

ABSTRACT

WILLIAMS, JENNIFER B. Special Education Teacher Attrition in North Carolina: The Contributions of Internal and External Factors

Teacher attrition throughout schools in our county is a national problem reflecting significantly on the quality and stability of educational programs. Statistics have surfaced over the past few years describing the increased rate of teacher attrition in the field of education. To date, there has been some research on identifying the factors associated with teacher attrition in special education but more is needed. A limited number of studies contain large population samples, investigate the relationship between gender and attrition, or investigate external contributors of attrition such as salary, percentage of students in poverty, and the academic performance of students. In the meantime, State Education Agencies and Local Education Agencies implement retention policies based on inadequate data. This study provides a critical review of the literature related to teacher attrition in special education and research questions were investigated that address the internal and external factors related to teacher attrition in a southeastern state using a large three-year data set. The study identified the relationships between internal factors such as age, licensure status, degree held, salary, experience, ethnicity, and gender in regards to teacher attrition. Additionally, external factors such as local teacher salary supplement, academic achievement of students, and poverty level of students and the relationship to teacher attrition were examined. Data including special education teachers from the 2000-2001, 2001-2002, and 2002-2003 school years were obtained and quantitatively analyzed using the SAS statistical package to explore relationships between the various internal and external factors and the attrition of special education teachers. Findings are clearly presented, and the influences of internal and external

factors are revealed. A discussion of the implications of these results and ideas for future research are presented.

SPECIAL EDUCATION TEACHER ATTRITION
IN NORTH CAROLINA:
THE CONTRIBUTIONS OF INTERNAL AND EXTERNAL FACTORS

by

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This work is dedicated to
my husband, Burke Williams.

This accomplishment would not have been possible without
your unconditional love, encouragement, and support.

BIOGRAPHY

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TABLE OF CONTENTS

LIST OF TABLES	vii
CHAPTER 1	
INTRODUCTION	1
Attrition in General Education.....	1
The Problem of Definitions.....	3
Attrition in Special Education.....	4
A Call to Action.....	7
Quality of Education.....	8
Purpose of Study.....	10
Research Questions.....	11
CHAPTER 2	
REVIEW OF LITERATURE	14
Overview.....	14
Conceptual Models of Teacher Attrition in Special Education.....	15
Internal Factors.....	17
Survey Research.....	18
External Factors.....	23
Employment Factors.....	23
Transferring from Special to General Education.....	34
Summary.....	36
CHAPTER 3	
METHODOLOGY	37
Design.....	37
Participants.....	38
Data Collection.....	41
Description of Variables.....	43
Internal Factors.....	43
External Factors.....	44
Data Analysis.....	46
CHAPTER 4	
RESULTS	51
Internal Factors.....	51
External Factors.....	63

TABLE OF CONTENTS (continued)

CHAPTER 5

DISCUSSION.....67

 Internal Factors.....67

 Age and Years of Experience.....67

 Gender69

 Ethnicity.....70

 Degree.....71

 License Area.....71

 License Type.....72

 External Factors.....72

 Salary Supplement of Teachers in LEA.....72

 Academic Performance of Students in LEA.....74

 Poverty Level of Student in LEA.....75

 Future Research.....75

 Limitations.....82

 Conclusion.....84

REFERENCES.....86

APPENDICES.....88

A. Application Supplement Waiver and General Release

B. Verification by Institution: Completion of Approved Education Program.

C. State of North Carolina License

D. License Update

E. Wake County Public School System Tender of Resignation

F. Wake County Public School System Exit Survey

G. North Carolina State University Informed Consent Form for Research

H. Institutional Review Board Letter of Exemption

LIST OF TABLES

	Page
Table 3.1	Sample Size for Attrition and Retained Group of Special Educators.....39
Table 3.2	Sample Characteristics.....40
Table 4.1	Average Age of Attrition and Retention Groups Across All Years.....52
Table 4.2	Chi-Square Analysis Percents by Group on Gender.....53
Table 4.3	Chi-Square Analysis Percents by Group on Ethnicity.....55
Table 4.4	Chi-Square Analysis Percents by Group on Degree.....57
Table 4.5	Chi-Square Analysis Percents by Group on License Type.....59
Table 4.6	Chi-Square Analysis Percents by Group on License Name.....61
Table 4.7	General Linear Model Procedure for Years of Experience.....63
Table 4.8	Analysis for Salary Supplement, Poverty Level of Students, and Academic Performance.....66

CHAPTER 1 – INTRODUCTION

Teacher attrition throughout schools in our country has become a national problem reflecting significantly on the quality and stability of educational programs. Shocking statistics have surfaced over the past few years describing the increased rate of teacher attrition in the field of education. Hussar (1999) estimates that schools within the United States will need to hire between 1.7 million to 2.7 million new teachers within the next decade. According to Boe, Bobbitt, and Cook (1997), teacher attrition in general education is a definitive problem and the general education attrition rates hover at an overwhelming 5.8 percent. Recently, 90 percent of new teachers hired are replacements for teachers choosing to leave the profession for reasons other than retirement (Ingersoll, 2001). North Carolina's Department of Public Instruction (2002) reports that at least 12,000 new teachers must be hired each year, however, current North Carolina teacher education programs are only preparing 3,500 teachers per year. According to the system level teacher turnover report for the 2003-2004 school year 11,399 teachers of the 92,166 teachers employed left their positions. The system level turnover ranged from a high of 25.76 percent to a low of 2.73 percent in the Local Education Agencies (North Carolina Department of Public Instruction, 2004).

Attrition in General Education

Research evidence outlines several factors that contribute to the growing rate of attrition in education. For example, attrition rates vary by age and experience of teachers in the profession and the subject or level they teach. The attrition rate is much higher for younger teachers and high again at the age of retirement resulting in the loss of seasoned professionals (Billingsley & Cross, 1991; Grissimer & Kirby, 1997). Ingersoll (2001) not

only validated the impact of age, but also noted how the field of specialty was a major influence as well. The subject, level, and location of students taught are of importance when dissecting attrition. Murnane and Olson (1990) discovered elementary school teachers stay the longest in comparison to secondary school teachers. Those who teach in urban districts have much shorter careers than the average general education teacher does.

Monetary issues exist as crucial factors in the decision of teachers to leave the field. Many teachers exit teaching for better salaries and competitive jobs outside the profession. Interestingly, teachers with higher National Teacher Exam (NTE) scores along with those with lower paying salaries were more apt to leave teaching (Murnane & Olson, 1990). Ingersoll (2001) cites current teacher salaries as creating dissatisfaction among teaching professionals and leading them to pursue better jobs or even alternative careers.

Furthermore, organizational conditions of schools can lead to teacher exodus. Teachers often lack the required support from school administration, have difficulty with student discipline, and are allotted little input into school decision making (Ingersoll, 2001). Other studies such as Johnson and Birkeland (2004) provide evidence that new teachers' perceptions of success and efficacy are critical factors in whether a teacher stays in the profession. Ingersoll (2001) concluded the recent trend of qualified teachers leaving the field is not due to increases in student enrollment, retirement, or a limited pool of teachers, but rather because of excessive organizational demands. These demands result in a "revolving door" with large numbers of teachers beginning and leaving their jobs, which creates excess need for educators. Ingersoll (2001) suggests

organizational conditions need to be addressed rather than relying on recruitment programs to solve the problems with teacher shortage. Whereas Grissmer and Kirby (1997) argue that the reserve pool of teachers (teachers who have previously taught but are not currently teaching) is declining and creating a large contribution to the current teacher shortage.

The Problem of Definitions

Some researchers argue that the problem in existing research on teacher attrition is the specific way in which the term ‘attrition’ is defined. Currently there are several definitions of attrition making it difficult to determine its breadth. Attrition, teacher turnover, migration, and transfer have all been terms used to refer to teachers leaving their positions. According to Ingersoll (2001), teacher turnover has been specifically defined as the departure of teachers from their teaching jobs but not necessarily from the profession. On many occasions, teachers leave their current position to transfer to another teaching position in a different school, county, or state.

Attrition is often used to categorize those who leave the occupation of teaching altogether, yet to make matters confusing some researchers include teacher transfer to other schools or districts in their definition of attrition as well. Migrating teachers are defined as those who move to different teaching jobs in other schools whereas teacher transfer refers to individuals moving to different teaching jobs in other schools. Miller, Brownell, and Smith (1999) refer to those who remain in teaching as “stayers,” those who transfer as “movers,” and those who exit the teaching profession as “leavers.” Distinguishing definitions is vital when trying to identify and determine teacher shortage.

Differences in definitions of attrition can lead to inconsistent results in research studies. The varying rates of attrition among recent studies can be attributed to vague and discrepant definitions. Additional problems exist with current definitions of attrition. The attrition rates often do not include part-time employees or account for the fact that teachers may leave and then be employed again in another school district. However, no matter which definition or term is used to describe the phenomena of teachers exiting the field, the end result is still notable.

Attrition in Special Education

The occurrence of attrition is not unique to the population of general education teachers. In fact, teachers in the special education profession maintain an even higher rate of attrition. According to Boe, Bobbitt and Cook (1997), an estimated 7.9 percent of special educators and 5.8 percent of general educators leave the field every year. The statistics remain much higher in some states. In North Carolina, 13 percent of newly hired special educators leave by the end of the first year, 11 percent leave by the end of the second year, and an additional 11 percent leave by the end of the third year of teaching. At the end of five years, 43 percent of special educators are no longer teaching in that state (Singer, 1992).

Not only is attrition a problem, but migration is a problem as well for the organization even though it may not have an impact on broad levels of attrition (Ingersoll, 2001). Migration of teachers contributes to the existing difficulty in school staffing. A lack of continuity in instruction and inconsistent staffing results in challenges for a school system that in turn can affect student achievement.

Among special education teachers, Singer (1992) found corroborating evidence of higher attrition rates in young women, teachers with lower salaries, and those with higher NTE scores. In addition, Singer found an increased attrition rate for individuals who provided support services for students with vision or hearing impairments as compared to other populations. Further, Singer commented that teachers working with students who have emotional difficulties or speech disabilities typically have much shorter careers than the average special education teacher. The most stable special education teachers worked with students who had learning disabilities, multiple disabilities, or physical disabilities.

As with the general education population of teachers, current research indicates many factors that contribute to the attrition of special education teachers. However, some of these factors differ slightly in nature. Beginning special education teachers experience different problems from beginning general education teachers. Special educators cited factors such as poor preparation, frustration, and exhaustion as being key reasons for departure (Kilgore & Griffin, 1998). Stress due to job design, a sense of learning on the job, and working conditions are all factors revealed by Gersten et. al. (2001). As with general educators, administrative support surfaced as an element of frustration for special educators (Gersten et. al., 2001). Miller, Brownell, and Smith (1999) concluded teachers left special education due to insufficient certification, perceptions of high stress, perceptions of lack of support from colleagues and the principal, and perceptions of poor school climate.

Compared to general educators, special education teachers are faced with greater role ambiguity and less job involvement (Billingsley & Cross, 1992). Special educators perform various roles depending on the students and environment in which they are

working, and they sometimes feel isolated due to their unique positions. According to the Council for Exceptional Children (2000), special education teachers often feel isolated from general education teachers as well as from other special educators. Special educators receive few chances to collaborate with colleagues despite the much needed communication and often have little influence in making policy or school-based decisions resulting in a feeling of isolation.

There are also indications that general education teachers may have higher job satisfaction and may find teaching more rewarding. According to Stempien and Loeb (2002), teachers of students in general education divulged higher job satisfaction than teachers of students with behavioral/emotional impairments. This population of teachers found fewer rewards in education, which is a key factor when predicting commitment and job satisfaction (Stempien & Loeb, 2002).

The Commission of the Condition for Special Education Teaching and Learning (2000) formed by the Council for Exceptional Children reviewed the literature to delineate factors contributing to special education attrition. Vague responsibilities, grueling paperwork, inadequate administrative support, teacher isolation, limited focus on student outcomes, poor teacher preparation programs, and disjointed licensing systems were several of the main issues contributing to teacher shortages in special education (Council for Exceptional Children, 2000).

The highest attrition rates apply to teachers who are leaving education altogether. The issue of teacher transfer from special education to general education remains a concern resulting in even fewer teachers returning to the special education classroom. Boe, Bobbitt, and Cook (1997), reveal that only 7 percent of general education teachers

transferred. However, the overall rate of special education transfer was higher with 13 percent of special education teachers transferring. The rate of special education teacher transfer to general education was considerably higher than general education teacher transfer to special education. The primary reasons teachers transfer out of special education are administrative factors and stress involved in working with special education students (Billingsley & Cross, 1991). Excessive paperwork, lack of support from building principals, student discipline, and a lack of progress made by special education students are specific factors that affect the transfer from special education into general education positions (Billingsley & Cross, 1991).

In summary, attrition in the profession of special education is a serious concern. Not only is it difficult to keep special education positions filled, but it is an additional challenge to find the qualified teachers needed to meet the needs of students with disabilities. According to Billingsley and Cross (1991), we need to retain qualified special education teachers for our exceptional children. Currently, in many states, emergency certificates are granted allowing individuals with no prior teacher training in general or special education to instruct students with disabilities (Smith-Davis & Billingsley, 1993). At this point in time, the quality of education is severely at risk for those with special needs.

A Call to Action

The Individuals with Disabilities Education Act of 1997 (IDEA) guarantees a free, appropriate public education for all students with disabilities. As part of this law, an individualized education program is mandated that is designed to meet the child's unique

needs and provide educational benefit. In order to meet the guidelines of educational benefit, education must be of the highest quality.

The Council for Exceptional Children's Report "Bright Futures for Exceptional Learners (2000)" comments that "four out of every ten special educators entering the field leave special education before their fifth year of teaching (p.2)." In 1998, The Council for Exceptional Children appointed a Presidential Commission on the Conditions of Special Education Teaching and Learning with a task to identify barriers obstructing high-quality education. They were to develop an action agenda to ensure that all students with exceptionalities have highly qualified teachers (Council for Exceptional Children, 2000). The action agenda called for clear definitions of the roles of special educators, technology and clerical supports to assist with paperwork burden, standardized decision-making processes, career continuums in special education, cohesive professional licensure systems, and system supports.

