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The Impact of Poverty, School Enrollment, and Ninth-Grade Transition Programs on Promotion to Tenth Grade in Thirty South Carolina High Schools

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The Impact of Poverty, School Enrollment, and Ninth-Grade Transition Programs on
Promotion to Tenth Grade in Thirty South Carolina High Schools

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DEDICATION

This dissertation is dedicated to my wife, Sherer, whose steadfast support of this pursuit has provided me with the motivation and wherewithal necessary to see its end. The sacrifices of time and effort she has made on my behalf are immeasurable. To my children, Mary Grace and Noah, both of whom I hope are inspired by my love of learning. To my extended family and friends, whose understanding and support have been equally essential.

To my mother, whose nurturing and reassurance throughout my life have provided me with the confidence to pursue my dreams. To my father, who, by example, has set the standard for the continuous pursuit of education within my family. Their love of God, country, family, and education has opened doors of opportunity to which I may never had been exposed without their help and guidance.

I also wish to acknowledge my colleagues within the Clover School District and Clover High School who have helped me balance the rigors of a doctoral program with the demands of being an effective school principal.

Lastly, I would like to thank the members of my doctoral cohort and my professors for maintaining a high level of engagement and excitement throughout this journey.

ABSTRACT

This study attempted to determine the impact of poverty, school size, and the presence of a ninth grade transition program (independent variables) upon promotion to tenth grade (dependent variable). Three sets of 10 South Carolina high schools were purposefully selected for the study: one from high, one from medium, and one from low poverty index ranges. Poverty information was gathered from SCDE Poverty Index lists, and school size and tenth grade promotion rate were calculated from enrollment data supplied by the SCDE. A ninth grade transition was defined by identifying eight common transition practices in current literature and sample school principals were then surveyed. Schools that had no less than five of eight practices in place, one of which must be targeted curriculum for at-risk students, were defined as having a transition program.

Three multiple regression models were performed to generate a P-value and Partial Eta squared value for each dependent variable. Regression Model 1 included all three independent variables, none of which generated a significant statistic. Because the two continuous variables of poverty and enrollment were negatively correlated with a P-value of $-.729$, subsequent regression models removed one of these variables in an effort to diminish their interaction in Regression Model 1.

Regression Model 2 tested the impact of poverty and transition on tenth grade promotion, and poverty was determined to be significant with a P-value of $.007$ and a

partial Eta squared value of .238. Transition was not significant. Regression Model 3 tested the impact of enrollment and transition on tenth grade promotion, and both variables were found to be not significant.

Though poverty was determined to be significant in its impact on promotion to tenth grade, the data on enrollment and ninth grade transition were inconclusive. The limits of the study may have prevented an optimal definition of a ninth grade transition program and future research is recommended to determine the effects of such programs on achievement.

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CHAPTER I

INTRODUCTION TO STUDY

The release of *A Nation at Risk* in 1983 illuminated deficiencies within our educational system and likely planted the seeds of modern accountability. The report states: “Our society and its educational institutions have lost sight of the basic purposes of schooling, and of the high expectations and disciplined effort needed to attain them.” (NCEE, 1983, p. 9). When connected to the litany of statistics citing deficiencies in basic literacy, math and science skills within the report, this prevailing sentiment began to change the perception of and direction of American education. In fact, it propelled education to the top of our public policy agenda. *A Nation at Risk* sounded alarm bells that ultimately set us on course to re-examine all aspects of our education system: organization, curriculum, assessments, and teacher efficacy. The perception that our public education system is inadequate has continued to keep education improvement as a major public agenda issue some thirty years after the report was initially released.

The Age of Accountability

An important piece of educational legislation was passed in 2002 by President George Bush: The Elementary and Secondary Education Act (ESEA), also known as *No Child Left Behind*. This legislation required a level of accountability for education never before seen. For example, new federal guidelines were adopted to ensure that at-risk populations were progressing. Adequate Yearly Progress (AYP) was introduced to track sub-groups of students based on race, ethnicity, poverty, and special needs. *No Child Left*

Behind also required each state to set graduation rate targets, with 100% by the year 2014 (Patterson, Beltyukova, Berman & Francis, 2006). Each state subsequently designed and implemented a system of accountability through which schools and educators are measured against the achievement of their students. These achievement data are used to rate schools through annual school report cards. Such a practice was not required before the legislation was passed. Report cards have focused attention on student achievement and reflect individual schools' effectiveness. Public schools, while slowly improving, still fall short in the primary measures of success and the goals set forth by NCLB. One primary goal set by the legislation was a one hundred percent graduation rate by 2014.

Graduation

The completion of public education is graduation from high school. With only 74.1% of high school students graduating with a diploma within four years (NCES, 2012), research has been conducted to find the reasons why students are not graduating from high school. Many critics of public education have come to view graduation rate as an overall measure of public education itself since it denotes successful completion of public education offerings.

