0</u>

information about how students may be contacted in the future. Students were allowed an hour to complete the survey instrument.

All subsequent data were collected from seniors via mail-back questionnaires. The first, second and third follow-up surveys were mailed to all members of the senior cohort for whom current addresses had been obtained. Non-respondents were mailed reminder postcards and were later contacted by telephone or personal interview. The respondents who completed the questionnaire by telephone were required to have a copy of the instrument in front of them. The responses of those persons interviewed were validated via re-collection of specific data and comparing these data with the original information (NCES, 1983).

Instrumentation

This study will utilize specific questions from each of the four questionnaire administrations. The questions to be examined from the base year data include: (1) sex (question FLAG14); (2) high school extracurricular activities (questions 32-15 subunits); (3) high school grades (question 7); and (4) occupational aspirations--age 30 (question (62)).

The question to be investigated from the first follow-up survey is college major (question 34-part B). The questions to be used from the second follow-up questionnaire are occupational aspirations--age 30 (question 55--part A) and probability of teaching in the public schools (question 54). High school grades is the only question used from the second follow-up.

The third follow-up questionnaire items include: (1) first job held since 3/83 (question 8--part A); (2) second job held since 3/83 (question 9--part A); (3) satisfaction with teacher preparation (question 12--parts BA through BG, BI); (4) importance of job characteristics (question 16--sections A through J); and (5) occupational aspirations (question 15--part A). A copy of the instruments used in this study is included in the Appendix.

Treatment of the Data

The data for this study will be analyzed using the Statistical Package for the Social Sciences (SPSS) (Norusis, 1987). The preliminary analyses of the data will include frequency counts.

Factor analyses have been computed, in other research studies, for questionnaire items from the Iowa State sample pertaining to the adequacy of teacher preparation

program and the importance of job characteristics (TIME1 and TIME2, respectively). Sweeney (1987) factor analyzed the thirty-three teacher preparation content areas. The factors that will be used in this study are presented in Table 8. Boatwright (1988) computed composite factors for the eighteen job characteristics used in this study and found five independent factors. Table 9 summarizes these factors. Factor analyses will also be calculated for the seventeen extracurricular activities in both the Iowa State and High School and Beyond samples.

The six criteria established by Sweeney (1987) to guide the development of the composite measures will be adopted for use in this study. They were:

1. Eigenvalues for each factor should be one or greater;
2. Each factor should explain at least 4% of the variance for initial statistics.
3. Cronbach's alpha reliability estimates should be at least .60.
4. Independent items and those with low correlation coefficients should be extracted.
5. Items selected as factors should have factor loadings of .40 or greater. Items with factor loadings of .38 to .40 may be included if they are similar in content to other qualified factors.

Table 8. Adequacy of preparation content areas--results of factor analysis^a

Item No.	Content area
Factor one: Planning and delivering instruction	
1	Planning units of instruction and individual lessons
19	Locating and using materials and resources in specialty area
20	Evaluating your own instruction
21	Individualizing instruction
22	Selecting and organizing materials
23	Using a variety of instructional techniques
Factor two: Interpersonal relationships	
24	Understanding teachers' roles in relation to administrators, supervisors and counselors
25	Ability to work with parents
26	Ability to work with other teachers
Factor three: Student motivation and discipline	
3	Maintaining student interest in the classroom
4	Understanding and managing behavior problems in the classroom
18	Relating activities to interests and abilities of students

^aSweeney, J. C. (1987) Unpublished dissertation.

Table 8. Continued

Item No.	Content area
Factor four: Assessing and dealing with learning problems	
10	Methods of working with children with learning problems
11	Assessing learning problems
Factor five: Monitoring student achievement	
12	Ability to develop tests
13	Interpreting and using standardized tests
17	Evaluating and reporting student work and achievement

Table 9. Results of the factor analysis of job characteristics^a

Item No.	Job Characteristic
Factor one: Leadership and responsibility	
18	Challenge
15	Responsibility
14	Variety in the work
9	Opportunity to exercise leadership
11	Adventure
17	Control over what others do
Factor two: Money, prestige, and advancement	
4	Opportunity to earn a good deal of money
8	Opportunity for advancement
5	Social status and prestige
12	Opportunity for a relatively stable and secure future
13	Fringe benefits (health care, retirement)
Factor three: Opportunity to use special abilities	
1	Opportunity to be creative and original
2	Opportunity to use special abilities or aptitudes
16	Control over what I do
7	Relative freedom from supervision by others

^aBoatwright, M. A. 1988. Unpublished dissertation.

Table 9. Continued

Item No.	Job Characteristics
Factor four: Helping and serving others	
10	Opportunity to help and serve others
6	Opportunity to effect social change
3	Opportunity to work with people rather than things

6. Item composite scores should be as similar in content as possible.

The Theoretical Framework

This study will focus on a theoretical framework that encompasses the variables deemed important to understanding factors related to the retention of beginning teachers. These variables that will be examined in this study include sex, academic aptitude, long-range career plans, adequacy of teacher preparation program, participation in high school extracurricular activities, job characteristics preference and willingness to "do it over" if one had the opportunity to choose a career again.

Several research studies have presented theoretical frameworks aimed at explaining career decisions faced by students, who upon graduation, must decide which career path to take. Holland (1973) posits that vocational satisfaction and stability depend on the congruence between one's personality and the environment in which one works. His model makes the explicit assumption that people search for environments that will let them exercise their skills and abilities, express their attitudes and values and take on agreeable problems. According to Holland, career changes may result from: (1) changes in personality that may be triggered by life-stage

development; (2) changes in the environment (e.g., changes in the teaching profession); and (3) changes in the perception of what is involved in teaching. As a result, individuals may hold occupational stereotypes that change with the direct experience of being a teacher.

Based upon Holland's theory, it is feasible to expect that people who leave a profession can be characterized differently than people who remain. Within Holland's theory, it is hypothesized that teachers should be good at explaining things to others, organizing, supervising others, and getting people to do things their way. People who are less capable of these things are the ones who ultimately leave the profession.

Super and Hall (1978) have done research related to career development and found that job autonomy, job challenge, and financial compensation are important issues related to career retention across many fields. Teachers who remain in the field are characterized as placing more importance on recognition by others, especially supervisors and friends. It is proposed that "vocational maturity" may lead to job or career changes. The process of this maturity occurs when, with experience, people become more clear about their assets

and liabilities as well as about the opportunities and limitations of their jobs.

Super (1980) postulates yet another approximation of career development. This model, designated the "Life-span, Life Space Approach to Career Development" presumes that a career is the combination and sequences of roles played by a person during the course of a lifetime. These roles include that of child, student, leisurite, citizen, worker, spouse, homemaker, parent and pensioner. A person may play one role or a combination of roles at some point in life. Emotional involvement also takes on the characteristics of a role and varies with the life stage. This involvement may be impaired, however, if work does not provide a challenge or prospects for advancement within a workplace.

The principal theaters for these roles are (1) the home, (2) the community, (3) the school (including the college or university), and (4) the workplace. The simultaneous combination of life roles constitutes the life style; their sequential combinations structure the life space and constitutes the life cycle. The entire structure is the career pattern.