The plan of action was based on the observation that many students with exceptionalities are not receiving the quality of education needed to lead them into successful adulthood. Many of the current special education teachers are in situations that prevent them from delivering high-quality instruction and are asked to fulfill roles that are disjointed, unclear, or have conflicting responsibilities (Council for Exceptional Children, 2000).

In 2002, the No Child Left Behind Act of 2001 was signed into law resulting in the most significant changes to federal education law since 1965. The goal of this law is to have all students performing at grade level or above by the 2013-2014 school year. As part of this law, school systems are required to have licensed teachers with content

knowledge fitting the instructional needs of their classes by the 2005-2006 school year. However, meeting this requirement will prove to be difficult with the current shortage of special education teachers even though federal funding has been granted to assist with incentives to aid in teacher recruitment.

Quality of Education

When we are faced with a large percentage of non-certified teachers in the special education profession, the quality of education is certainly sacrificed (Miller, Brownell, & Smith, 1999). According to Boe, Cook and Bobbitt (1998), the shortage of fully certified special education teachers is twice that of general education teachers. Statistics provided by the Council for Exceptional Children indicate there are approximately 30,000 special education positions currently filled by individuals who do not have the appropriate credentials. Many of these individuals do not have training in working with students with special needs. These individuals often struggle to perform the various roles of special educators and meet the diverse needs of their students with disabilities.

At the same time that high rates of attrition are occurring in special education, many teachers are arriving at retirement age. Veteran special educators are leaving their jobs at twice the rate as general educators, leaving many inexperienced and unqualified teachers filling positions in special education. If teachers choose to retire at fifty-five rather than age sixty-five due to enhanced retirement programs, this will impact the demand for new teachers in the future (Grissmer & Kirby, 1997).

To intensify the problem of teacher shortage, the nation is experiencing a significant increase in the enrollment of students in special education services. In addition to increased enrollment, the recent push for lower class sizes is creating more

teacher positions that need to be filled. To make matters worse, few individuals are graduating from teacher preparation programs in special education. The needed teachers to fill the vacant positions are just not available.

Furthermore, substantial expense exists in hiring and training new special education teachers. Funding is needed to provide extensive mentoring support and staff development to ensure the success of new special education teachers. When faced with so many beginning teachers, resources and funds must be allocated to adequately train these individuals. Furthermore, universities and colleges are in need of additional funds to support labor intensive teacher training programs to produce quality teachers. Additionally, future teachers need monetary support to help offset the rising tuition costs that can often prevent completion of teacher education programs leading to certification.

Purpose of Study

To date, there has been some research on identifying the factors associated with teacher attrition in special education but more is needed. Although we are aware of the general factors nationally involved in teacher attrition for general educators, much less is known about the variables that affect attrition in special education. Research has confirmed that age and years of experience impacts teacher attrition, and those who are uncertified when beginning their teaching careers are more likely to leave than the fully certified teachers (Billingsley, 2004). However, a call for research still exists. A limited number of studies contain large population samples, investigate the relationship between gender and attrition, or investigate contributions to attrition of differences in demographic regions and types of school districts (Billingsley, 2004). In the meantime, State Education Agencies and Local Education Agencies are implementing retention policies

based on inadequate data. These decisions affect teacher retention and services for students with disabilities. This study will contribute to the literature relating to teacher attrition in special education and specifically provide knowledge regarding the unique population of special education teachers in North Carolina.

Factors that influence attrition in special education can be categorized into internal, external, and employment factors. Internal factors include personal factors such as age, gender, race, years of experience, teacher qualifications, degrees earned, teacher preparation, and academic ability of the individual. External factors refer to economic, societal, and institutional factors. Employment factors refer to factors such as school climate, job satisfaction, and administrative support. To date, few studies have explored a number of internal and external factors and their contribution to teacher attrition in special education. Furthermore, the current research base lacks studies conducted with large data sets.

This study will analyze a large data set using correlational analysis. Correlational analysis methods will allow the investigator to determine the relationship between selected internal factors of special education teachers such as age, gender, ethnicity, degree held, license type, licensure area, and years of experience and the attrition of special education teachers. Also, the contribution of external factors such as local salary supplement, percentage of students in poverty, and school district performance to special education attrition has not been addressed through research. Given the limited information available on the roles of internal and external factors, more research is needed to fully describe teacher attrition in special education. This study will provide

specific information that may assist in targeting retention efforts for special education teachers in North Carolina.

Research Questions

This study explored the following questions:

- 1) Is there a relationship between internal factors of special education teachers and attrition of special education teachers in North Carolina?

Null Hypothesis. There is no relationship between internal factors of special education teachers and attrition of special education teachers in North Carolina.

- a) There is no relationship between age and attrition of special education teachers in North Carolina.
- b) There is no relationship between gender and attrition of special education teachers in North Carolina.
- c) There is no relationship between ethnicity and attrition of special education teachers in North Carolina.
- d) There is no relationship between degree held and attrition of special education teachers in North Carolina.
- e) There is no relationship between license type and attrition of special education teachers in North Carolina.
- f) There is no relationship between license area and attrition of special education teachers in North Carolina.
- g) There is no relationship between years of experience and attrition of special education teachers in North Carolina.

- 2) Is there a relationship between external factors of special education teachers and teacher attrition of special education teachers in North Carolina?

Null Hypothesis. There is not a relationship between external factors of special education teachers and teacher attrition of special education teachers in North Carolina.

- a) There is no relationship between teacher salary supplement in the LEA and attrition of special education teachers in North Carolina.
- b) There is no relationship between percentage of students in poverty in the LEA and attrition of special education teachers in North Carolina.
- c) There is no relationship between academic performance of students in the LEA and attrition of special education teachers in North Carolina

CHAPTER 2 - REVIEW OF LITERATURE

As presented in Chapter 1, continued research is desperately needed in the area of special education teacher attrition in order to provide the quality of education necessary for the youth of America. The previous chapter briefly highlighted the trends of recent research on attrition, but this chapter aims to delve into the specific findings and limitations of those studies and to identify areas of needed research.

Overview

This section will briefly summarize one of the extensive literature reviews presented to date. Billingsley (2004) provides a review of the literature that clarifies factors which contribute to teacher attrition in special education. The review is organized according to four major themes: teacher characteristics and personal factors, teacher qualifications, work environments, and teachers' affective reactions to work.

According to this review, teacher characteristics in relationship to attrition in general education have been studied quite frequently but there have been limited studies in special education. The special education studies conducted have linked teacher age to attrition with the conclusion that younger teachers are more likely to leave the field of special education and teachers approaching retirement are more likely to stay. Younger teachers with very little experience often leave the field of education due to frustration. Additionally, younger teachers are less invested in the retirement system than are experienced teachers. To date, there have been mixed findings on the relationship between the variables of gender and attrition as well as ethnicity and attrition. Personal finances, opportunities for advancement without going in to administration, and personal

reasons not related to work all contribute to a special education teacher's decision to leave in terms of teacher characteristics.

The qualifications of teachers in relationship to attrition have been studied even less. However, certification status has definitely been linked to attrition with uncertified teachers being more likely to leave than certified teachers (Billingsley, 2004).

Additionally, those on emergency or provisional certificates are considered to be at risk for attrition. As far as academic ability, special education teachers with higher performance on test scores are more likely to leave than those with lower scores. Teacher preparation and type of degree earned are two variables that have been given less attention as predictors of attrition and few inferences can be made.

Billingsley's (2004) review also summarized research addressing the work environment variables of salary, school climate, administrative support, colleague support, support through induction and mentoring, professional development, teacher roles, and caseload. Factors that most were most commonly related to staying included an increased salary rate, effective support systems, positive school climate, professional development opportunities, and reasonable job demands. In the last section, studies exploring affective responses to work were summarized. High stress, low job satisfaction, and low commitment predicted negative reactions to work which may ultimately influence leaving the profession.

Conceptual Models of Teacher Attrition in Special Education

A conceptual model is vital to successfully guide a research study and provide an appropriate framework. Both Billingsley (1993) and Brownell & Smith (1993) have presented conceptual models of teacher attrition in special education. Brownell and

Smith's (1993) conceptual model is an adaptation of Bronfenbrenner's ecological model for conducting research in educational environments. In this model, four interrelated systems are described as layers: the microsystem, the mesosystem, the exosystem, and the macrosystem. The microsystem represents the teacher's immediate setting and the interactions that occur due to student and teacher characteristics. The challenges of teaching students with various types of disabilities, disruptive classroom behavior, and class size may contribute to a teacher's decision to leave. The mesosystem encompasses variables pertaining to administrative support, collaboration, decision-making power, role conflict, and professional growth opportunities in the workplace. The exosystem takes into account the influences of school district characteristics as well as the influences of federal, state, and district policy. Variables of school district location, socioeconomic level of the community, and district salary fall within the exosystem. Lastly, the macrosystem comprises cultural beliefs and ideologies including variables such as society's perceptions of learners, teachers, and schools and economic conditions.

According to the conceptual model created by Billingsley's (1993), factors that influence attrition in special education can be categorized into personal factors, external factors, and employment factors. Personal factors include internal factors such as age, gender, race, years of experience, teacher qualifications, degrees earned, teacher preparation, and academic ability of the individual. External factors refer to economic, societal, and institutional factors. Lastly, salary, school climate, administrative support, colleague support, job satisfaction, and commitment are categorized as employment factors. This literature review will adhere to Billingsley's conceptual model to evaluate findings on teacher attrition in special education. Billingsley's conceptual model provides

a clear framework for interpreting the research and assists in the organization of a wide variety of variables. In the following sections, the studies reviewed will be organized according to the internal factors, external factors, and employment factors examined.

Internal Factors

Research studies which predominately address internal factors are summarized in this section. Once again, internal factors refer to variables such as age, gender, race, years of experience, teacher qualifications, degrees earned, teacher preparation, and academic ability. In a longitudinal study conducted by Singer (1992), the intent was to determine how many years special education teachers continue to teach and in what years they tend to leave. Also, Singer set out to determine if the risk of leaving differs by the external variables of year of hire, job responsibilities, or salary. Survival analysis was used to describe the career paths of 6,642 newly hired special education teachers in Michigan and North Carolina between 1972 and 1983. These teachers were tracked for up to 13 years or until they stopped teaching in that state. State data were analyzed using discrete time survival analysis.

Singer discovered that young teachers (age 30 or younger) were nearly twice as likely to leave as mature teachers (those over 30) were, and women were more likely to leave than were men. The results indicated that elementary teachers stayed an average of 1.6 years longer than middle or secondary teachers, and those with higher National Teaching Exam scores were more likely to leave than those with lower scores. Furthermore, teachers of speech, hearing, and vision impairments were more likely to leave than other special education teacher groups. Unfortunately, Singer did not make any interpretations regarding the increased attrition for those teachers providing itinerant

services.

Survey Research

The next two studies used data from the Schools and Staffing Survey and Teacher Follow-up Survey. Both surveys were administered to national probability samples by the National Center for Education Statistics (NCES). The Schools and Staffing Survey provided information on the characteristics, qualifications, and teaching assignments of public school teachers. The Follow-up survey was administered during the subsequent year to estimate position changes made by teachers from the previous year. The researchers in the next two studies used data from both surveys to identify changes in employment status, qualifications, and teaching assignments.

Boe, Bobbitt and Cook (1997) examined factors that affect the turnover of special and general education teachers. Data were gathered from a national probability sample of 4,798 public school teachers from the 1989 Teacher Follow-up Survey and the 1987-1988 Schools and Staffing Survey. Using these questionnaires, the researchers were able to track position changes and teacher variables such as characteristics, qualifications, and teaching assignments. Teachers who taught in part-time or full time K through 12 assignments were included in the study and classified into special education and general education. This research analyzed predictor variables for retention, school transfer, and attrition of both special and general educators during the 1987-1988 school year. The teacher status variables were demographic characteristics, teacher qualifications, teacher employment conditions, and school characteristics. Using chi-square, statistical tests of associations among variables were performed.

The authors summarized several findings on the contribution of teacher characteristic variables. The results indicated that age was strongly associated with decisions of teachers to change schools or leave teaching. In general and special education teachers, higher percentages of attrition occurred at both younger and older ages than in the age range of 30-49. The number of dependent children and change in child dependency status influenced teachers' decision to change schools or leave teaching. Teachers with children under the age of six and a change in status from none to one or more children were associated with higher attrition. Those teachers who experienced marital change were twice as likely to move to a different public school or leave teaching in both groups studied.

Additionally, analysis of teacher qualifications and assignment variables led to significant results. Teachers who had full teaching certification were more likely to stay in the same school than those who were only partly certified. Teacher turnover was highest for those who held the most recent teaching degrees and earned a degree within the prior two years and declined for teachers with older degrees. Turnover was less likely among experienced teachers, and those with four or fewer years of experience were more likely to move to a different school or leave teaching. The findings indicated that elementary school teachers moved to other schools at a higher rate than secondary teachers. Also, the relationship between school transfer and attrition and base school salary was statistically significant with attrition declining for those with higher salaries.

Furthermore, this study identified several variables that were not significantly associated with teacher attrition. Internal variables of age, gender, ethnicity, and level of degree earned were not significant contributors to teacher attrition. School size,

community type (urban, suburban, rural), and region of the nation were external factors that indicated no significance in this study.

In analyzing the statistically significant associations in this study, caution needs to be used in using one predictor as no single variable used alone satisfactorily predicts teacher retention. The predictive power of the combinations of variables and multiple variables may be used to help improve teacher retention. The advantages of this study were the large sample size and clear definitions of factors. However, the special education teacher sample was quite small. So the question remains, were these teachers really different?

In a later study using surveys administered by the NCES, Shen (1997) examined teacher attrition and retention. Shen used newer data gathered from the 1990-1991 Schools and Staffing Survey and the 1991-1992 Teacher Follow-up Survey. A sample of 3,612 teachers was coded into 2,233 stayers, 695 movers, and 684 leavers. The variables examined were grouped according to personal characteristics, school characteristics, and teachers' perceptions. Direct discriminant function analyses were conducted to investigate the differences among the stayers, movers and leavers as related to personal characteristics, school characteristics, and their perceptions. Teachers with more experience tended to stay, and those with less experience tended to move or leave. Once again, salary was positively correlated with teacher retention. Stayers perceived they had more influence over school policies and administrative support compared to leavers and movers. Movers and leavers were associated with poor schools that had more students in free lunch programs and a higher percentage of minority students, yet school location was

not associated with teacher attrition. Also, teacher retention and attrition were not associated with teaching level or subject matter of undergraduate studies.

Shen's (1997) findings were consistent with previous research in terms of years of experiences, teacher salary, and teachers' perceptions. However, the findings differed from previous research with teacher attrition being associated with schools with a higher percentage of minority students and an increased percentage of students in Free or Reduced Lunch programs. Shen (1997) made the recommendation that special incentives and programs be provided to teachers working in schools with disadvantaged students.

This was a nationally representative sample, not just a sample from a particular district or state. As a strength, the study distinguished between leaving teaching, changing schools voluntarily, and leaving involuntarily. This study did not utilize a random sample, yet statistical procedures were applied to adjust the sample weight. Unfortunately, with this study, career patterns over a long period of time could not be explored. Furthermore, discriminant function analysis is a correlational technique, which does not allow for inferring causality.

In a replication study conducted by Zabel and Zabel (2001), a sample of 420 teachers was randomly selected from Kansas State Board of Education listings of current special education teachers. Equal numbers of participants (N=70) were randomly selected from six of the largest special education categories (behavior disorders, early childhood, gifted, learning disabilities, mental retardation, and cross-categorical) to explore changes in special education burnout that may have occurred due to evolution of the field. After a follow-up mailing, 301 (71.4 percent) returned completed surveys. This study gathered information through questionnaires on the variables of age, amount

of teaching experience, certification status, and professional preparation. In addition, participants completed the Maslach Burnout Inventory-Educators Survey (MBI-ES) which is a reliable and valid measure of dimensions of professional burnout including emotional exhaustion, depersonalization, and personal accomplishment. Pearson correlation coefficients were computed to determine significant relationships at an alpha of .05.

The findings were compared to Zabel and Zabel's (1982) earlier study, and teachers' age, amount of experience, and preparation had increased over the 20 years between both of the studies. Furthermore, age, experience, certification status, and preparation were not as significantly correlated to professional burnout as had been found in the past study. However, it was noted that teachers who are older with more experience did find personal accomplishment in their work. The authors suggested the changes in special education service delivery, increased teacher preparation, and collegial supports were positive influential factors.

Several strengths are noted within this study. First and foremost, replication allowed the examination of changes that may have occurred due to evolution in the field of special education. The relatively high 71.4 percent return rate provided a representative sample of special education teachers in Kansas and allowed for statistical analysis. Lastly, due to the nature of a replication study, samples were drawn from the same population of special education teachers in Kansas as in the previous study 20 years prior.

In terms of limitations, this sample may not have been reflective of the larger population of special education teachers as the larger population may vary in age,

experience, and certification. Additionally, teachers of students with the low incidence disabilities of visual impairments, hearing impairments, or multiple severe disabilities were not included as a result of the small sample for these categories. Lastly, questions of reliability and validity may arise as a product self reported data.

External Factors

The role of external factors and their contribution to teacher attrition in special education has not been widely researched. External factors include geographic location of the school, societal influences, academic performance of students, and socioeconomic status of the students being taught. The study conducted by Shen (1997) summarized above did use the number of students receiving free and reduced lunch as a variable indicating socioeconomic status. Teachers who taught in poor schools with a high percentage of minority students and students on free lunch programs were more likely to transfer or leave the profession. Additionally, results from Shen's (1997) study indicated that the geographic location of a school (urban, suburban, rural) was not associated with teacher attrition. Many previous studies have addressed internal factors and employment factors, yet the external factor of academic performance and the influence on special education teacher attrition has not been studied. More research is needed to explore the relationship between external factors and teacher attrition in special education.

Employment Factors

Research studies which address mainly employment factors are summarized in this section. Employment factors refer to variables such as salary, school climate, administrative support, colleague support, job satisfaction, and commitment. Billingsley and Cross (1992) explored the extent to which commitment and job satisfaction

influenced teachers' intent to stay in teaching. Variables were investigated that may influence general and special educators' professional commitment and job satisfaction. A seven-page questionnaire was developed by adopting or modifying existing scales. The authors used an "attitudinal" measure developed by Porter et al. (1974), a professional commitment scale developed by Alutto et. al. (1973), and created an organizational commitment scale as three measures of commitment. Job involvement was measured using Lodahl and Kejner's (1965) scale, stress was assessed using a scale developed by Parasuraman (1982), role conflict was assessed using the role questionnaire created by Rizzo et. al (1970), and leadership support was measured using a scale developed by Dansereau (1972). The questionnaire was mailed to a random sample of 558 special and 589 general educators in Virginia with 83% being returned from both samples. Regression analysis was utilized to regress job satisfaction and each of the commitment variables on 12 independent variables. The findings were similar for both general and special educators. The findings of the study by Billingsley and Cross (1992) suggested higher professional commitment is a significant predictor of intent to stay in teaching. Additionally, higher levels of job satisfaction were associated with greater leadership support, work involvement, and lower levels of role conflict and stress for both teacher groups. Furthermore, higher levels of organizational commitment were associated with leadership support and lower levels of role conflict.

Although a strong statistical methodology was implemented, caution needs to be used in interpreting these results, as the researchers' definition of attrition was current educators' intent to leave teaching and not actual turnover. The information provided by the respondents may be quite different from what they may actually do. Also, several

other variables were not explored that may influence teacher turnover such as salary, academic achievement, subject area specialty, and age or grade levels taught. In evaluating the attrition of special educators, a closer look may need to be given to the type of disability taught and service delivery model. Overall, the research questions were clearly addressed through the methodological procedures implemented.

Gersten, Keating, Yovanoff, and Harniss (2001) examined factors that lead to special education attrition and retention. The relationship between intent to stay in the field and factors of job satisfaction, commitment to special education teaching and aspects of job design was explored through path analysis. Eight hundred eighty-seven special education teachers in three large urban school districts in the western part of the United States completed a survey. The survey instrument developed by the researchers measured perceptions and feelings of various aspects rather than actual conditions to explore retention. In a pilot administration, the 125-item instrument yielded a coefficient alpha reliability of .92. The researchers performed an exploratory factor analysis to cluster survey items into variables for the path analysis. Teachers' intent to leave or stay in special education was the main criterion variable utilized.

Results of the path analysis indicated that teachers' working conditions were directly affected by building level support from principals and teachers. Additionally, professional development opportunities played a strong role in the commitment to remain in special education teaching. Stress as related to job design and satisfaction with current position was directly related to educators perceiving dissonance between their expectations of the job and the actual requirements of the job. This role dissonance is strongly influenced by stress due to job design. The researchers defined job design as the

degree to which the structure and processes established for doing the work facilitate the successful completion of assigned tasks and responsibilities.

Many strengths can be identified in this study. First, is the high response rate (87 percent) with no differences between returns and non-returns. Second, the authors assessed reliability by using a pilot administration of the survey which yielded a .92 reliability coefficient. Finally, generalization of findings is supported by the replications in three cities with different students and teacher demographics.

Stempien and Loeb (2002) compared the satisfactions and dissatisfactions of teachers in general education, teachers of emotionally/behaviorally impaired students in special education, and teachers of both groups of students. One hundred sixteen teachers completed surveys, and they were assigned into groups based on teaching assignments of general education, special education, or both. Questionnaires included demographic questions, a job satisfaction scale, and a life satisfaction scale. All were 5 point Likert scales. The Brayfield-Rothe Job Satisfaction Index was administered as the job satisfaction scale, and the Life Satisfaction Index-A (LSI-A) was used for the life satisfaction scale. The scales were not developed by the researchers but had been used as instruments in previous studies on life and job satisfaction.

Statistical analysis included two one-way analyses of variance to determine differences in job satisfaction and life satisfaction among each group of teachers. Individuals who taught students in special education programs were found more dissatisfied than general education teachers or those who taught both general education and emotionally/behaviorally impaired students. Associated with the dissatisfaction, was frustration coming from within and outside of the classroom as a result of poor student

progress, unsuitable teaching materials, and excessive paperwork. The younger, less experienced special education teachers experienced more difficulty. Problems they identified included working with students with a large variety of needs and being emotionally spent at the end of the school day with little available time for planning and preparation. Other studies show teachers of students with emotional and behavioral disabilities as being more dissatisfied and more likely to leave the profession.

This study was limited in generalizability by the fact that it was a voluntary sample of convenience with only a 58 percent return rate. Since many did not participate, the generalizability is limited. The survey was distributed by the school principal in a faculty meeting possibly contributing to the low return rate. The respondents did not comprise a diverse group as 97 percent were white and 88 percent were women with little difference in teaching experience variables including levels of education and years in position. The target group was only those teaching severe behaviorally and emotionally disabled students, which is not a broad representation of special education. Furthermore, the study did not reach those who left special education. Lastly, only suburban districts were included in the study, and the schools represented a homogeneous population.

Miller, Brownell, and Smith (1999) randomly surveyed 1,576 special educators to explore factors that contribute to staying or leaving in special education or transferring to a new school. Classroom, school district, personal factors, and background (experience, years since last degree) were variables identified for investigation. The study tracked participants for a period of two years to determine career status. The sample included 526 first-year teachers, 530 teachers with 2 to 5 years of experience, and 520 teachers with more than 5 years of experience. Participants ranged in certification area, service

delivery models, and demographics. All teachers were employed full-time and had either a permanent or emergency certification.

The survey instrument was designed by the authors and contained check all that apply, fill in the blank, rank order, and Likert scale items. The survey administered included factors such as age, race, certification status, relationships with students, reasonableness of workload, student caseload, relationships with colleagues, administrative support, salary, job satisfaction, stress, commitment, and intent to remain in special education teaching. After a pilot test, survey packets were sent to each participant and follow-up letters and telephone calls were used to increase the rate of response. The overall response rate was 80.2 percent, and the analysis was based on 1,152 special education teachers.

Results indicated current certification, perceived stress, perceived school climate, and age were significant in determining stayers, transfers, and leavers. The findings indicated that teachers left special education due to insufficient certification, perceptions of high stress, and perceptions of poor school climate. Those who transferred to a different district or school were significantly younger than stayers and had perceptions of high stress and poor school climate.

Ingersoll (2001) completed a study using the data collected in 1991 from the Schools and Staffing Survey and the Teacher Followup Survey conducted by the National Center for Education Statistics. Teacher turnover and school staffing problems were examined from an organizational perspective. Ingersoll's analysis examined teacher turnover including teacher migration (movers) and teacher attrition (leavers). Ingersoll's study method included describing the magnitude of annual teacher turnover along with

school staffing problems. He conducted a multiple regression analysis of the effects of teacher characteristics, school characteristics, and organizational conditions on turnover. Finally, he provided a detailed examination of reasons teachers give for departing. Results indicated that school staffing problems are due to excess demands resulting from a “revolving door” rather than teacher shortages. The data suggested teacher turnover for the reason of retirement is quite small compared to other factors such as job dissatisfaction and teachers pursuing other jobs.

In a 2002 NASSP Bulletin, Ingersoll contended the conditions and organizational characteristics of schools continue to spur teacher turnover. Again examining data derived from the Schools and Staffing Survey and Teacher Follow-up Survey in 1996, he indicated the role of school characteristics and organizational conditions in teacher turnover is significant. Statistical procedures revealed only 25 percent of teacher attrition could be accounted for by retirement, but 28 percent of turnover was due to school closings, reorganizations, and lay-offs. Lastly, personal factors contributed to 39 percent of teacher turnover. Pregnancy, children, health, and family were factors that resulted in more turnover than either staffing issues or retirement. However, of all of the teachers leaving their positions, half of them cited lacking job satisfaction or desire to pursue alternate opportunities within or out of education as main reasons for departure. Ingersoll suggested four approaches to increase teacher retention: increased salaries, support with student misbehavior, increase input in decision making, and increased support by school administration. Increased support by school administration was defined as providing classroom supplies and additional mentoring for beginning teachers.

In a qualitative study, Brownell, Smith, McNellis, and Miller (1997), completed phone interviews with 93 special education teachers in Florida who left the classroom setting. The interviews focused specifically on the reasons why these educators left the classroom and the types of occupations they later chose. The study aimed to distinguish between disgruntled and non-disgruntled leavers and identify helpful retention strategies. Participants were randomly selected from a pool of 171 special education teachers who did not return after the 1992-1993 school year. Leavers were considered those teachers who transferred to general education, acquired administrative or specialist positions, or left the field completely. The population represented the various service delivery levels and demographic variables. All certification areas were included with the exception of speech and academically gifted. Furthermore, the teachers from the Florida Department of Education's state database were fully employed with either an emergency or permanent certification.

Results suggested that 67 percent of leavers actually became general education teachers whereas others acquired positions in administration, support roles, as specialists, or as substitutes. However, 27 percent of leavers consisted of those who completely exited from the field of education. Teachers were categorized as disgruntled or non-disgruntled leavers depending on their responses to survey questions based on reasons for leaving, future career plans, and incentives that would lure them back. Disgruntled leavers mainly cited the interaction of workplace conditions as the primary factors for attrition which included the frustration and demands of teaching students with disabilities, difficulty with student behavior, and overall lack of support.

For some of the disgruntled leavers, a combination of unsatisfactory workplace conditions in conjunction with outside influences including raising a baby or retirement influenced decisions to leave. Non-disgruntled leavers generally enjoyed being special education teachers and had no formal complaints regarding working conditions yet left as a result of factors such as other job opportunities, retirement, salary, certification requirements, and family.

When discussing possible incentives for return, many leavers mentioned they could not be encouraged to return regardless of the incentive; however many leavers also mentioned that more administrative and instructional support could influence their decision. Several leavers noted that increased salary, a reduced caseload, and flexibility in certification requirements might sway them to return.