As Figure 2 shows, the decision points of a life career reflect encounters with a variety of personal and

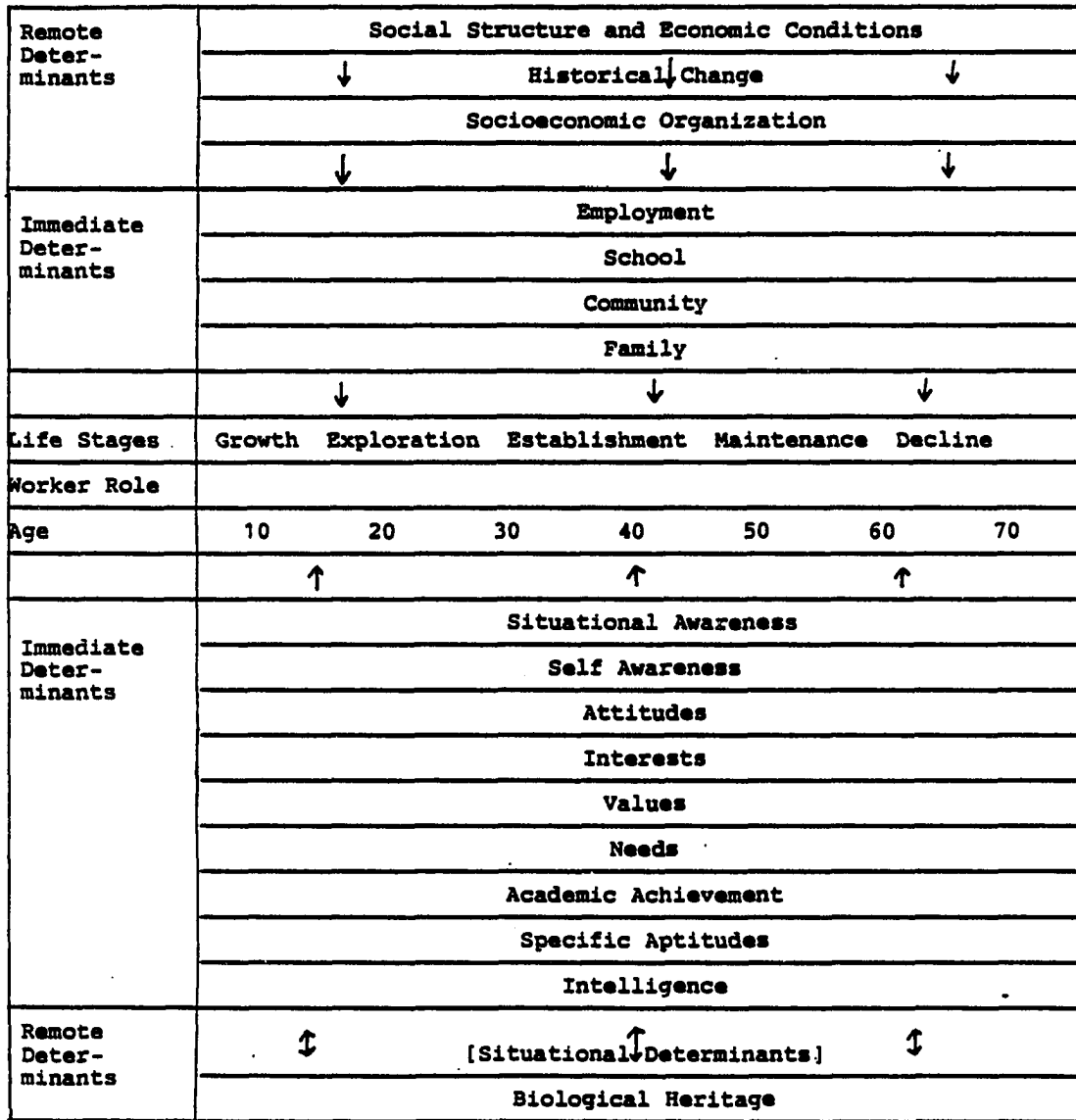


Figure 2. Super's model of situational and personal determinants of career path

situational determinants. Some determinants are the result of genetic factors modified by experiences in the womb, home, and community. Other determinants are geographic, historic, social and economic conditions in which the individual functions from infancy through adulthood. The continuous effects of these personal and situational determinants are depicted by continuous lines and repeated arrows which act to push the individual up or down. The biological heritage interacts with situational determinants thereby producing intelligence, specific aptitudes, awareness, educational and occupational information, academic achievement, and other cognitive traits.

Krumboltz's (1979) social learning theory has also been used in research studies to explain how psychological functioning interacts with personal characteristics, previous behavior and environmental determinants. He contends that this theory can be used to identify the interaction of genetic factors, environmental conditions, learning experiences, cognitive and emotional responses, and performance skills that produce movement along one career path or another. Different combinations produce different career decisions.

The model in Figure 3 offers specific application to teaching. It suggests that one has to consider (1) the personal characteristics of the teachers, (2) the nature of teacher training and early teaching experiences, (3) the degree to which the teacher is socially and professionally integrated into the teaching profession, (4) the satisfaction teachers derive from their careers, and (5) the external environmental influences impinging on the teachers' careers.

No model can portray all details as accurately as desired, therefore, the model that will guide this study will use selected variables deemed appropriate in studying the relationship of certain factors affecting the career paths of students who enter the teaching profession after graduation and those who do not. Figure 4 represents the variables theorized to be related to teacher education students choosing an education or non-education career. They are: (1) gender; (2) high school rank; (3) high school grade point average (GPA); (4) participation in highschool extracurricular activities; (5) job orientation (TIME3); (6) evaluation of teacher preparation program; (7) adequacy of teacher preparation program; (8) plan to teach; and (9) willingness to "do it over" again. This framework guided the review of

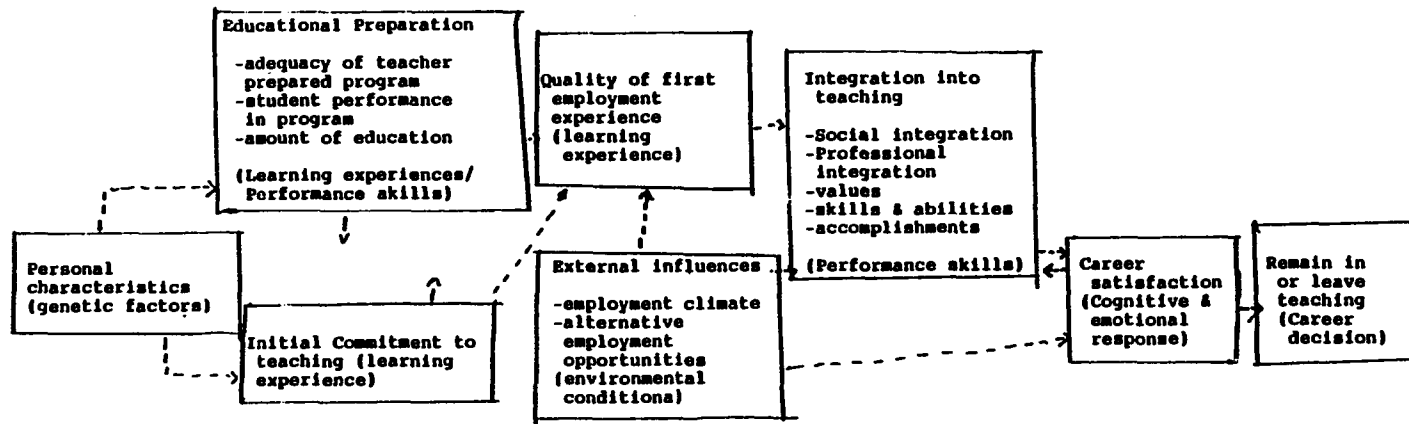


Figure 3. Krumboltz's social learning model of influences associated with teacher attrition