The strong methodology of this study supported the validity and generalizability of findings. The random sample of over 50 percent of the leaver pool within the state and a high response rate allowed the researchers to reach information redundancy. Additional interviews were not conducted since the data provided was repetitive and new information was not emerging. The interviewers who conducted the telephone survey participated in one-hour training sessions on conducting phone interviews and utilizing the interview protocol. In order to ensure the reliability of the instrument and the interview procedures, the authors conducted pilot interviews and developed interview guides to outline probes for each of the questions.

This research was limited however by the fact that it did not compare any of the disgruntled and non-disgruntled leavers with the individuals who remained. Also, a small number of open-ended questions were provided due to the large sample whereas a larger

number of questions could have been explored with a smaller sample size. The small number of questions possibly limited the discovery of the interaction between external factors, personal characteristics, and variables in the workplace.

Another study explored the career intentions of teachers of students with behavioral and emotional disorders in relationship to personal characteristics and workplace variables (George, George, Gersten & Grosenick, 1995). The sample of 228 special educators who taught students with behavioral or emotional disorders was drawn from 53 school districts within 23 states that varied in geographic location and size. The random sample of teachers was selected from an existing pool of participating districts from an earlier national survey. There was a representation of teachers across all settings in the continuum of services and at each age level.

To gather data, a written survey was completed via mail with a follow up semi-structured telephone interview. Authors developed items for the survey and performed a pilot test with ten special education teachers prior to data collection. The survey elicited 63 responses on teachers' background and experience, instructional practices, and current working conditions. One hundred eighty-four participants responded for an 81 percent rate of return. One hundred twenty-one teachers or 66 percent consented to a follow up phone interview with an actual total of 96 phone interviews completed in all. The relationship between two sets of survey variables, teacher background and experience and perceptions of working conditions, were explored through point biserial correlation. The intent to leave was treated as a dichotomous variable. Descriptive and correlational statistics were performed and comparisons were made between potential stayers and potential leavers.

Over one third of the total sample, planned to leave education during the coming school year and an additional ten percent were undecided at the time of the interview. Results indicated teachers of students with behavioral and emotional disorders who planned to leave differed from those planning to stay in variables related to the organizational structure of their job such as service delivery setting, perceived support, and adequacy of time for developing curriculum and completing paperwork. Differences in personal and background variables of level of teaching, teacher experience, and teacher certification were not present. Interestingly, 83 percent of the teachers who intended on leaving taught in self-contained classroom settings.

This study ensured a representative sample by comparing select variables between those who participated in the phone interview, those who chose not to volunteer for the phone interview, and those who could not be contacted by phone. The socioeconomic status of the teachers' districts was compared as well. No significant differences were found leading to a nonbiased representation of the entire survey sample. As a caution, it is important to keep in mind that this study actually examined teachers' stated intent to leave but not actual attrition.

Littrell and Billingsley (1994) carried out a study to investigate special and general education teachers' perception of principal support as it related to stress, health, job satisfaction, commitment, and intent to stay in teaching. A sample of 613 special education teachers was taken from the Virginia Department of Education personnel data tape. Two hundred one teachers of students with emotional disturbance, 206 teachers of students with learning disabilities, and 206 teachers of students with mental retardation were randomly selected as participants. Each special education teacher was requested to

invite a general education teacher to participate in completing a survey creating the sample of 613 general educators for a total of 1,226 teachers all together. The eight-page questionnaire asked questions regarding support, stress, job satisfaction, school commitment, personal health, and intent to stay in teaching.

Results indicated that principals who provided informational and emotional support are more likely to have teachers who experience satisfaction in their work. In terms of support, both management support and emotional support provides teachers with a sense of belonging resulting in increased school commitment, involvement, and motivation. In addition, teachers who perceived more emotional support from their administrator identified fewer health problems. Lastly, where more optimism, camaraderie, and principal interaction occurred, teachers perceived higher levels of support.

This study exhibited strong methodology by including a random sample, a representative response rate between both samples, and a questionnaire that was reviewed by experts and field tested. Questionnaires were completed by 56 percent of the teachers and telephone interviews were conducted with a randomly selected 15 percent of nonrespondent special educators to see if they differed from those who responded. There did not appear to be a statistical significance between the two groups.

Transferring from Special to General Education

Another study by Billingsley and Cross (1991) sought to identify reasons special educators transfer to general education teaching. Deterrents and incentives that may lead former special educators to reconsider their teaching positions in special education were explored. A questionnaire was sent to a stratified random sample of 633 teachers drawn

from a population of 1,500 individuals in Virginia who were certified in one or more special education areas but who held general education teaching assignments. The sampling strata were based on the non-exceptionality certification areas in Virginia. After eliminating those currently teaching special education, those holding non-teaching assignments, and those who were certified but had never had any teaching experience, the sample for analysis was based on 286 former special education teachers. The survey instrument consisted of sections on demographic information, incentives that would influence them to teach again in special education, and factors that represented deterrents to teaching again in special education. Furthermore, respondents were asked to indicate their level of satisfaction with special education teaching and to review a list of 28 potential reasons why teachers leave special education and to check those that were important to their decision to leave.

The reason for leaving special education most frequently cited was “needed a change” and closely following behind was “became burned out.” Excessive paperwork, lack of administrative support from central office and principals, and student factors such as diversity in needs, too many students, and disruptive students influenced leaving special education. When asked if interested in teaching a position of their choice in special education for the following year, 14 percent checked “yes,” 50 percent checked “possibly,” and 36 percent checked “not at all.” The possible deterrents indicated in teaching special education were “too much paperwork” and “too many students on caseload.”

The rationale for this study was warranted since previous studies had not addressed the reason why special educators transfer from special to general education

teaching. The research questions were clearly stated and explored systematically. However, this study provided information on only a specific reserve pool of teachers. Furthermore, initially vague sampling procedures required many of the surveys to be thrown out because they did not meet the intended criteria. The sampling frame was based on personnel files and included some teachers with current special education assignments and others holding administrative assignments so of the 633 sampled only 368 surveys were usable. Also, because special education teachers who are currently teaching in the field and those who have left teaching altogether were not surveyed, there is no way to really know if those who transferred to general education were any different than any of the other groups. Additionally, the variables attracting these former special education teachers to general education teaching were not explored.

Summary

This review of the literature revealed that teacher attrition in special education continues to increase and remains a concern. Billingsley's (2004) model is one approach to examine the factors that contribute to teacher attrition in special education. Some internal, external, and employment factors that contribute to teacher attrition were defined, yet more research is needed to specifically explore the role of external variables. In the following chapter, correlational research methodology is proposed to investigate the internal and external factors that contribute to teacher attrition in special education.

CHAPTER 3 – METHODOLOGY

The literature review in the previous chapter indicates that teacher attrition in special education remains a national problem. The increase in teacher attrition establishes the definite need to further explore this topic. Some of the factors contributing to the attrition of teachers in special education have been delineated, yet little is known specifically about the population of special education teachers in North Carolina.

In order to delve deeper into a number of internal and external factors that contribute to teacher attrition in special education, the researcher used quantitative research methods to address the research questions appearing at the end of this chapter. These exploratory analyses were applied to answer the research questions at hand. This chapter describes the research design utilized, sample, data collection, description of variables and data analysis.

Design

To understand some of the internal and external factors that influence teacher attrition in special education, the investigator used a quantitative research approach. In this project, the investigator analyzed data that were provided by the North Carolina Department of Public Instruction from the three-year period from 2000 to 2002 on special education teachers. Descriptive statistics were used to describe the sample, and the data set was analyzed to identify the relationships between selected internal and external factors and their contributions to the attrition of special education teachers in North Carolina. Definitions of internal and external variable are found in the section on data collection.

Correlational analyses were applied to explore the possible relationships between a number of internal and external factors and their contributions to teacher attrition in special education. Limitations to correlational studies exist since the correlations obtained cannot establish cause-and-effect relationships between the variables that are correlated. The advantage of this research method, however, is that it allows the investigator to analyze the relationships among a large number of variables in a single study (Gall, Borg, & Gall, 1996).

Participants

The target population for this study refers to all special education teachers whereas the sample includes only special education teachers in North Carolina. The sample for this study included all fully employed special education teachers from the state of North Carolina for the 2000-2001, 2001-2002, and 2002-2003 school years. The sample consisted of two groups of special education teachers for each of the three years. One group was composed of special education teachers who left their positions and are referred to as the attrition group. The second group was composed of special education teachers who remained in their positions and are referred to as the retained group. Table 3.1 indicates numbers of special education teachers who continued employment in North Carolina or left in each of the three years under study. The data for each year are not independent samples since there is considerable overlap from year to year in the retained group.

Table 3.1

Sample Size for Attrition and Retained Group of Special Educators

Year	2000	2001	2002
Attrition Group	3,328	3,430	3,463
Retention Group	13,085	13,778	14,336

Table 3.2 provides descriptive information about the sample separately for each year. Ethnicity and gender are categorical variables reported in percentages, whereas the variable of age is continuous and described with the mean and standard deviation for each year. Teachers ranged in age from 22 to 80 and had between zero and 45 years of experience. Teachers also varied in preparation, level of licensure, and on other demographic variables such as gender, age, and ethnicity.

Table 3.2**Sample Characteristics**

Attrition Group	2000	2001	2002
Age	M=44.25 SD=11.09	M=43.98 SD=11.23	M=43.46 SD=11.43
Ethnicity			
Asian/Pacific	.3	.3	.3
White	75.9	74.5	72.1
Black	19.2	20.7	23.1
Hispanic	.5	.8	.9
American Indian	.8	1.0	1.1
Other	.2	.2	.2
Gender			
Female	83.1	84.2	84.4
Male	15.1	14.3	14.4
Retention Group			
Age	M=46.56 SD=9.56	M=45.97 SD=9.74	M=45.17 SD=9.92
Ethnicity			
Asian/Pacific	.3	.3	.3
White	83.4	83.6	83.7
Black	13.0	13.4	13.1
Hispanic	.3	.3	.3
American Indian	.6	.6	.6
Other	.1	.1	.1
Gender			
Female	91.0	90.7	90.3
Male	8.3	8.4	8.8

Data Collection

The Department of Public Instruction in North Carolina collects data on teachers in North Carolina including information on age, gender, ethnicity, degree held, licensure status, license area, and years of experience. Teachers provide information upon initial employment and certification to the Department of Public Instruction in North Carolina. Teachers complete an Application Supplement (see Appendix A) which provides general information on gender, ethnicity, and age. Additionally, academic institutions complete a verification form indicating the degree earned and licensure area for each teacher (see Appendix B).

Once a teacher is hired by the Local Education Agency, the Department of Public Instruction documents the type and area in which the teaching license issued (see Appendix C). The type of licenses issued in North Carolina include emergency, temporary, lateral, initial, provisional, and continuing. License area refers to the area of certification for that teacher (e.g., visually impaired, learning disabled).

As teachers' licenses change, the license area and license type are documented through a License Update form which is required to maintain licensure (see Appendix D). The database is maintained by the Department of Public Instruction and is then updated annually with information obtained on teachers who are hired and those who leave their school systems. When teachers leave their positions, they complete a tender of resignation and an exit questionnaire formulated by their individual Local Education Agency. These documents provide information regarding the type of position held by the teacher (e.g., self-contained, resource) his or her reasons for leaving, the grade or level he or she taught (special education teachers teach students in multiple grades at the

elementary, middle, or high school levels), and job satisfaction. This information is then provided to the Department of Public Instruction (see Appendices E and F).

The department of Public Instruction provided the data used in this study to investigate teacher attrition among special education teachers (see Appendix G). The investigator also submitted a proposal for this project to the Institutional Review Board (IRB) of North Carolina State University. Upon review of the proposal, the IRB provided a letter approving the study and indicating that this study was exempt from the IRB process (see Appendix H).

The Department of Public Instruction provided data in Excel format. The investigator imported the data into Statistical Analysis Software (SAS) for further analysis and visually inspected the data for coding errors. The researcher removed a total of 19 obviously miscoded cases to maintain the integrity of the data. For example, a teacher whose age was equal to 25 may have had 21 years of experience coded clearly indicating an error. For cases that included missing values, the researcher did not use the imputation method. In other words, numbers were not inserted for missing data, and the observation for that particular variable was ignored.

Subjects were assigned to the attrition group or the retained group. For each of the 2000-2001, 2001-2002, and 2002-2003 school years, teachers who continued to teach in North Carolina public schools were assigned to the retained group for each year if they continued to teach in the same LEA. The subjects who left their positions within the LEA were assigned to the attrition group.

Description of Variables

Variables for this study were categorized into internal and external factors according to Billingsley's (1993) conceptual model. The internal factors refer to personal characteristics that included age, gender, ethnicity, years of experience, license type, license area, degree earned. External factors refer to economic, societal, and institutional factors which are considered outside factors and do not directly related to the personal characteristics of the teacher. In this study, academic achievement of the students within the Local Education Agency as measured by the percentage of ABC targets met (percentage of schools within each district meeting statewide assessment requirements), poverty level of students within the Local Education Agency as determined by the percentage of students receiving free or reduced lunch, and the teacher salary supplement with in the Local Education Agency were identified as external variables. In other words, these variables are not intrinsic to the individual teacher but are hypothesized to affect teacher retention (Billingsley, 1993). Definitions of these variables are given below.

Internal Factors

- *Age* was reported in continuous form for both the retained and attrition groups of teachers (note means and standard deviations for age indicated in Table 3.2).
- *Gender* was reported for both groups as male or female.
- *Ethnicity* was reported by teachers identifying themselves as belonging to Asian/Pacific, White, Black, Hispanic, American Indian, or Other ethnic groups.
- *Degree* referred to the highest college degree obtained by the individuals in the study. Categories of below bachelor, bachelor, masters, advanced, and doctorate were formed.