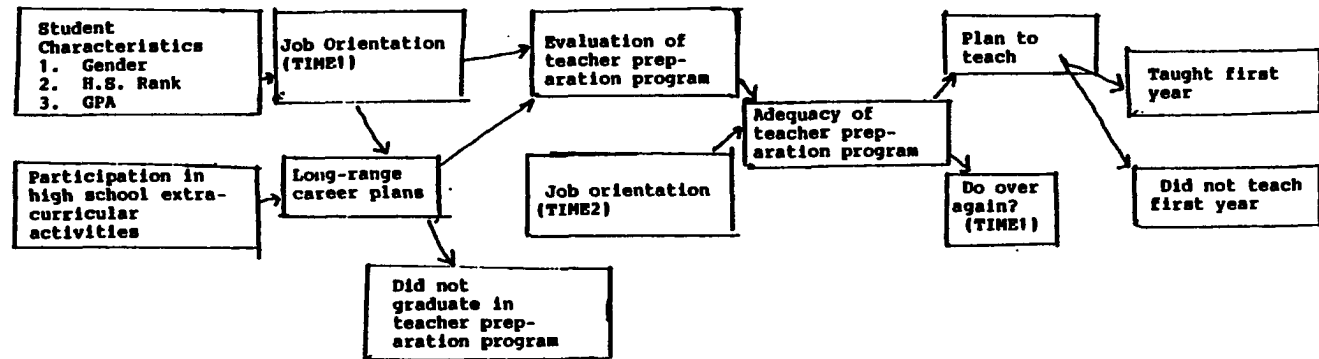


Figure 4. Theoretical framework of factors relating to entry into teaching

selected literature (Chapter II) and all subsequent chapters.

Research Hypotheses to Be Tested

Based upon the review of selected literature, the following hypotheses will be tested for both the Iowa State sample and the High School and Beyond sample.

1. The mean academic indicators of teacher education students who teach the first year after graduation is not significantly different from those students who do not teach the first year.
2. There is no significant difference between the mean academic indicators of male teacher education students who teach the first year after graduation and those who do not.
3. There is no significant difference between the mean academic indicators of female teacher education students who teach the first year after graduation and those who do not.
4. There is no significant difference between sex and academic indicators for students who teach the first year after graduation and those who do not.

5. There is no significant difference between gender and the ratings of certain job characteristics between those teacher education students who teach the first year after graduation and those who do not.
6. There is no significant difference between the high school activities of those students who teach one year after graduation and those who do not.
7. The decision to "do it over" is not independent of teaching level.
8. There is no significant relationship between teaching or not teaching the first year after graduation and a combination of independent variables.

CHAPTER IV

The statistical analysis will be presented in this chapter. Hypotheses testing will be utilized to determine the relationship between selected background characteristics and variables deemed important to understanding which variables contribute most to the prediction of which teacher education students are more likely to be attracted to teaching after graduating and which ones are not. The data used in this study were compiled in three phases and included: 1) students who declared a teacher education major; 2) students who graduated in teacher education; and 3) students who taught the first year after graduation. The Iowa State sample consists of 829 students who indicated they were interested in teacher education. An additional twenty-four students were lost due to missing information or social security numbers. The final sample, upon which the following analyses are made, consists of 211 students who graduated and completed the first year follow-up questionnaire. The High School and Beyond sample consists of 76,057 students who indicated an interest in majoring in education during their college sophomore year. The analyses for this sample will utilize their data.

Statistical tests yielding a significance level of .05 or higher will be considered significant in this study.

Indicators of scholastic standing are important variables to be examined in this study, therefore, each sample will have different but comparable measures to denote scholastic achievement. High school rank, as indicated by students' permanent record files, will be the index of academic ability for the Iowa State sample. This variable is measured from 1 (indicating high academic standing) to 3 (which indicates low academic standing). The scholastic index for the High School and Beyond sample is self-reported high school grades when the students were sophomores in college. The grades are appraised on a scale of 1 (mostly As) to 8 (below D) (see Appendix). These two measures will be assessed relative to individual samples and will be referred to as "academic indicators" throughout the remainder of this study. The sample for each hypothesis consists of teacher education students who, in their sophomore year of college, indicated an interest in majoring in teacher education.

Hypothesis 1

Hypothesis 1 states that the mean academic indicators of teacher education students who teach the first year

after graduation is significantly different from those students who do not teach the first year. A t-test was used to test this hypothesis. The results of this analysis are presented in Table 10.

The Iowa State sample

The results of the t-test for the Iowa State sample revealed that students who were teaching one year after graduation had a higher mean academic indicator than students who graduated in teacher education but did not teach. High school rank was a continuous variable on a scale of 1 - 85. It was coded as follows: '1' (1-25); '2' (26-50); and '3' (51-85). On a scale of 1 (high) to 3 (low), students who majored in teacher education and taught the first year had a mean academic indicator of 1.39 (n = 127) and the mean academic indicator for the students who did not teach was 1.50 (n = 61). The resulting t-value of -1.01 was not significant. Hypothesis 1 is, therefore, rejected.

The High School and Beyond sample

Results of the t-test of the mean academic indicators of students who teach the first year after graduation and those who do not indicate a significant difference between the mean indicators of these two groups. High school GPA,

Table 10. The comparison of mean academic indicators for students who teach the first year after graduation and those who do not

	Teaching		Non-teaching		T-value
	M	SD	M	SD	
Iowa State Sample	1.39	.632	1.51	.766	-1.01
	(n = 127)		(n = 61)		
High School and Beyond	2.47	.901	3.44	1.179	-121.97*
	(n = 33,740)		n = 36,092)		

*p < .001.

the academic indicator for this sample, was rated as follows: 1 (mostly A); 2 (Half A/Half B); 3 (Mostly B); 4 (Half B/Half C); 5 (Mostly C); 6 (Half C/Half D); 7 (Mostly D); and 8 (Below). The mean indicator on a scale of 1 (high) to 8 (low) was 2.47 (n = 33,740) for students who teach the first year after graduation. The mean indicator for students who did not teach one year after graduation was 3.44 (n = 36,092). The t-value of -121.97 was found to be significant at the p.001 level. Hypothesis 1 was, therefore, supported.

Hypothesis 2

Hypothesis 2 states that there is no significant difference between the mean academic indicators of male teacher education students who teach the first year after graduation and those who do not. A t-test was calculated to test this hypothesis. The results are shown in Table 11.

Iowa State sample

This hypothesis required the computation of a t-test. The results indicate that the mean academic indicator of males who teach after graduation is higher (1.45) than the mean indicator of males who do not teach (1.63). The t-

Table 11. The comparison of mean academic indicators for males who teach the first year after graduation and those who do not

	Teaching		Non-teaching		T-value
	M	SD	M	SD	
Iowa State Sample	1.45	.793	1.63	.806	-.51
	(n = 22)		(n = 16)		
High School and Beyond sample	2.11	.322	3.50	.949	-73.27*
	(n = 2,638)		(n = 6,136)		

*p < .001.

value of $-.67$ was not significant. Hypothesis 2 was retained.

High School and Beyond sample

As shown in Table 11, there is a significant difference between the academic indicators of males who teach the first year after graduating in teacher education and those who do not. The mean indicator of males who teach is 2.11 ($n = 2,638$) while the mean indicator for males who do not teach after graduation is 3.50 ($n = 6,136$). The t -value of -73.27 is significant beyond the $.05$ level. Hypothesis 2 was not supported.

Hypothesis 3

Hypothesis 3 states that there is no significant difference between the mean academic indicators of female teacher education students who teach the first year after graduation and those who do not. This hypothesis was tested using a t -test. The results are summarized in Table 12.

Iowa State sample

As shown in Table 12, the mean academic indicator for female students who teach after graduation is 1.38 ($n =$

Table 12. Comparison of the mean academic indicators of female students who teach the first year after graduation and those who do not

	Teaching		Non-teaching		T-value
	M	SD	M	SD	
Iowa State Sample	1.38	.611	1.46	.757	-.67
	(n = 105)		(n = 45)		
High School and Beyond sample	2.50	.928	3.43	1.221	-106.38*
	(n = 31,101)		(n = 29,956)		

*p < .001.

105) while the mean indicator for those females who do not teach is 1.46. The t-value was found not to be significant. Hypothesis 3 was supported.

High School and Beyond sample

The calculated means in Table 12 indicate that there is a significant difference between the mean academic indicator of female teacher education students who teach the first year after graduation and those who do not in this sample. The mean indicator for the females who went into teaching was 2.50; the mean college grades for females who did not teach the first year after graduation was 3.43. The t-values for both means were significant at the .001 level. Hypothesis 3 was not supported based upon these results.

Hypothesis 4

Hypothesis 4 states that there is no significant difference between sex and academic indicators for students who teach the first year after graduation and those who do not. A two-way analysis of variance was computed to test this hypothesis. The results are shown in Tables 13 and 14.

Table 13. ANOVA of academic indicators by gender and teaching status (Iowa State sample)

	N	M	F-ratio
Gender			
Male	38	1.53 ^a	
Female	150	1.41	.741
Current employment status			
Teaching	127	1.39	
Non-teaching	61	1.51	.970
Gender by employment status			
Men--teaching	45	1.47	
Men--non-teaching	16	1.63	
Women--teaching	105	1.38	
Women--non-teaching	22	1.45	.111

^aThe rating scale was 1 to 3 with 1 = high, 3 = low.

Table 14. ANOVA of academic indicators by gender and teaching status (High School and Beyond sample)

	N	M	F-ratio
Gender			
Men	8,774	3.09 ^a	
Women	61,057	2.96	38.37*
Current employment status			
Teaching	33,740	2.47	
Non-teaching	36,092	3.44	14872.83*
Gender by employment status			
Men--teaching	2,638	2.12	
Men--non-teaching	6,136	3.50	
Women--teaching	31,101	2.50	
Women--non-teaching	29,956	3.43	309.28 ^b

^aThe rating scale was 1 to 8 with 1 = high, 8 = low.

^b $p < .001$.

Results of the Iowa State sample

The means in Table 13 indicate that females had a higher mean than the males. Those students who were not teaching had a higher mean than those who were. There was no significant differences in the means for gender and teaching status. Hypothesis 4 was supported.

Results of the High School and Beyond sample

As shown in Table 14, there is a gender difference in the mean academic indicators of students who teach after graduation and those who do not. The mean indicator of females who go into teaching was 2.50. The mean indicator for the males who went into teaching was 2.12. The mean indicator for females who did not go into teaching was 3.43 while the mean indicator for their male counterparts was 3.50. The combined results of the means indicated a mean of 2.47 for all students who go into teaching and a mean of 3.44 for students who did not teach the first year after graduation. The F ratio for the combination of gender and teaching status was 309.283 which was significant beyond the .001 level. The interaction between the two groups revealed that males, as a group, had higher means than the females. Hypothesis 4 was not supported.

Hypothesis 5

Hypothesis 5 states that there is no significant differences between gender and the ratings of certain job characteristics between those teacher education students who teach the first year after graduation and those who do not. A two-way analysis of variance was computed to test this hypothesis. The results are furnished in Tables 15 and 16.

Results of the Iowa State sample

The composite factors that will be used to test this hypothesis are: 1) leadership and responsibility; 2) money, prestige, and advancement; 3) opportunity to use special abilities; and 4) helping and serving others. Table 15 shows the results of the ANOVA used to test whether there was a difference in the ratings of these job characteristics by gender and by teaching level. As shown, the females in the sample tended to rate the importance of 1) leadership and responsibility and 2) helping and serving others higher than the males. The males rated 1) opportunity to use special abilities and 2) money, prestige and advancement higher than the females. The F-ratio indicated that these differences were not significant. The mean ratings of the four job

Table 15. A comparison of the importance of certain job factors to students who teach the first year after graduation and those who do not (Iowa State sample)^a

Job Factor	M	N	F-ratio
Leadership and responsibility			
Gender			
Females	4.02	166	
Males	3.88	45	3.12
Employment status			
Teaching	4.01	140	
Non-teaching	3.94	71	.666
Gender by employment status			
Male--teaching	3.90	26	
Male--non-teaching	3.84	19	
Female--teaching	4.03	114	
Female--non-teaching	3.98	52	
Helping and serving others			
Gender			
Females	4.28	166	
Males	3.98	45	14.03**
Employment status			
Teaching	4.27	140	
Non-teaching	4.10	71	5.10*

^aThe rating scale was 1 - 5 with 1 = not important and 5 = important.

**p < .001.

*p < .05.