- *License area* indicated the teacher certification area of the sample. The special education licenses recognized in North Carolina are Academically Gifted, Behaviorally and Emotionally Disabled, Cross-Categorical, Hearing Impaired, Learning Disabled, Mentally Disabled, Physically Disabled, Severely Disabled, Preschool, Speech Language Impaired, and Visually Impaired.
- *License Type* referred to the type of license held by the teacher. The types of license issued in the state of North Carolina include emergency, temporary, lateral entry, initial, provisional, and continuing.
- *Years of experience* refers to the number of years actively teaching full time in the North Carolina Public School System. Years of experience teaching in states other than North Carolina are not included in the NC DPI data set although years may be counted towards salary level.

External Factors

- *Salary Supplement of the Local Education Agency (LEA)* refers to the salary supplement provided by the individual school district. In North Carolina, each teacher receives a base salary determined by the State Board of Education each year based on years of experience. The individual LEA may supplement teachers' base salaries with sign on bonuses, yearly or monthly payments that supplement the teacher's current salary by 0-15 percent of a teacher's salary. The salary range in a high wealth county for the 2001-2002 school year was from 27,750 to 64,068 with 41,175 being the average salary. The salary range in a low wealth county for the same year was 25,250 to 56,379 with 37,776 being the average salary.

- *Poverty level of Students in LEA* was measured by percentage of children who attend school and receive Free or Reduced Lunch. Free and Reduced Lunch is based on parental income level and the number of individuals within the household. The Department of Food and Nutritional Services evaluates applications for Free and Reduced lunch and determines eligibility based on income standards set by the United States Department of Agriculture.
- *Academic Achievement of Students in the LEA* was measured by the percentage of academic achievement targets met for each school. In North Carolina, the ABCs of Public Education is a way of measuring growth expectations for student achievement and determining the overall percentage of students at or below grade level. Students are assessed by End-of-Grade tests given at the end of grades 3 through 8 that measure reading and math and End-of-Course tests administered in grades 9-12 that measure student achievement in content areas. In North Carolina, school efficacy is determined by these assessments and school by school performance on these measures is reported for accountability. Each year students participate in statewide assessments and results for each school are reported with an indication of proficiency based on the ABC criteria. Individual Local Education Agencies report the percentage of ABC targets met (percentage of schools within each district meeting requirements) to document the Adequate Yearly Progress (a measure of year-to-year student achievement on statewide assessments) required by the No Child Left Behind Act. For this variable, academic achievement was measured by the percentage of ABC targets met for each LEA in North Carolina.

Data Analysis

The description of data analysis includes the statistical analysis applied to address each research questions at hand. Descriptive statistics were computed for the attrition and retention groups in the study. These statistics included the group mean and standard deviation for each continuous variable and percentages for each categorical variable. For the internal variables that were nominal, that is where individuals were categorized in a particular category (i.e., gender, ethnicity), the researcher computed chi-square analyses and evaluated statistical significance at the .05 level. Chi-square is an appropriate means of statistical analysis to address these questions because this study included nonparametric data, nominal variables, and more than 20 cases (Gall, Borg, & Gall, 1996). Chi-square analysis tested the difference between variables to indicate significance. However, chi-square does not indicate the magnitude of the difference found.

Research questions that continuous internal variables (age and years of experience) were examined using the general linear model in SAS for completing an analysis of variance (ANOVA). This inferential statistical procedure was used to test the null hypothesis that the means of the attrition group and retention group did not differ.

To examine research questions that included external variables (local salary supplement, percentage of students in poverty, academic achievement of students) the univariate procedure, Wilcoxon signed-rank test, and Kruskal-Wallis test were used for statistical analyses to determine if there was a difference between the attrition group and retention group for the combined three years of data (Gall, Borg, & Gall, 1996). The Wilcoxon signed-rank test and Kruskal-Wallis test did not compare year 1 to year 2 to

year 3 but analyzed the combination of the data for the three year period. The univariate procedures in SAS provided descriptive statistics, measures of central tendency, confidence limits, data plots, and goodness-of-fit tests. The Wilcoxon signed-rank test is a nonparametric analysis used to determine whether the distribution of the scores for the two samples differed significantly from each other. On these same external variables, the researcher used the Kruskal-Wallis test to confirm whether the observed difference between the distributions of scores for retained and attrition groups on a measured variable was statistically significant. The following questions were investigated using the statistical analyses indicated:

- 1) Is there a relationship between internal factors of special education teachers and attrition of special education teachers in North Carolina?

Null Hypothesis. There is no relationship between internal factors of special education teachers and attrition of special education teachers in North Carolina.

- a) There is no relationship between age and attrition of special education teachers in North Carolina.

Using SAS, the general linear model procedure was applied to determine if a relationship existed between the attrition of special education teachers in North Carolina and the variable of age.

- b) There is no relationship between gender and attrition of special education teachers in North Carolina.

Since this null hypothesis included a categorical variable, a nonparametric statistic was used to determine whether gender was distributed differently across the attrition and retention groups.

- c) There is no relationship between ethnicity and attrition of special education teachers in North Carolina.

Ethnicity is a nominal variable so chi square was used once again to determine the difference between variables.

- d) There is no relationship between degree held and attrition of special education teachers in North Carolina.

The association between degree held and attrition of special education teachers in North Carolina was analyzed using chi-square.

- e) There is no relationship between license type and attrition of special education teachers in North Carolina.

Chi-square was applied to determine the difference between the nominal variable of license type and special education teacher attrition.

- f) There is no relationship between license area and attrition of special education teachers in North Carolina.

The nonparametric test of association, Chi Square, was performed to identify differences between the name of the license held by special education teachers and attrition in special education.

- g) There is no relationship between years of experience and attrition of special education teachers in North Carolina.

The general linear model in SAS was used to investigate the relationship between the variables of years of experience and attrition. Because the variable of years of experience is a continuous variable, a parametric statistic was appropriate.

- 2) Is there a relationship between external factors of special education teachers and teacher attrition of special education teachers in North Carolina?

Null Hypothesis. There is not a relationship between external factors of special education teachers and teacher attrition of special education teachers in North Carolina. The following specific hypotheses were addressed in order to answer the research questions.

- a) There is no relationship between teacher salary supplement in the LEA and attrition of special education teachers in North Carolina.

The Wilcoxon signed-rank test was the nonparametric analysis used to determine whether the distribution of the amount of salary supplements for the attrition and retention groups differed significantly from each other. Additionally, the Kruskal-Wallis test was applied to confirm whether the observed difference between the distribution of scores on salary supplements was statistically significant.

- b) There is no relationship between percentage of students in poverty in LEA and attrition of special education teachers in North Carolina.

To determine whether the percentage of students in poverty (as measured by students receiving free or reduced lunch) differed across retention and retention groups the Wilcoxon signed-rank test and Kruskal-Wallis test were applied. The results of these tests indicated whether the observed difference between the distributions of scores for retained and attrition groups on percentage of students in poverty was statistically significant.

- c) There is no relationship between academic performance of students in the LEA and attrition of special education teachers in North Carolina?

Once again, the Wilcoxon signed-rank test and Kruskal Wallis test were used to investigate the relationship between academic performance of the students in the districts and teacher attrition in special education.

In summary, the data analysis plan was designed to address the general questions of whether an array of internal and external variables thought to affect teacher attrition do, in fact, distinguish between groups of teachers who leave their teaching positions and those who continue. Questions about group differences on specific variables were address with the series of parametric and nonparametric tests described above. Chapter 4 provides findings from these analyses and the related tables and graphs.

CHAPTER 4 – RESULTS

This chapter presents results of the data analyses described in the previous chapter. Descriptive statistics are provided to examine the characteristics of the attrition and retained groups of special education teachers. In addition, the contribution of single internal and external variables in relationship to teacher attrition is delineated. Results of chi square analyses provided evidence of statistically significant differences between attrition and retention groups on many variables. Chi square analysis was applied to explore the internal factors of gender, ethnicity, license area, license type, and degree earned since the variables were categorical. The continuous variables of age and years of experience were also categorized as internal variables, and an analysis of variance (ANOVA) and general linear model was applied. For the external variables representing academic performance, teacher salary supplement, and percentage of students in poverty, the Wilcoxon signed-rank test and Kruskal-Wallis test were used for statistical analyses. Results of each research question are presented in the following sections.

Internal Factors

- 1) Is there a relationship between internal factors of special education teachers and attrition of special education teachers in North Carolina?

Null Hypothesis. There is no relationship between internal factors of special education teachers and attrition of special education teachers in North Carolina.

- a. There is no relationship between age and attrition of special education teachers in North Carolina.

In order to test the hypothesis there is no relationship between age and attrition of special education teachers in North Carolina, the researcher employed the general linear

model in SAS. Results indicated that the average age of the attrition group decreased slightly over the three years. The mean age of the attrition group dropped from 44.25 in the 2000 group to 43.46 in the 2002 group (see Table 3.2). Furthermore, the general linear model procedure revealed that there was an overall difference in age between the attrition and retention groups, $t=2.23$ ($p=.0259$) (see Table 4.1). Mean ages only differ by 2 years and both groups appear to be in mid career range. The relationship between age and teacher attrition in special education exists across the years with significance at the .05 level.

Table 4.1

Average Age of Attrition and Retention Groups Across All Years

Variable	Group	Mean	SD	t-value	p-value
Age	Attrition	43.8967	.4015	2.23	.0259*
	Retention	45.9000	.6976		

* $p<.05$.

- b. There is no relationship between gender and attrition of special education teachers in North Carolina.

To test the hypothesis that there is no relationship between gender and attrition of special education teachers in North Carolina, the researcher conducted a chi square analysis. The chi-square test was used to determine the statistical significance of the difference in gender. Controlling for the variable *Female* did not indicate a difference, $\text{ChiSQ}=3.49$ ($p=.1750$) (see Table 4.2). Additionally, a difference was not noted when controlling for the variable *Male*, $\text{ChiSQ}=0.8138$ ($p=.6657$) (see Table 4.2). Gender yielded no significance when comparing the attrition and retention groups across the

years. The proportions remained constant throughout the three years so attrition could not be attributed to gender in this sample.

Table 4.2

Chi-Square Analysis Percents by Group on Gender

	2000	2001	2002
Attrition Group			
Male	24.01	24.12	22.88
Female	19.82	19.38	18.98
Retention Group			
Male	75.99	75.88	77.12
Female	80.18	80.62	81.02
Male			
p-value=0.6657			
Chi-Square =0.8138			
Female			
p-value=3.49			
Chi-Square=0.1750			

- c. There is no relationship between ethnicity and attrition of special education teachers in North Carolina.

In order to determine whether ethnicity differed significantly across the retention and attrition groups the investigator used chi-square analysis. The chi-square test was used once again to determine the difference between variables of ethnicity. There was a

significant difference noted with attrition increasing among teachers who identified themselves as black, $\text{ChiSQ}=9.8567$ ($p=.0072$) (see Table 4.3). However, attrition has decreased over the years for teachers who identified themselves as white, $\text{ChiSQ}=11.2392$ ($p=0.0036$). The other categories of ethnicity remain consistent with no significant differences. The relationship between ethnic category and teacher attrition in special education exists for individuals who identify themselves as black or white with significance at the .05 level.

Table 4.3 Chi-Square Analysis Percents by Group on Ethnicity

Group	2000		2001		2002		chi-square	p-value
	Attrition	Retention	Attrition	Retention	Attrition	Retention		
American Indian	23.23	76.77	18.10	81.90	23.97	76.03	1.2954	.5232
White	19.75	80.25	19.44	80.56	18.27	81.73	11.2392	.0036*
Black	22.45	77.55	21.41	78.59	25.08	74.92	9.8567	.0072*
Asian Pacific	23.08	76.92	25.49	74.51	22.22	77.78	0.1659	.9204
Hispanic	19.23	80.77	22.95	77.05	22.24	75.76	0.4405	.8023
Other	37.50	62.50	34.78	65.22	36.36	63.44	0.0319	.9842

p < .05

- d. There is no relationship between degree held and attrition of special education teachers in North Carolina.

The association between the type of degree held and attrition of special education teachers in North Carolina was analyzed using chi-square. The results indicated a significant difference in the proportion of teachers who held degrees at the Masters level with attrition decreasing for those individuals, $\text{ChiSQ}=7.9201$ ($p=0.0191$) (see Table 4.4). The proportion of teachers holding other degrees remained constant among the attrition and retention groups. This analysis provided evidence to reject the null hypothesis indicating that teachers with Master's degrees were more likely to remain in their teaching positions.

Table 4.4 Chi-Square Analysis Percents by Group on Degree

Group	2000		2001		2002		chi-square	p-value
	Attrition	Retention	Attrition	Retention	Attrition	Retention		
Bachelor	19.90	80.10	19.69	80.31	19.53	80.47	0.5979	.7416
Masters	21.84	78.16	20.63	79.37	18.27	80.95	7.9292	.0191*
Advanced	24.32	75.68	24.05	75.95	25.08	80.31	1.8125	.4040
Doctorate	7.69	92.31	21.43	78.57	22.22	78.57	1.1832	.5535

p < .05

- e. There is no relationship between license type and attrition of special education teachers in North Carolina.

To determine whether the proportions of license type differed across the retention and attrition groups, the chi-square test was used. No differences were detected, yet the variable of provisional licensure did approach statistical significance suggesting that holding a provisional license was associated with higher attrition, $\text{ChiSQ}=5.4414$ ($p=0.0658$) (see Table 4.5).

Table 4.5 Chi-Square Analysis Percents by Group on License Type

Group	2000		2001		2002		chi-square	p-value
	Attrition	Retention	Attrition	Retention	Attrition	Retention		
Temporary	47.68	52.32	52.44	47.56	48.44	51.56	1.2959	.5231
Emergency	100.00	0.00	100.00	0.00	100.00	0.00	-----	-----
Lateral	32.19	67.81	33.15	66.85	31.84	68.16	0.4151	.8126
Initial	28.10	71.90	31.42	68.58	29.79	70.21	2.3093	.3152
Provisional	35.20	64.80	32.79	67.21	30.53	69.47	5.4414	.0658
Continuing	17.24	82.76	16.70	83.30	16.60	83.40	2.3259	.3126

p < .05

- f. There is no relationship between license area and attrition of special education teachers in North Carolina.