Table 15. Continued

Job Factor	M	N	F-ratio
Gender by employment status			
Male--teaching	3.97	26	
Male--non-teaching	3.98	19	
Female--teaching	4.34	114	
Female--non-teaching	4.14	52	1.741
Opportunity to use special abilities			
Gender			
Females	4.12	166	
Males	4.14	45	.08
Employment status			
Teaching	4.12	140	
Non-teaching	4.14	45	.04
Gender by employment status			
Male--teaching	4.07	26	
Male--non-teaching	4.25	19	
Female--teaching	4.14	114	
Female--non-teaching	4.10	52	2.327
Money, prestige and advancement			
Gender			
Female	3.54	166	
Male	3.71	45	3.45

Table 15. Continued

Job Factor	M	N	F-ratio
Employment status			
Teaching	3.56	140	
Non-teaching	3.60	71	.115
Gender by employment status			
Male--teaching	3.69	26	
Male--non-teaching	3.73	19	
Female--teaching	3.53	114	
Female--non-teaching	3.55	52	.003

Table 16. A comparison of the importance of certain job factors to students who teach the first year after graduation and those who do not (High School and Beyond)

Job Factor	M	N	F-ratio
Success in work			
Sex			
Male	2.78	9,910	
Female	2.92	66,187	329.98*
Employment status			
Teaching	2.86	33,740	
Non-teaching	2.93	42,357	239.74*
Sex by employment status			
Male--teaching	2.67	2,638	
Male--non-teaching	2.82	7,272	
Female--teaching	2.87	31,101	
Female--non-teaching	2.96	35,086	10.24*
Lots of money			
Sex			
Male	2.07	9,910	
Female	1.98	66,187	59.35*
Employment status			
Teaching	1.96	33,740	
Non-teaching	2.02	42,357	83.79*

*p < .001.

Table 16. Continued

Job Factor	M	N	F-ratio
Sex by employment status			
Male--teaching	2.02	2,638	
Male--non-teaching	2.09	7,272	
Female--teaching	1.95	31,010	
Female--non-teaching	2.01	35,086	.459
Steady work			
Sex			
Male	3.02	9,910	
Female	2.86	66,187	294.19*
Employment status			
Teaching	2.86	33,740	
Non-teaching	2.90	42,357	29.92*
Sex by employment status			
Male--teaching	3.00	2,638	
Male--non-teaching	3.02	7,272	
Female--teaching	2.85	31,101	
Female--non-teaching	2.88	35,086	.282
Correcting inequities			
Sex			
Male	1.54	9,910	
Female	1.95	66,187	1,703.87*

Table 16. Continued

Job Factor	M	N	F-ratio
Employment status			
Teaching	1.85	33,740	
Non-teaching	1.94	42,357	344.70*
Sex by employment status			
Male--teaching	1.31	2,638	
Male--non-teaching	1.63	7,272	
Female--teaching	1.89	31,101	
Female--non-teaching	2.00	35,086	82.079*
Leisure time			
Sex			
Male	2.75	9,910	
Female	2.88	66,187	228.71*
Employment status			
Teaching	2.86	33,740	
Non-teaching	2.87	43,257	7.909*
Sex by employment status			
Male--teaching	2.61	2,638	
Male--non-teaching	2.80	7,272	
Female--teaching	2.88	31,101	
Female--non-teaching	2.88	35,086	106.838*

characteristics by students who teach or do not teach indicate that students who teach after graduating rate 1) leadership and responsibility and 2) helping and serving others as being more important in a job than those students who did not teach. Students who did not teach, on the average, rated 1) the opportunity to use special abilities and 2) money, prestige and advancement as more important job characteristics. The mean rating of teachers (4.27) and non-teachers (4.10) on the importance of helping and serving others was significantly different at the .05 level. The significant difference in the rating of the importance of helping others by gender indicating that females (4.28) had a higher mean rating than the males (3.98) was found to be significant beyond the .001 level of significance. Hypothesis 5 is partially supported. There was no significant interaction effect for any of the job characteristics in the Iowa State sample.

Results of the High School and Beyond sample

The job factors used in this survey instrument were measured on a 3-point scale (1 = not important to 3 = very important). Table 16 shows that males and females who taught one year after graduation differed significantly

from their male and female counterparts who did not go into teaching. Women and men who taught tended to rate the importance of success in work, lots of money, steady work and correcting inequities significantly lower than men and women who had non-teaching positions. The importance of leisure time was rated significantly higher by males who taught than males who did not teach after graduation. The females had a significant but identical mean rating of the importance of leisure time. Inspection of the interaction among these factors revealed three factors affected males and females differently. The importance of success in work, correcting inequities and leisure time were rated significantly higher by the females in the groups. A level of .001 was maintained for all main effects in the analysis of variance. Hypothesis 5 was, therefore, rejected.

Hypothesis 6

Hypothesis 6 states that there is no significant difference between the high school activities of those students who teach one year after graduation and those who do not. For analysis purposes, the high school extracurricular activities in both samples have been grouped into four categories: 1) athletics; 2) subject

matter; 3) honorary; and 4) other. The activities that made up the four categories for each sample are listed in Table 17a. The results of the chi-square used to test the hypothesis in both samples are included in Tables 17 and 18.

Results of the Iowa State sample

As indicated, for the purpose of this hypothesis, four subgroups were established. Table 17 shows that within each subgroup there was little variation between the teaching and non-teaching samples. The chi-square statistic for each subgroup was not found to be significant. The number of students who participated or did not participate in high school extracurricular activities by teaching status was fairly even across the four categories. Hypothesis 6 was, therefore, supported.

Results of the High School and Beyond sample

Table 18 shows the results of the analysis of the High School and Beyond data. The significant chi-square allows for the rejection of Hypothesis 6.

Hypothesis 7

Hypothesis 7 states that the decision to "do it over" if you could choose a career again is independent of

Table 17a. The composite activity categories for the Iowa State and High School and Beyond samples^a

Activity	Iowa State	High School and Beyond
Athletics	Varsity sports Intramural sports Cheerleading	Varsity sports Other sports Cheerleading
Subject matter clubs	4-H FFA or FHA Speech/debate School newspaper	School newspaper Subject matter clubs Debating/drama
Honorary clubs	Student council Honor society	Honorary clubs Junior achievement Student government
Other clubs	Scouts Religious youth activities Youth camps Foreign travel School music activities	Band or orchestra Hobby clubs Church activities Community youth clubs

^aFor each sample, the categories were summed and recoded 1 for participant and 0 for non-participant.

Table 17. Results of the chi-square testing the independence of participation in high school extracurricular activities and teaching after graduation (Iowa State sample)

Activity Categories	Teaching		Non-teaching	
	Observed	Expected	Observed	Expected
Athletics				
Participant	112	110.1	54	55.9
Non-participant	28	29.9	17	15.1
Chi-square = .233				
Subject matter clubs				
Participant	96	96.9	50	49.1
Non-participant	44	43.1	21	21.9
Chi-square = .013				
Honor clubs				
Participant	80	77	36	39
Non-participant	60	63	35	32
Chi-square = .550				
Other clubs				
Participant	135	136	70	69
Non-participant	5	4	1	2
Chi-square = .206				

Table 18. Results of the chi-square testing the independence of participation in high school extracurricular activities and teaching after graduation (High School and Beyond sample)

Activity Categories	Teaching		Non-teaching	
	Observed	Expected	Observed	Expected
Athletics				
Participant	24,041	23,561	30,510	30,990
Non-participant	8,125	8,605	11,179	11,319
Chi-square = 64.214*				
Subject matter clubs				
Participant	24,220	23,365	29,213	30,068
Non-participant	7,946	8,801	12,180	11,326
Chi-square = 202.850*				
Honor clubs				
Participant	20,235	15,445	14,528	29,317
Non-participant	12,669	17,459	26,625	21,835
Chi-square = 5035.935*				
Other clubs				
Participant	26,036	25,060	33,041	34,018
Non-participant	4,370	5,346	8,235	7,257
Chi-square = 375.644*				

*p < .001.

teaching level. For the Iowa State sample, "do over again" was coded 1 = yes; 2 = no; and 3 = undecided. The same item in High School and Beyond was coded as 1 = yes and 2 = no. A significantly large number of students who taught participated in the four activity categories. There was a significantly smaller number of non-teaching students who participated in the four activity groups. Among the non-participating students, less teachers were observed among the four categories; more non-teachers did not participate in each of the groupings. The calculated chi-square was significant beyond the .001 level for each subgroup. A chi-square will be used to test this hypothesis. The results are presented in Tables 19 and 20.

Results of the Iowa State sample

The chi-square results presented in Table 19 indicate that the decision to "do it over" if you could choose a teaching career again is not independent of teaching level. The levels that contribute the most to the chi-square statistic were the elementary and secondary levels. More students at the elementary level indicated they would choose teaching again. Less students than expected indicated no or they were undecided about a

Table 19. Results of the chi-square testing the independence of decision to prepare to teach again and teaching level (Iowa State sample)

Do over?	Observed	Expected	Residual
Elementary			
Yes	76	60	15
No	4	13	-9
Undecided	19	25	-6
Secondary			
Yes	37	50	-13
No	20	11	9
Undecided	25	21	4
Elementary/Secondary			
Yes	13	16	-3
No	4	3	1
Undecided	9	7	2
chi-square - 29.94*			

*p < .001.

teaching career. At the secondary level, less students than expected indicated they would choose teaching again. More students than expected responded "no" or were undecided about whether they would choose teaching again. Among the students with elementary and secondary certification, less students indicated they would choose teaching again. More of these students indicated no or were undecided than was expected. The chi-square statistic (29.94) was found to be highly significant. Hypothesis 7 was not supported.

Results of the High School and Beyond sample

Table 20 summarizes the data obtained from the computation of the chi-square statistic. The results show that the decision to choose teaching again is not independent of teaching level. Further analysis of the residuals between the observed and expected values show that secondary teaching level is contributing the most to the chi-square followed by elementary and kindergarten levels. There was a smaller number of students who were willing to teach again if they could "do it over" at both the kindergarten and elementary levels. The largest difference between the observed and expected values for this sample was found among the secondary schoolteachers,

Table 20. Results of the chi-square testing the independence of the decision to prepare to teach again and teaching level (High School and Beyond sample)

Do over?	Observed	Expected	Residual
Kindergarten			
Yes	247	531	-248
No	962	678	248
Elementary			
Yes	5,598	5,918	-320
No	7,876	7,555	320
Secondary			
Yes	2,246	1,642	604
No	1,492	2,096	-604
chi-square = 530.80*			

*p < .001.

with a larger number than expected responding affirmatively that they would choose teaching again. Hypothesis 7 was, therefore, rejected.

Hypothesis 8

Hypothesis 8 states that there is no significant relationship between teaching or not teaching the first year after graduation and a combination of independent variables. Regression analyses will be computed to test this hypothesis.

Iowa State sample

The independent variables for the Iowa State sample will include: 1) gender; 2) composite job factors (4 items); 3) decision to do over again; 4) composite adequacy of teacher preparation areas (4 items); 5) high school rank; 6) plans to teach; and 7) participation in high school extracurricular activities. The adequacy of teacher preparation items were:

- 1) Planning and delivering instruction;
- 2) Student motivation and discipline;
- 3) Monitoring student achievement;
- 4) Assessing and dealing with learning problems; and
- 5) Interpersonal relationships (see Appendix for calculated means by gender and teaching status.

The dependent variable will be teaching/non-teaching the first year after graduation.

The results of the regression analysis in Table 21 revealed that plans to teach had a positive effect on teaching accounting for more than 10 percent of the variance in teaching or not teaching as indicated by the column labeled R-square. Helping and serving others accounted for another 5% of the variance. Helping and serving others and money, prestige, and advancement were found to be positively related to teaching, each accounting for an additional five percent of the variance. Three and two percent of the variance was explained by planning units of instruction and gender, respectively. The final R-square indicates that the five variables in the equation accounted for 25% of the variance in the decision to teach or not to teach. The F-value of 10.5819 was significant beyond the p.001 level of significance. Hypothesis 8 was not supported.

The High School and Beyond sample

The independent variables to be used as predictors of whether students teach are 1) gender; 2) job factors; 3) high school grades; 4) satisfaction with teacher

Table 21. Stepwise regression analysis of predictor variables on teaching/non-teaching (Iowa State sample)

Stepwise variable in the equation	Multiple R	R-square	B ^a
Plan to teach	.325	.106	.117
Helping and serving others	.399	.159	-.181
Money, prestige and advancement	.45	.205	.109
Planning units of instruction	.48	.230	.132
Gender	.504	.254	.185
Constant			.657
F = 10.582 ^b			

^aUnstandardized regression coefficient from final equation.

^bp < .001.

preparation areas; 5) plans to teach; 6) the decision to "do it over"; and 7) adequacy of the teacher preparation program. The dependent variables will be teaching/non-teaching. The results of the multiple regression equation for the national sample of teacher education students, in Table 22, contained 18 predictor variables. Together, these variables explained 54% of the variance in deciding to become a teacher. The unstandardized regression coefficients revealed that desire to teach in the public schools was positively related to the decision to teach. Thirty-four percent of the variance was explained by this variable alone.

The next largest contributor to the variance was needing more training accounting for an additional 4% of the variance. Three percent of the variance was explained by learning teaching skills in school and college grades. The additional variables that entered the equation but predicted less than 2% of the variance to the equation were: 1) satisfaction with instruction; 2) satisfaction with teacher ability; 3) job different from training; 4) importance of being a community leader; 5) courses not helpful; 6) student sex; 7) satisfaction with intellectual growth; 8) importance of success in work; 9) importance of lots of money; 10) activity; 11) applied the training,

Table 22. Stepwise regression analysis of predictor variables on teaching/non-teaching (High School and Beyond sample)

Stepwise variable in the equation	Multiple R	R-square	B ^a
Desire to teach in public schools	.585	.342	.300
Needing more training	.620	.385	.221
Learned teaching skills in school	.647	.419	.195
High school grades	.663	.440	.078
Satisfaction with instruction	.676	.457	.281
Satisfaction with teacher ability	.708	.501	-.231

^aUnstandardized regression coefficient from final equation.

12); satisfaction with development of work skills; 13) satisfaction with course curriculum; and 14) importance of correcting inequities. The F-value of 2,347.08 was significant beyond the .001 level. Hypothesis 8 was, therefore, rejected.