A chi-square analysis was performed to identify differences between the area of the license held by special education teachers and attrition in special education for the three years combined. The results indicated a significant statistical difference in rate of attrition at the .05 level for the severely disabled, $\text{ChiSQ}=6.5360$ ($p=0.0381$), visually impaired, $\text{ChiSQ}=7.2928$ ($p=0.0261$), and speech language, $\text{ChiSQ}=24.5508$ ($p<.0001$) license areas (see Table 4.6). This analysis provided evidence to reject the null hypothesis indicating that some license areas within special education had lower attrition.

Table 4.6 Chi-Square Analysis Percents by Group on License Area

Group	2000		2001		2002		chi-square	p-value
	Attrition	Retention	Attrition	Retention	Attrition	Retention		
Academically Gifted	18.72	81.28	18.20	81.80	17.07	82.93	5.3025	.0706
Behaviorally and Emotionally Disabled	22.52	77.48	20.28	79.72	21.65	78.35	4.1194	.1275
Cross-Categorical	25.59	74.41	26.96	73.04	25.29	74.71	1.7487	.4171
Hearing Impaired	17.17	82.83	21.38	78.62	17.65	82.35	4.4282	.1093
Learning Disabled	19.03	80.97	19.88	80.12	19.73	80.27	1.6762	.4325
Mentally Disabled	17.43	82.57	16.98	83.02	17.80	82.20	1.3496	.5093
Physically Disabled	13.19	86.81	11.76	88.24	12.50	87.50	0.0894	.9563
Severely Disabled	22.02	77.98	15.70	84.30	16.28	83.72	6.5360	.0381*
Preschool	11.17	88.83	13.54	86.46	13.99	86.01	0.7741	.6791
Speech Language Impaired	24.03	75.97	21.49	78.51	17.38	82.62	24.551	<.0001*
Visually Impaired	29.94	70.06	19.86	80.14	18.35	81.65	7.2928	.0261*

p < .05

- g. There is no relationship between years of experience and attrition of special education teachers in North Carolina.

To test the hypothesis there is no relationship between years of experience and attrition of special education teachers in North Carolina the researcher used the general linear model in SAS. The results indicated an overall difference in the variable of years of experience between the attrition and retention group, $t=3.00$ ($p=.0027$) (see Table 4.7). Hence, a strong relationship between years of experience and teacher attrition in special education exists with analysis at the .05 level of significance. The retention group overall had more years of experience than did the attrition group. Thus, results rejected the null hypothesis.

Table 4.7

General Linear Model Procedure for Years of Experience

Group	Year	Mean	SD
Attrition	2000	13.0931	9.6907
	2001	13.2662	9.7951
	2002	13.6341	9.9023
Retention	2000	15.8280	8.9192
	2001	15.5894	8.7864
	2002	15.6131	8.9497

t-value=3.00

p-value=.0027*

*p<05

- 2) Is there a relationship between external factors (teacher salary supplement, percentage of student in poverty, academic performance) of special education teachers and teacher attrition of special education teachers in North Carolina? Specifically, this question addressed the potential relationship of salary supplements, percentage of students in poverty, and student performance as measured by the percentage of ABC targets met to teacher attrition.

Null Hypothesis. There is not a relationship between external factors of special education teachers and teacher attrition of special education teachers in North Carolina. The following specific hypotheses were addressed in order to answer the research questions.

- a. There is no relationship between teacher salary supplement in the LEA and attrition of special education teachers in North Carolina.

To determine the relationship between teacher salary supplement and teacher attrition in special education, both the Wilcoxon signed-rank test and the Kruskal-Wallis test were used to test for differences in teacher salary supplement between the teacher attrition and teacher retention groups. Both tests are nonparametric and were used to determine whether the distributions of the amount of salary supplement for the attrition and retained groups differed significantly from each other. The Wilcoxon signed-rank test yielded no significance, Wilcoxon $W=1510.5$ ($p=.1081$) (see Table 4.8). In addition, the Kruskal Wallis test confirmed the results of the Wilcoxon signed-rank test and indicated no significance, Kruskal Wallis $\text{ChiSQ}=2.6319$ ($p=.1047$) (see Table 4.8). No difference between the retention and attrition groups was noted and evidence was not provided to reject the null hypothesis. Thus salary supplement appeared not to be a significant contributor to teacher attrition in special education in this sample. According to this analysis, additional funding for salaries provided by the Local Education Agencies does not affect teacher attrition.

- b. There is no relationship between percentage of students in poverty in LEA and attrition of special education teachers in North Carolina.

The researcher tested the hypothesis that there is no relationship between percentage of students in poverty in LEA and attrition of special education teachers in North Carolina with the Wilcoxon signed-rank test and the Kruskal Wallis test. In many studies, Free or Reduced Lunch is a variable used to indicate the poverty level of students within a Local Education Agency. The Wilcoxon signed-rank test and the Kruskal Wallis

test were applied to compare the rates of student poverty in teacher attrition and retention groups. The Wilcoxon signed-rank test indicated significant differences, Wilcoxon $W=3.8183$ ($p=.0001$) (see Table 4.8). The second analysis using the Kruskal Wallis test confirmed the previous significant results, Kruskal Wallis Chi-SQ= 14.5881 ($p=.0001$) (see Table 4.8). The retention group served a lower percentage of students on Free or Reduced Lunch than did the attrition group indicating that the poverty level of students contributes to teacher attrition in special education.

- c. There is no relationship between academic performance of students in the LEA and attrition of special education teachers in North Carolina?

In order to test the null hypothesis that there is no relationship between academic performance of students in the LEA and attrition of special education teachers in North Carolina, the researcher conducted the Wilcoxon signed-rank test and the Kruskal Wallis test. The academic performance of students within each LEA was explored by examining the percentage of ABC targets met by the schools. However, due to the inability to acquire the data for previous years, the variable was only analyzed for the 2002 school year. The results of the Wilcoxon signed-rank test for that year yielded no difference, Wilcoxon $W=1688.5$ ($p=0.6140$) (see Table 4.8). Similarly, the Kruskal Wallis test indicated no significance as well, Kruskal Wallis ChiSQ= 0.2589 ($p=0.6109$) (see Table 4.8). In this study, the academic performance of students within an LEA did not appear to contribute to teacher attrition in special education, and the null hypothesis was not rejected.

Table 4.8**Analysis for Salary Supplement, Poverty Level of Students, and Academic****Performance**

Variable	Statistical Analysis	Test Statistic	p-value
Salary Supplement	Wilcoxon signed-rank test	1510.5	.1081
	Kruskal Wallis test	2.6319	.1047
Poverty Level of Students	Wilcoxon signed-rank test	3.8183	.0001*
	Kruskal Wallis test	14.5881	.0001*
Academic Performance	Wilcoxon signed-rank test	1688.5	0.6140
	Kruskal Wallis test	0.2589	0.6109

*p<.05

The results of this study indicated several variables that distinguish the attrition and retention groups. Variables of years of experience, age, ethnicity, degree held and licensure area yielded significant differences between the attrition and retained groups. However, variables of gender, license type, salary supplement and academic performance of students did not produce any significant differences between the retention and attrition groups. Chapter 5 will provide a discussion of the results, implications, and recommendations for future research.

CHAPTER 5 – DISCUSSION

This chapter presents and interprets the results from this study of teacher attrition in special education. Each variable is discussed in relationship to teacher attrition in special education and conclusions are drawn based on the results. Additionally, implications of this study and suggestions for future research are provided.

This study used a large data set to explore a number of internal and external factors and their contributions to teacher attrition in special education. This section explains the contributions of the internal factors of age, gender, ethnicity, degree held, license type, license area, and years of experience to teacher attrition in special education in North Carolina. The percentage of students in poverty in the district, local teacher salary supplement, and school district performance on ABC targets were investigated as external factors that may contribute to special education attrition and are discussed in the next section

Internal Factors

Age and Years of Experience

Results of previous research indicate higher attrition rates in young teachers and those who are arriving at the retirement age which one would expect (Singer, 1992; Grissmer & Kirby, 1997). Moreover, Boe, Bobbit and Cook (1997) found that age was associated with higher attrition among both younger and older teachers, and teachers are less likely to leave during the mid career years of 30-49. This study replicated previous findings and found that age is related to teacher attrition in special education. In North Carolina, the least attrition occurred for teachers between the ages of 40 and 55. As individuals approach age 55 when many career teachers have 30 or more years of service,

attrition is expected to increase. Of greater concern is the elevation in attrition during the first few years of teaching.

Singer's (1992) longitudinal study in North Carolina found that 43 percent of special educators no longer taught in that state in special education at the end of five years. As expected in this study, the trends in the data for the attrition group display a slight elevation for those leaving within the first five years which is consistent with previous research. However, the larger picture seems to indicate that attrition is occurring at all age levels and experience levels within North Carolina.

This study did not examine personal factors, but it is possible that younger teachers are more apt to leave due to marital changes, pregnancy, and family demands. Also, the notion of the career track may be much different for younger women. Women may begin teaching with the idea of pursuing various roles within education such as administration and consultation. In this sample, we do not know whether these teachers leave education all together or change jobs within education. It may be that younger teachers are more likely to transfer to another district, state, or position within education.

In term of years of experience, teachers with very little experience may leave their positions as a result of the increasing demands being placed on beginning teachers. The expectations of learning the curriculum, completing paperwork, managing behavior, and assessing students often with minimal support could lead to frustration and abandonment of teaching. In addition, school districts often make further demands on new teachers such as staff development, orientation sessions, and initial licensure training requirements.

The retention rate for the 45-55 age range may remain stable because teachers with more years of experience become vested in their careers and are working towards retirement. Additionally, teachers with more years of experience may have increased personal financial responsibilities and families to support which influence them to remain in stable employment. Lastly, the 45-55 age range may represent the largest number within the retained group because some teachers who had originally left to have families return to and remain in their teaching careers during those years.

Gender

As summarized in the results section, the numbers of men and women remain proportionate over the three years. In 2002, 19 percent of the females and 23 percent of the male teachers left their teaching positions. Although a slight difference in percentages occurred with men being more likely to leave than women, the differences were not statistically significant. Prior research examining gender as a factor in special education has produced mixed results (Billingsley, 2004). Some studies have indicated that gender is not a contributing factor to attrition where other investigators have suggested that women are much more likely to leave the profession of special education than are men (Singer, 1992). The findings of the present study suggest that teacher attrition among special educators is occurring among both men and women without much differentiation.

The slight difference in percentages of attrition between men and women in this study may be attributed to more men who go into administration or use teaching as a stepping stone to pursue other roles outside of education. Furthermore, given the lower percentage of men in education compared to women, men may experience increased

feelings of isolation within the teaching environment. Also, teaching is not highly rewarded financially and more men may believe they cannot support a family on a teacher's salary despite the increase in two income households. At the same time, women may be more comfortable with a teacher's salary as a second income. Men and women who teach in special education may be motivated by different factors to stay or leave and effective retention efforts by educational agencies may need to address potential differences.

Ethnicity

According to Billingsley (2004), there have been mixed findings on the relationship between ethnicity and teacher attrition in special education. The findings in this study indicated that teachers who identified themselves as black were significantly more likely to leave their teaching positions than were teachers who identified themselves as white. The data suggest that the retained group has a higher percentage of individuals who are white over the years and a declining percentage of individuals who are black. Proportions of other ethnic categories remained stable. Ethnicity is a factor contributing to teacher attrition among special education teachers in North Carolina.

The relatively higher loss of black teachers compared to white teachers presents a serious problem for education. The increased percentage of individuals who are black in the attrition group may be a result of these individuals seeking greater upward mobility. Education may be viewed as a transition occupation for individuals in a first generation to attend college whereas other roles may not have previously seemed possible. Currently, we have an increasingly diverse student body and are in need of diverse teachers and role models in special education (Boyer & Mainzer, 2003). The decline in individuals who

are black in the teaching population is particularly worrisome because our teacher education workforce does not represent the racial and ethnic diversity in our schools (Boyer & Mainzer, 2003). Investigators need to devise studies to follow up with these individuals to determine what would keep highly qualified black and white teachers in the field. Feelings of isolation, school climate, and lack of respect should be examined as factors that influence teachers' decisions to leave.

Degree

Boe, Bobbitt and Cook (1997) concluded that teacher turnover in special education was higher for those who had earned a degree in the past two years. However, according to Billigsley (2004), degree earned has been given far less attention than other variables and few inferences can be made. This study revealed that in North Carolina, attrition decreased for those individuals with a Masters degree. Perhaps, this difference may be attributed to the ten percent salary increase for individuals holding a Masters degree. In an affluent county, a teacher with five years of experience, for example, would receive an increase in salary from \$34,686 to \$38,327 by earning a Masters degree. It could also be a possibility that teachers who pursue a Masters degree have the intent to stay in the field of education as teachers. They have made a commitment to remain in teaching and have made the commitment to earn an advanced degree thereby obtaining a salary increase that may encourage them to stay.

License Area

Previous research has indicated that teachers who held licenses in speech language, hearing, and vision and those who taught students with emotional disabilities were more likely to leave the special education profession than were teachers who held

licenses in learning disabilities, multiple disabilities, or physical disabilities (Singer, 1992). The results of the present study indicated that percentages of teachers holding speech language, visually impaired, and severely disabled licenses were more likely to be retained during the three years. These results are contradictory to Singer's (1992) results suggesting that North Carolina may be improving the retention efforts in these areas. It may also be that these types of licenses are different from the more generic license in that they require different training and people may be less likely to move into other types of positions.

License Type

Previously, certification status has been linked to attrition with uncertified teachers (those holding lateral entry or emergency licenses) being more likely to leave special education than teachers who are certified (Billingsley, 2004). Moreover, those teachers on emergency or provisional certificates are considered to be at risk for teacher attrition in special education (Billingsley, 2004). Reinforcing Billingsley's (2004) findings, the attrition group in this study had a higher percentage of those with provisional certificates. Many of these teachers have very few years of experience and are in need of additional support to meet the demands of the job. This issue will be addressed in more detail in the section on future research.