CHAPTER V**Summary, Discussion and Recommendation
for Future Research**

The purpose of this study was to conduct a causal comparative investigation of some of the differences in selected background factors between students who prepare to become teachers and teach the first year after graduation and those who prepare to become teachers but do not enter the teaching profession after graduation.

The data for this study were obtained from two sources. The first source was the Research Institute for Studies in Education (RISE) which conducts longitudinal studies of prospective teacher education students, beginning when they were sophomores in college. The total population for this sample was 829. The analyses for this study included the 211 respondents who answered all questionnaires. The second data source was High School and Beyond, a national data base containing background information on students when they were sophomores in high school (1980). The data base is a national sample of 3,000,000 students, however, 70,057 of these students were found to be teacher education majors who answered all the questionnaires. The results of the High School and Beyond

data represent a national sample and can, therefore, be generalized to the national population of students who major in teacher education.

The two data bases were similar in content in some aspects and were only slightly comparable in others, therefore, the results of each sample should be compared to each other with caution.

Research has shown that teacher education students who go into teaching are less capable academically than students who did not teach (Chapman & Hutcheson, 1982; Vance & Schlecty, 1982; Weaver, 1981). The secondary results of this study did not support that observation. Although the academic measurement instrument for the Iowa State (high school rank) and High School and Beyond (high school grades) samples were different, students, males and females, who prepared to be teachers had higher mean academic scores than those teachers who did not. The mean differences for the Iowa State sample were not found to be significant while the mean differences in the national High School and Beyond sample were found to be highly significant. The females, as a group, differed from the males. The females had higher mean academic indicators than the males across the two data sets.

Keith (1980) used factor analysis to determine the importance of eleven job characteristics in choosing the present occupation of 487 men and women. The resulting factors were a) opportunity for advancement; b) opportunity to use special abilities and aptitudes; c) opportunity to be creative; d) opportunity to exercise leadership; and e) opportunity to help and serve others. It was found that women did not emphasize extrinsic rewards and potential to exercise leadership. Men were found to value opportunity to use special abilities, advancement, and self-expression.

The results of this investigation do not entirely support this observation. The females in the Iowa State sample rated helping and serving others higher than the males, as was found in the Keith (1980) study. The females in this study, however, rated leadership higher than the males, on the average. The males in this study responded similarly by placing more importance on money and prestige and the opportunity to use special abilities. The only mean difference found to be significant was "helping and serving others." The teachers had a similar pattern to their responses by rating leadership and responsibility and helping and serving others higher than non-teachers. Consistent with research, the non-teachers

rated the opportunity to use special abilities and money and prestige higher than teachers. The difference between the teachers and non-teachers on the importance of helping and serving others was significant.

All job factors in the High School and Beyond survey were found to be highly significant. The results of the rating of the importance of money, nationally, was similar to the results of the Iowa State sample. Males rated this factor significantly higher than females and non-teachers rated it higher than teachers. Nationally, females rate the importance of steady work lower than the males. The males rate the importance of correcting inequities and leisure time lower than females. These results are consistent with research (Chapman, 1984; and Roberson et al., 1983) on teacher attrition.

Additional results of the national sample indicate that teachers rate success in work, lots of money, steady work and correcting inequities lower in importance than non-teachers. This is consistent with the research on teacher attrition. The variables for measuring the differences in job orientation were different but the results of the two analyses do support the research contending that males and females and teachers and non-teachers have differing orientations within each group.

Spady (1971) postulated that there is a positive relationship between participation in extracurricular activities and educational attainment. This study sought to expand this observation by attempting to distinguish teachers from non-teachers. The Iowa State sample provided no basis for hypothesizing that the decision to teach is dependent upon this participation. The High School and Beyond results, however, revealed that the two were not mutually exclusive in the population. More teachers than expected participated in high school extracurricular activities, nationally.

The decision to choose teaching again if you could re-evaluate your career choice has been examined in relation to teacher preparation. More teachers than in the past have been responding negatively to choosing a teaching career again (Harris and Harris, 1988; National Education Association, 1981). The present study examines this question in relation to the teaching levels taught. The results of the Iowa State sample showed that more elementary teachers were willing to do it over; more elementary students in the national sample were not willing to do it over. Fewer secondary teachers than expected said they would choose teaching again in the Iowa

State sample; more secondary teachers in the national sample indicated they would choose teaching again. The findings were different for the two samples.

The results of the regression analysis for the Iowa State sample resulted in five variables. Plans to teach, helping and serving others, money, prestige, and advancement, planning units of instruction and gender were significant predictor variables in decisions to teach the first year. The R-square shows that plans to teach was the first variable to be entered into the analysis. This variable accounted for 10% of the variance, followed by helping and serving others; which accounted for an additional 5% of the total variance. Planning and delivering instruction was entered and added 3% to the variance. Gender was the final variable entered, adding 2% of the variance. The total equation predicted 25% of the variance in the decision to become a teacher.

Positive predictors of entering teaching were 1) plans to teach; 2) helping and serving others, 3) planning units of instruction; and 4) gender. A negative predictor of entering teaching was money, prestige, and advancement. This was consistent with research and the initial analysis of the job factors by teaching and non-teaching.

For the national sample, results of the multiple regression revealed that the following variables were positively related to teaching after graduation: 1) plans to teach, which accounted for 34 percent of the variance; 2) learning teaching skills in school; 3) college grades; 4) satisfaction with instruction; 5) satisfaction with teacher training; 6) application of teacher education training; 7) development of work skills; and 8) satisfaction with the course curriculum.

The variables found to be negatively related to teaching the first year were: 1) dissatisfaction with abilities of teachers; 2) the lack of desire to become a community leader; 3) lack of satisfaction with intellectual growth, 4) money; 5) participation in high school extracurricular activities; and 6) need to correct inequities. The findings regarding plans to teach and money were similar for the Iowa State sample.

The results indicated that grades positively influenced the decision to teach. This is in contrast to the findings of researchers who found that the academic ability of students who teach is lower than those who do not teach (Vance & Schlecty, 1982; Chapman & Hutcheson, 1982).

The relationship between participation in high school extracurricular activities and teaching was supportive of the initial data analyses using High School and Beyond data. These activities were found to be related to teaching. Participation in high school extracurricular activities was not found to be a significant contributor in either multiple regression equation. The discrepancy in these findings may be due to the fact that the Iowa State sample was too small and the High School and Beyond sample was too large. Each type of sample tends to increase the probability of making either a Type I or Type II error. The small sample may have failed to reveal large differences in participation, while the large sample may be revealing minute significant differences.

This study was not designed to be purely statistical but to examine the differences and similarities of teacher education students across two samples. The data show that nationally, today's teacher education students who teach do not appear to be less academically capable, as measured by college grades, than teacher education students who do not teach. This result is similar to the findings from Iowa State that indicated no significant difference between the high school ranking of students who teach and those who do not. The fact that no significant difference

in high school rank and teaching or not teaching indicates that, for Iowa State teacher education students, the more academically capable students do appear to be attracted to teaching. Nationally, the results seem to indicate a similar trend, with those students with higher grades being more likely to teach, while those students with lower grades are less likely to teach.

Recommendations for Further Research

The findings of this study uncovers the need to do additional research in this area. The seemingly inconsistent finding that refutes academic deterioration among teacher education students should be examined by incorporating more than one indicator of academic achievement. The large discrepancy in the sample sizes for the present study suggests that a larger Iowa State sample could be used for comparison with the national sample.

This study investigated the characteristics of teacher education students only. Future studies could make comparisons among students who do not major in teacher education, those students who major in teacher education but do not teach, and those students who major in teacher education and go on to teach.

The results of the role of participation in high school extracurricular activities were inconsistent between samples, therefore, college participation could be incorporated with the high school activities and compared among students.

Finally, this study predicted entry into teaching by multiple regression analysis. This study could be replicated using discriminant analysis and path analysis. When different measures reveal the same results, only then can generalizations be made.

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APPENDIX

Table A1. List of comparable variables in the Iowa State and High School and Beyond samples

	Iowa State sample	High School and Beyond sample
Sex	TM1 ^a (sex) 1 Female 2 Male	TM1 ^b (sex) 1 Male 2 Female
Participation in high school extracurricular activities	TM1 ^a (ACTP1 to ACTP17) 1 4H 2 Scouts 3 Varsity sports 4 Intramural sports 5 Religious youth activities 6 Youth camps 7 Foreign travel 8 School music activities 9 FFA or FHA 10 Speech/Debate 11 Student council 12 Cheerleading 13 School newspaper/yearbook 14 Honor society 15 Service clubs 16 Interest clubs 17 Other (scale of 0 did not participate 1 participated)	TM1 ^b (EB 32A to BB 320) A Varsity sports B Other sports C Cheerleader/Pep club D Debating team E Band/Orchestra F Chorus/Dance G Hobby clubs H Honorary clubs I School newspaper J Subject matter clubs K Student government L Vocational ed clubs M Community youth clubs N Church activities O Junior achievement (scale of 1 not participated 2 active participant 3 leader)

^aTime of survey codes are only applicable for those students who are on track.

^bGraduate survey.

Table A1. Continued

	Iowa State sample	High School and Beyond sample
Importance of job factors	TM3 ^c (JC1-JC18)	TM4 ^d (TE68A, C, F, J, and L)
	18 Challenge	A Success in work
	15 Responsibility	C Lots of money
	14 Variety in the work	F Being a community leader
	9 Opportunity for leadership	J Correcting inequities
	11 Adventure	L Leisure time
	17 Control over what others do	(scale of 1 not important to 3 very important)
	4 Opportunity to earn lots of money	
	8 Opportunity for advancement	
	5 Social status and prestige	
	6 Stable and secure future	
	13 Fringe benefits	
	1 Opportunity for creativity	
	2 Opportunity to use special abilities	
	16 Control over what I do	
	7 Freedom from supervision	
	10 Opportunity to help others	
	6 Opportunity to effect social change	

^cHigh school sophomore survey.

^dOne year follow-up survey.

Table A1. Continued

	Iowa State sample	High School and Beyond sample
	3 Opportunity to work with people (scale of 1 very unimportant to 5 very important)	
Long-range career plans	TM3 ^c (FYLRP) 1 Teaching 2 Education-not teaching 3 Outside education 4 Other 5 Undecided	TM4 ^d (TE15A) 1 Clerical 2 Craftsman 3 Farmer/Farm manager 4 Housewife 5 Laborer 6 Manager/admin. 7 Military 8 Operative 9 Professional nurse/engineer 10 Professional dentist/physician 11 Proprietor 12 Protective Service 13 Sales 14 Teacher 15 Service 16 Technical 17 Not working
Satisfaction with preparation	TM3 ^c (QT) 0 Poor 10 Very high	TM4 ^d (TE12BA) 1 Yes 2 No
Do over again	TM3 ^c (DOA) 1 No 2 Undecided 3 Yes	TM4 ^d (TE12BI) 1 Yes 2 No

Table A1. Continued

	Iowa State sample	High School and Beyond sample
Plan to teach	TM2 ^e (EMPNY) 1 Obtained teaching position 2 Seeking teaching position 3 Seeking non-teaching position 4 Graduate study 5 Other	TM3 ^f (SE54F) 1 Definitely 2 Probably 3 Probably not 4 Definitely not 5 Don't know
Grade point average	TM3 ^c 1-85	TM3 ^f (SE23) 1 Mostly A 2 Half A/Half B 3 Mostly B 4 Half B/Half C 5 Mostly C 6 Half C/Half D 7 Mostly D 8 Below D
Teach/non-teaching 1 year	TM3 ^c (CEM) 1 Teaching 2 Non-teaching 3 Both	TM4 ^d (TE8A) Recoded to Jobone 1 Teaching 2 Non-teaching
Adequacy of teacher preparation	TM3 ^c (OAI1 to NNNAI70) OAI1 Planning instruction OAI3 Knowledge of resources OAI31 Evaluating instruction OAI33 Individualizing instruction	TM4 ^d (TE28A, C, D, I, J) A Teacher ability C Work skills D Intellectual growth I Course curriculum

^eEducation 204 Survey.

^fCollege Senior Survey.

Table A1. Continued

Iowa State sample	High School and Beyond sample
OAI35 Selecting/organizing material	J Quality of instruction
OAI37 Variety of teaching techniques	(scale of 1 very satisfied to 2 very dissatisfied)
OAI39 Understanding teacher's role	
OAI41 Skill working with parent	
OAI43 Skill working with teachers	
OAI5 Maintaining student interest	
OAI7 Managing behavior problems	
OAI27 Relating class to students	
OAI11 Dealing with learning problems	
OAI13 Assessing learning problems	
OAI15 Skills developing tests	
OAI17 Interpreting tests	
OAI25 Evaluating student achievement	
(Scale of 5 very adequate to 1 very inadequate)	
Satisfaction with preparation	TM4 ^d TE12BA Applied training TE12BB Need more training TE12BC Job different/train TE12BF Courses not helpful

Table A1. Continued

Iowa State sample	High School and Beyond sample
	TE12BG Learned in school TE12BI School wise choice

Table A2. The mean ratings of preparation adequacy areas of students who teach and those who do not by gender (Iowa State sample)

Content area	Teaching		Non-teaching		F-ratio
	M	N	M	N	
Planning and delivering instruction					
Males	3.29	24	3.94	16	10.717*
Females	3.88	109	3.94	42	
Student motivation and discipline					
Males	2.48	24	2.97	16	8.425**
Females	3.32	109	3.11	42	
Monitoring student achievement					
Males	3.22	24	3.92	16	1.531
Females	3.69	109	3.55	42	
Assessing and dealing with learning problems					
Males	2.48	24	2.97	16	12.298*
Females	3.32	109	3.11	42	
Interpersonal relationships					
Males	2.49	24	2.47	16	7.453*
Females	3.51	109	3.48	42	

*p < .05.

**p < .001.