External Factors

Salary Supplement of Teachers in LEA

Over the years, salary has consistently been correlated with teacher attrition in special education. Studies have concluded that salary is a statistically significant variable, and attrition declines for those with higher salaries (Boe, Bobbit & Cook, 1997;

Shen, 1997; Singer, 1992). The results of this study focused solely on teachers' local salary supplement in individual LEAs. Teachers throughout North Carolina earn a base salary. Beyond years of experience, differentiation in pay would come in the form of a supplement directly from the district in which the teacher was employed, an advanced degree, National Board Certification, or bonuses provided to teachers for schools meeting academic achievement goals. Results from the analysis of salary supplement data showed no significant difference in the attrition and retention group. Hence, the findings of this study are not congruent with previous research indicating that those with higher pay are less likely to leave their positions. However, the results from this study did reveal that the retention group included a higher proportion of individuals who held a Masters degree, and these individuals do receive a higher salary.

The lack of difference of local salary supplement on teacher attrition in special education may be influenced by several factors that were not investigated in this study. For example, North Carolina has many rural counties with generations of families within a close knit community. Regardless of the local salary supplement offered, teachers may remain within communities because of family and community ties. Additionally, it is possible that the schools within rural communities may have a much different school climate and sense of school community as compared to schools with more transient student and teacher populations and larger student numbers. Teachers within rural communities may remain in their positions because of a positive school climate. Rural schools may have less teacher turnover resulting in a stronger community that operates within the school. Furthermore, there may be a greater shared vision of the community and the roles of the schools within the communities. Students in schools within rural

communities may have a greater respect for adult authority. Lastly, teaching in a school located in a rural environment may be less stressful for the reasons given above.

Academic Performance of Students in LEA

To date, limited information exists on the academic performance of students in relationship to teacher attrition. It would seem that incentives or bonuses given to teachers within schools meeting academic performance requirements would influence teacher attrition in special education. However, according to the results of this study, academic performance as measured by the ABC targets did not seem to influence teacher attrition among special education teachers in North Carolina.

The academic performance of students may not have contributed to teacher attrition in special education in this study for several reasons. First of all, academic performance was measured by the percentage of students meeting expected growth on the ABC standards in North Carolina. It is possible that special education teachers may not place as high a value on high stakes testing results as do other teachers, because they do not feel the results reflect as much on them in terms of teacher accountability. Special education teachers may rely more heavily on results from curriculum based measures and measured progress towards goals on students' Individualized Education Plans as valid measures of student achievement. Second, individuals entering the field of special education may realize that their students are most likely going to have some academic difficulty. Therefore students with disabilities with low academic achievement may not be a large source of frustration to teachers and may not contribute to teacher attrition.

Poverty Level of Students in LEA

Little research has been conducted on the relationship between the poverty level of students and teacher attrition. Shen (1997) studied teachers who were movers and leavers in special education and found more teachers left poorer schools. In Shen's study, the percentage of students receiving free or reduce lunch was the measure of poverty as it was in this study. Based on the results described in Chapter 4, Free or Reduced Lunch is an indicator of teacher attrition among special education teachers in North Carolina. Consistent with previous research, the teachers who left their teaching positions taught in schools with a higher percentage of students receiving Free or Reduced Lunch than did the teachers in the retained group.

More investigation is needed to determine the factors related to poverty that may add unique variance. It may be that students receiving Free or Reduced Lunch have less parental support than those who do not. Additionally, it is possible that districts with a higher proportion of students receiving Free or Reduced Lunch are part of low wealth counties with fewer resources. Teacher may leave their positions if they do not have the resources needed to do their jobs. Lastly, communities that have a large percentage of students receiving Free or Reduced Lunch may be less desirable places to live because the communities may offer fewer resources in terms of social or cultural opportunities that engage teachers in the communities.

Future Research

This study addressed the contribution of a number of internal and external variables on teacher attrition in special education. Several unanswered questions still exist. Is there a combination of internal and external factors that lead to a predictive

model for teacher attrition in special education? What is the relationship between school climate and organizational factors on teacher attrition in special education? Do certain preparation routes lead to teacher retention? Suggestions for further research are discussed in this section.

The next step using the data set from this study is to perform a multiple regression analysis to explore the combination of internal and external factors and their relative contribution to teacher attrition in special education. For predictive power, internal and external factors will be investigated in combination to determine significant predictors of teacher attrition in special education. The development of a model to predict teacher attrition in special education would allow school systems to specifically target retention efforts for individuals considered at risk for attrition.

Further research conducted on a national level using a nationally representative sample may provide more information that will assist in targeting retention efforts of special education teachers. To date, mostly statewide or countywide studies have been conducted allowing for limited generalization. Additional studies with more representative data sets would continue to help in identifying a pattern of special education teacher attrition. Research with representative data sets would allow us to determine whether there are regional or geographic factors that need to be considered in teacher attrition.

There is a continued need for longitudinal studies in teacher retention. This particular study only included three years of data. However, data collected over a lengthy period of time could reveal specific trends in relationship to teacher attrition in special education. Now that systems are in place to collect routine data on special education

teachers in North Carolina, following this population over time will be much easier. Smaller studies of cohorts of special education teachers over time would additionally provide valuable information to the current research base. Survey studies and qualitative case studies with a longitudinal component that targets a population from the larger North Carolina data set would allow researchers to explore effects of school organizational characteristics and employment factors in depth. Research questions exploring school climate, involvement in decision making, and leadership support could be addressed.

This study was not able to track special education teachers who migrated to other school districts. Some attrition reported was not due to educators leaving the field but was reflected in teachers moving from one LEA to another. Future research should specifically target migrating teachers or movers. To truly isolate the reasons teachers leave their current positions and migrate or transfer, the career paths of these teachers should be explored. Little is known about the difference between factors that contribute to teacher transfer versus factors that contribute to teacher attrition. Teachers who transfer may be in search of a better school climate, or they may transfer to relocate with a spouse. Additionally, the principal of the school may be an important factor that contributes to teacher transfer that needs to be explored. Many teachers leave schools with poor administration to transfer to those schools with strong administration.

Given that teacher attrition presents a serious problem in the state of North Carolina, more studies need to be conducted that investigate external factors, employment factors, and school characteristics that influence attrition and retention. With the current rate of attrition and population growth in North Carolina, thousands of additional teachers are needed each year. Follow-up surveys need to be conducted to

track teachers who leave their positions and provide insight as to the factors that influenced their decisions to leave. Organizational conditions such as the decision making power of teachers, feelings of isolation, heavy paperwork load, role conflict, job satisfaction and commitment, administrative support, discipline problems, student motivation, class size, opportunities for professional development, school climate, and stress and burnout specifically among the population of special educators should be explored.

Not only do we need to determine why individuals leave their positions, but we need to investigate what causes individuals to stay in their positions. It is important to study “stayers” and identify the internal factors, employment factors, and school characteristics which may contribute to teacher retention. An increased understanding of those who stay in their positions will help target retention efforts.

Future research needs to examine the potential relationship between various preparation routes leading to special education certification and the attrition of special education teachers. Studies focusing on cohorts of individuals pursuing traditional versus lateral entry or alternative certification programs will provide insight as to the effectiveness of these programs in preparing highly qualified special education teachers who remain in the field of education. Many of the individuals entering a lateral entry or alternative certification program immediately begin their teaching careers and concurrently take classes toward certification. The high level of demands placed on these individuals and the current supports in place as these teachers begin their careers should be studied in relationship to their effects on retention.

States have been pushed to adopt alternative, fast track routes to licensure due the shortage of fully certified special education teachers. These programs may have met short-term needs, but they do not appear to provide long-term solutions given the continuation of the teacher attrition rates. Significant state resources are committed to prepare emergency and lateral entry teachers. Additionally, states allocate large sums of money to recruit teachers. Other alternatives need to be explored making these fast track programs more feasible and less expensive. Furthermore, these programs need to become more effective in attracting and retaining highly qualified teachers.

One interesting option in North Carolina is a service delivery model developed by some state universities where certification programs are delivered to individuals within a community where individuals might not otherwise have the opportunity to access higher education. The intent of the model is to certify teachers who are more likely to have a strong commitment to stay in their communities or school districts where teacher shortages exist. In another model, teacher assistants are recruited and complete initial coursework at community colleges and finish their degree at four year colleges with financial support from the state. Cohorts from these models should be followed to determine the effectiveness of these programs.

The reason for teacher attrition among the lateral entry population should be investigated as many of these individuals may leave their teaching position due to personal factors, not employment factors or school characteristics. For example, teachers on emergency teaching certificates may abandon alternative licensure programs and the field of education because of the inability to pay for required courses and texts. The impact of financial assistance, loan reimbursement, and forgivable loans to support this

growing population should be examined. Furthermore, university tuition has increased at a much quicker rate than teacher salaries making it difficult for teachers to complete their professional preparation within the allotted time limits.

North Carolina already has a teaching fellows program in place where beginning teachers are forgiven one year of full scholarship for each year they teach in a North Carolina public school. If teaching fellows do not fulfill their loan commitment through years of teaching service, the monetary scholarship amount must be repaid. Extending this program to those individuals in alternative licensure programs would not be difficult with the existing infrastructure in place. Teaching service in exchange for loan forgiveness may entice teachers to remain in their positions rather than abandoning them.

The lateral-entry population needs to be closely monitored since an increasing number of teachers are entering the field of special education through non-traditional teacher preparation programs. More specific information needs to be gathered regarding this unique population in general. Studies that focus on employment variables rather than the internal and external factors studied in this project are needed. Information regarding the components that are weak in lateral entry teacher preparation that may contribute to attrition needs to be researched. For example, many lateral entry teachers struggle with behavior management, effective teaching methodology, and special education paperwork.

Not only do lateral-entry teachers have to attend classes for certification, but they are also faced with the same responsibilities of first year teachers such as completing portfolio requirements, attending orientation sessions, and new teacher staff development. These extra demands on time and finances place added pressure on lateral entry teachers. In response to teachers' need for time, the state moved to eliminate extra curricular

responsibilities for beginning teachers. However, teachers widely report that they feel pressured in informal conversations to take on those responsibilities in order to acquire a position. As a result of the growing lateral entry population in the field of special education, retention efforts and their effectiveness with this group should be investigated through case study research.

As a supplement to preparation routes, mentoring programs need to be refined to provide more direct and immediate support. In North Carolina, an Initial Licensure Training program exists and trained mentors are assigned to beginning teachers for support. However, several questions regarding North Carolina's mentoring programs exist. Are the existing mentoring techniques successful in retaining those just embarking on a special education career? Should mentoring programs vary in design based on the various preparation routes for special educators? Currently, it is not uncommon for a mentor to be certified in an area other than special education. Often proximity has a higher priority than area of expertise when assigning mentors to new teachers. As a result, many special education teachers end up seeking advice and help from informal mentors who are knowledgeable about special education practices. It may be beneficial for beginning special educators to have both a general education and special education mentor assigned. Particular problems commonly faced by beginning teachers are developing stronger behavior management skills, differentiating instruction to students with a broad range of skills, and using specially designed instructional programs for students with disabilities. Better alignment of mentors in special education would allow beginning teachers to draw on the experience of their colleagues.

With the movement to delay the beginning of the school year, opportunities for lateral entry teachers to train with expert teachers could be provided prior to the start of school. With a stipend provided to each teacher, expert teachers could assist new teachers with scheduling, material selection, behavior management plans, and grouping strategies prior to the start of the school year. Additionally, expert teachers could assist new teachers in reviewing paperwork procedures and planning assessment, reevaluation, and IEP annual review schedules to meet state and district guidelines.

Lastly, a thorough look at teacher quality and its relationship to teacher attrition in special education should be investigated. The extent to which special education teachers have the necessary skills to perform the job could play a vital role in their success as educators. Skills such as classroom management, effective teaching strategies, and communication could certainly distinguish the effective teacher from those who are not effective. An important question is whether attrition distinguishes between more and less competent teachers. A related question is whether we lose teachers who have a strong potential to become highly effective special education teachers because of low levels of support in the presence of unreasonable demands including the financial costs of becoming fully licensed.

Limitations

There are several limitations that restrict the conclusions that can be drawn from the results of this study. First of all, this study included only the population of teachers in North Carolina between the years of 2001 and 2003, thereby limiting results to North Carolina. Any attempt to generalize beyond North Carolina should be made with the greatest caution. North Carolina is unique in support programs, licensing demands, and

teacher accountability. However, the results in terms of teacher age and years of experience are consistent with results from studies conducted elsewhere. Second, the data acquired for a three-year period from 2000-2002 do not provide information on long-term trends regarding teacher attrition in North Carolina.

Another potential problem is the definition of teacher attrition used for the data set in this study. Teachers who left their positions were automatically placed in the teacher attrition group when realistically those teachers could have been movers or transfers. The teachers who left may have moved to different schools, counties, or states, or may have taken other roles in the education profession. This data set did not allow for tracking the actual certification license number of each individual, and therefore was unable to follow those individuals who may have transferred into other positions and remained in their teaching careers.

Another concern is that the data set was not complete. For example, some cases only had age, gender, ethnicity, and years of experience reported where others cases had information reported for license area, degree held, and license type. There were fewer incomplete cases in the last year of that data set than in the first year. This suggests there was more thorough reporting over time. Although reporting on all variables increased over time during the three-year period, there were many cases for which the information on all variables was not provided. Not only was missing data a problem but the incorrect reporting of data was of issue as well. Correct and complete reporting of data would have eliminated the need to throw out cases that might influence results. Accurate reporting would have prevented 19 cases from being thrown out.

Lastly, this study strictly explored a limited number of internal and external factors to teacher attrition in special education. As the research base indicates, teacher attrition may be strongly related to employment factors and school characteristics that were not addressed in this study. This study was limited in regards to including other variables such as job commitment, job satisfaction, administrative support, and school climate that would likely have an impact on special education teacher attrition.

Conclusion

This study adds to the current research base on teacher attrition in special education. The statewide sample allowed for investigation of teacher attrition on a large scale. This study provided excellent descriptive data and an increased understanding of internal and external factors and their contribution to attrition among special educators in North Carolina. Results of this study indicate that teacher age, years of experience, ethnicity, and the percentage of students in poverty are all single contributors to teacher attrition in special education.

Given that attrition may not be due solely to the internal or external factors investigated in this study, employment factors and school characteristics need to be taken into account. The employment factors of administrative support, job satisfaction, and school climate have a large impact on teacher attrition in special education. Continued research is certainly needed to isolate combinations of internal or external factors, employment factors and school characteristics that may contribute to the attrition of special education teachers. In order to create a model that fully describes causes for special education teacher attrition and retention, researchers need to investigate the combination internal and external factors on teacher attrition, explore teacher retention

through longitudinal studies, and examine organizational and employment factors through survey and case study research approaches.

This study has made a unique contribution to the literature base by identifying internal and external variables that contribute to teacher attrition in special education. Specifically, this study examined the role of external factors such as poverty level of students and academic performance of students which has not fully been addresses by previous research studies. The data in this study supported the model that there is a difference between teachers that leave their positions and those who remain in their positions in North Carolina.

Beyond internal and external factors, we need to delineate how principal competence, special education support, and communication style affect teacher retention. The challenge is to gather data through methods that ensure anonymity to allow teachers to be critical of school climate (including acceptance and inclusion of teachers of different ethnicities) and the level of support they receive.

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Application Supplement
Waiver and General Release

(This form must be notarized in order to be complete.)

FULL NAME:

(Last) (First) (Middle) (Maiden Name and year name changed)
OTHER NAMES USED IN THE LAST 10 YEARS: (specify dates):

SEX RACE SOCIAL SECURITY NUMBER

DATE OF BIRTH DRIVER'S LICENSE NUMBER SPECIFY STATE

List all of your places of residence for the past ten (10) years beginning with your current address. Use an additional page if necessary.

Table with 6 columns: Street, City, County, State, Zip, Year (From -To)

The Wake County Board of Education is an equal opportunity employer. Applicants are considered and hired without regard to race, sex, age, color, religion, national origin, citizenship status, political affiliation, or disability.

I hereby expressly authorize the Wake County Board of Education, its agents and employees to make any investigation of my personal or employment history, expressly including, but not limited to, federal and/or state criminal, law enforcement or traffic records, and periodic record checks after I am hired. I further authorize any former employer, person, firm, corporation, credit agency, administrative body, or governmental agency to give the Board of Education, its agents or employees any written or other personnel information they may have regarding me. In consideration of the review of my employment application by the Wake County Board of Education, its agents or employees, I hereby release the Board of Education and any and all providers of information to whom this release is sent from any Liability as a result of furnishing or receiving this information. I further certify that if I am a male subject to Selective Service registration requirements, I have complied with all rules or regulations issued, and I am eligible for employment by the Board of Education in accordance with N.C.G.S. § 143B-421.1.

I certify that all information provided on both pages of this application supplement is accurate and complete. I agree that if any information or answers to questions change either before or after employment, I will notify the Assistant Superintendent for Human Resources - Employee Relations in writing immediately. I acknowledge that failure to provide accurate and complete information on this application supplement, or failure to update this supplement with accurate and complete information in the future, shall be grounds for disqualification for employment or immediate dismissal.

Signature

Date

To be signed and dated in the presence of a Notary Public.

Notary Public Certification:

State of County of

I, as a Notary Public of the said State and County, do hereby certify

that personally appeared before me and,

being duly sworn, executed the foregoing instrument.

Witness my hand and seal this day of , Notary Seal

Signature of Notary

My commission expires

Notary seal area with CRC Received and CRC Completed labels

VERIFICATION BY INSTITUTION: COMPLETION OF APPROVED EDUCATION PROGRAM

TO THE APPLICANT: Fill in the information above the line. Please type or print.

last name	first name	middle name	maiden name
street address		city	state
		zip code	
social security number			

**TO THE DESIGNATED COLLEGE OFFICIAL:
Fill in ONE of the boxes and BOTH sections at the bottom of the page.**

The applicant completed requirements for the

<input type="checkbox"/> bachelor's	<input type="checkbox"/> master's
<input type="checkbox"/> sixth year (educational specialist)	<input type="checkbox"/> doctorate

degree and **finished an approved education program** in the licensure area(s) of (e.g. elementary education, music, secondary mathematics, etc.)

Date program completed: _____
month, day, year

The applicant did not earn a degree from this institution but completed an approved education program at the degree level of

<input type="checkbox"/> bachelor's	<input type="checkbox"/> master's
<input type="checkbox"/> sixth year (educational specialist)	<input type="checkbox"/> doctorate

in the area(s) of (e.g. elementary education, music, secondary mathematics, etc.)

Date program completed: _____
month, day, year

The program completed meets the following accreditation, approval, or program requirements (check all that apply):

- National Council for Accreditation of Teacher Education (NCATE)
- National Association of State Directors of Teacher Education and Certification Standards (NASDTEC)
- Education program approval by the state of _____
- Regional accreditation by (name of body) _____

Public Schools of North Carolina
State Board of Education
Department of Public Instruction
Licensure Section
6365 Mail Service Center
Raleigh, North Carolina 27699-6365

The applicant completed an education program approved in the area(s) and at the level(s) recommended. The approval program was in effect during the applicant's period of study.

name of institution

designated official (licensure officer, dean of education)

title

signature

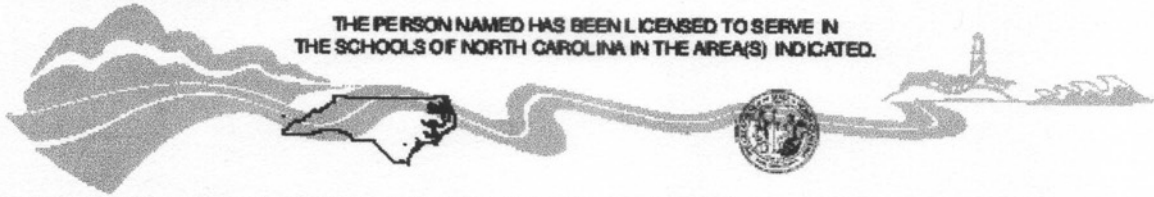
date

Form V
February 2003

HUMAN RESOURCE MANAGEMENT
 LICENSURE SECTION
 PUBLIC SCHOOLS OF NORTH CAROLINA
 STATE BOARD OF EDUCATION
 DEPARTMENT OF PUBLIC INSTRUCTION
 301 N. WILMINGTON STREET
 RALEIGH, NORTH CAROLINA 27607-0825

**STATE OF NORTH CAROLINA
 LICENSE
 (Converted from Initial to Continuing)**

THE PERSON NAMED HAS BEEN LICENSED TO SERVE IN
 THE SCHOOLS OF NORTH CAROLINA IN THE AREA(S) INDICATED.



NAME	SOCIAL SECURITY NO.	DATE EXPIRES	DATE ISSUED	DATE EFFECTIVE	
			1 PROGRAM	2 LICENSE AREAS	3 CLASS
Date Enrolled in ILP					
Date ILP Completed					
Area of assignment at the time of recommendation for a continuing license					

VERIFICATION OF PERFORMANCE

EACH OF THE FOLLOWING STATEMENTS MUST BE AFFIRMED WITH A CHECK MARK IN ORDER FOR THIS LICENSE TO BE ACCEPTED:

- Candidate has successfully completed three years of teaching within a five-year period with at least 50% in-field assignment.
- Candidate has successfully completed the Performance Based Product with a passing score.
- The Superintendent does not have knowledge of any reason related to conduct or character to deny the teacher a continuing license.

ILP Coordinator's Approval or Denial

- Initial Licensure Program has been successfully completed and continuing licensure is recommended.
- Continuing licensure is not recommended because the individual has not been enrolled in ILP for the required period. Please extend license for one year.
- Continuing licensure is not recommended because the individual has not successfully completed the evaluation process.

Signature of ILP Coordinator	Administrative Unit	Date
------------------------------	---------------------	------

Individual's Copy

LICENSE UPDATE

Type or print the following information.

(See instructions on reverse side.)

last name	first name	middle name	maiden	
street address		city	state	zip code
social security number		school unit (if employed in N. C.)		

Check the action you are requesting.

change name

name as it now appears on the license

delete an area of licensure

area to be deleted (name and code)

change social security number

SSN as it now appears on the license

renew license

validate an expired license

clear a provisional area

area to be cleared

school year

Superintendent or Designee

date

STATEMENT OF APPLICANT

Have you ever had a certificate or license revoked or suspended by any state or other governing body? If yes, attach a statement giving full details and official documentation of the action taken.

yes no

Have you ever been convicted of a crime (excluding minor traffic violations)? If yes, you must submit court documents that indicate judgment and disposition of the case from the court of conviction and an explanation of the incident(s).

yes no

I certify that the information provided in this application is correct and true. I understand that the falsification of any statement or document will result in the revocation of my North Carolina license.

Signature _____

Public Schools of North Carolina
State Board of Education
Department of Public Instruction
Licensure Section
6365 Mail Service Center
Raleigh, North Carolina 27699-6365

Date _____

Form U
February 2003

WCPSS Exit survey

The information in this exit survey will be used to help WCPSS recruit and retain employees. Your responses will be strictly confidential. Thank-you for taking the time to complete this survey.

Please circle your position:

- Administrator
- Teacher
- Teacher Assistant
- Support Staff
- Other Professional

Please circle reasons you are leaving:

all that apply:

- 57. Family responsibility/Child care
- 58. To teach in another NC system
- 59. Moved to another job
- 60. To continue education
- 62. To teach in another state
- 64. Because of health/Disability

65. Other reasons: _____

66. Retired

70. Leave without pay-To teach in NC Charter School

71. To teach in a NC non-public/private school

How many years have you been employed in Wake County? ____

What level? Elementary ___ Middle ___ High ___ Central Office ___

	3. Agree	2. Disagree	1. Strongly disagree	Please rate your degree of agreement or disagreement on the 4-point scale.	Also, please mark yes if the item was a consideration for leaving. Thank You.
					YES
				Leadership	
				1. I received support from my supervisor.	
				2. I received support from central office.	
				3. My supervisor communicated our vision, mission, & values.	
				4. I had opportunities to talk with my supervisor about my work.	
				5. My supervisor informed me about major issues.	
				Process Management	
				6. There was a sense of team at my job.	
				7. I was prepared to do my job.	
				8. My work load was reasonable.	
				9. I had adequate resources and materials.	
				10. Time was spent working collaboratively.	
				Human Resources Focus	
				11. Professional growth/training opportunities were available.	
				12. Recognitions of my work were available.	
				13. Rewards for my work were available.	
				14. I received encouragement in my work.	
				15. My contributions at work were valued.	
				16. I received support, coaching, and /or mentoring at my job.	
				Information, Analysis, Results	
				17. My job evaluation showed my strengths and areas for improvement.	
				18. My job evaluations were conducted fairly.	
				19. My salary and benefits were adequate.	
				20. Student discipline procedures were in place and followed.	
				21. Physical working conditions were good.	
				22. I had opportunities for leadership or promotions.	
				Strategic Planning	
				23. Data & results were used to make improvements in my job.	
				24. I helped develop goals, objectives, and work plans.	
				25. I would recommend WCPSS as a good place to work.	
				26. I would return to WCPSS if possible.	

27. Specifically, what are your recommendations for improvement. (Please use the back if additional space is necessary.)

28. How could we facilitate your return to WCPSS if you choose to return? Do you have any other comments or feedback?

Optional

29. Would you be willing to have an exit interview? Yes ___ No ___

Name and Daytime phone number.

Date:

North Carolina State University
INFORMED CONSENT FORM for RESEARCH

Teacher Attrition in Special Education: The Impact of Internal and External Factors

Jennifer Bautel Williams

INFORMATION

We are asking the North Carolina Department of Public Instruction to participate in a research study. The purpose of this study is to investigate the internal and external factors that contribute to teacher attrition in special education. Internal factors of age, gender, ethnicity, years of experience, teaching license, and teaching area will be examined. Additionally, external factors of teacher salary supplement, percentage of students receiving free or reduced lunch, and academic performance as measured by ABC targets will be explored. We are requesting any data that would be helpful in investigating these factors.

RISKS

No potential risks are present in this study.

BENEFITS

This research will contribute to the existing body of knowledge on teacher attrition in special education. Additionally, it will assist in targeting teacher retention efforts.

CONFIDENTIALITY

Through the data provided, subjects cannot be identified directly or through identifiers link to the subjects.

CONTACT

If you have questions at any time about the study or the procedures, you may contact the researcher, Jennifer Bautel Williams, at East Carolina University, Speight 230, College of Education, Department of Curriculum and Instruction, Greenville, North Carolina. If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Dr. Matthew Zingraff, Chair of the NCSU IRB for the Use of Human Subjects in Research Committee, Box 7514, NCSU Campus (919/513-1834) or Mr. Matthew Ronning, Assistant Vice Chancellor, Research Administration, Box 7514, NCSU Campus (919/513-2148)

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed your data will be returned to you or destroyed at your request.

CONSENT

"I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may withdraw at any time."

Subject's signature _____ Date _____

Investigator's signature _____ Date _____

NC STATE UNIVERSITY

Sponsored Programs and
Regulatory Compliance
Campus Box 7514
1 Leazar Hall
Raleigh, NC 27695-7514

919.515.7200
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From: Debra A. Paxton, Regulatory Compliance Administrator
North Carolina State University
Institutional Review Board

Date: October 12, 2004

Project Title: Teacher Attrition in Special Education: The Impact of Internal and External Factors

IRB#: 226-04-10

Dear Ms. Williams:

The research proposal named above has received administrative review and has been approved as exempt from the policy as outlined in the Code of Federal Regulations (Exemption: 46.101.b.4). Provided that the only participation of the subjects is as described in the proposal narrative, this project is exempt from further review.

NOTE:

1. This committee complies with requirements found in Title 45 part 46 of The Code of Federal Regulations.
For NCSU projects, the Assurance Number is: FWA00003429; the IRB Number is: IRB00000330
2. Review de novo of this proposal is necessary if any significant alterations/additions are made.

Please provide your faculty sponsor with a copy of this letter. Thank you.

Sincerely,

Debra Paxton
NCSU IRB