Nationally, ninth grade is highlighted as a critical year in terms of completing school and earning a diploma. Schiller (1999) states that the transition into high school is crucial and that this time serves as a defining year between academic success and dropping out of school early. Current research also reveals an increased dropout rate when students are retained during their freshman years (Bowman 2005; Jimerson, Anderson & Whipple 2002). Furthermore, research states that as many as 30% of high school dropouts were never promoted to tenth grade and beyond (Neild, 2009).

These data underscore the completion of ninth grade year as an appropriate predictor of success in high school and of graduation. Many students are not given the extra support they need to successfully make the transition to high school. As a result, over one third of all dropouts are lost in ninth grade (Editorial Projects in Education, 2007). This awareness has catalyzed the development of ninth-grade transition programs in high schools across our nation. Many schools have begun to provide a wing within the high school or a separate facility just for ninth graders, allowing for a full year of transition time prior to blending with upper grades (Kennelly & Monrad, 2007).

Other factors impact student achievement and grade promotion. A 2006 report issued by Editorial Projects in Education showed that more than 40% of high poverty students and 27% of low poverty students fail to be promoted to tenth grade. Though the impact of poverty is not confined to the ninth grade, family incomes continue to be reliable indicators of overall student achievement (Taylor, 2005). Cunningham (2006) states that schools with large numbers of poor children rarely achieve their goals; therefore, the level of poverty within a school is worthy of consideration given its impact on student achievement, grade promotion, and graduation.

School size is another variable impacting student success, and as such, is worthy of consideration. Lee & Smith (1997) suggest that the ideal high school, defined in terms of effectiveness (i.e., graduation), enrolls between 600 and 900 students. Current research falls short of defining the optimal size of a high school and is inconclusive in terms of direct correlation of school size and achievement. However, evidence supporting smaller schools, as well as a variety of strategies that educators have adopted to transform large

schools into smaller learning communities, is growing (Mertens, Flowers & Mulhall, 2001).

The ninth-grade transition, poverty, and school size are factors that have been shown to influence students' matriculation through school. The consequences of these circumstances are realized in research. Ninth-grade transition programs are one strategy through which schools endeavor to mitigate the effects of each circumstance. However, this knowledge begs the question of the effectiveness of ninth-grade transition programs upon promotion to tenth grade and of whether they can overcome the impact of poverty and school size to the same end.

Statement of the Problem

Many factors impact students' ability to graduate; however, three factors emerge as being worthy of further study in terms of their impact on achievement: 1) the presence of a ninth-grade transition program; 2) poverty index of a school; and 3) the size of the school. The growth and development of ninth-grade transition programs exemplify the efforts of educators to minimize the social and academic effects often associated with the transition into high school. Poverty and school size also exercise influence on students' social development and academic achievement. Therefore, the existence of a ninth-grade transition program, the poverty index of a school, and the size of a school may be important - if not interrelated - factors upon student achievement. These three characteristics of schools can be measured and correlated with student achievement.

Graduation has been identified as the conclusive measure of a school's effectiveness. Because promotion to tenth grade is the first step toward graduation, prudence dictates further research focused on the impact of transition programs, school

size, and poverty level upon promotion to tenth grade. Focus on promotion to tenth grade can provide evidence of the immediate impact of transition programs and their potential to mitigate factors such as poverty and school size.

Research Questions

The research questions addressed by this study are:

1. Does the existence of a comprehensive ninth-grade transition program impact students' promotion to tenth grade?
2. Does the poverty index of a school impact students' promotion to tenth grade?
3. Does school size (as measured by enrollment) impact promotion to tenth grade?

These questions will guide this study and will require a design that will reveal the relative impact of each upon promotion to tenth grade.

Design

This study will purposefully sample schools at various poverty levels and determine the presence of a transition program through a principal survey. School size and promotion to tenth grade will be calculated from enrollment data.

The Sample

The schools included in this study will be purposefully selected and categorized according to poverty indices. Using the South Carolina Department of Education's Poverty Index List, the ten high schools with the lowest poverty index will be selected. Correspondingly, the ten schools with middle poverty indices and the ten high schools with the highest poverty index will also be selected. This process will provide a sample

of thirty high schools, with each set of ten exemplifying one of three poverty categories. Though the problem described herein has implications for schools across our nation, high schools from the state of South Carolina will supply this endeavor with a representative sample from which inferences can be made to the broader population.

According to the U. S. Census Bureau (2009), the state of South Carolina ranks tenth in the percentage of families living in poverty as determined by family incomes during the previous twelve months. The report indicates a 12.9% family poverty rate in the state. When considering the complexity of factors impacting ninth grade success, these data position South Carolina as a state in which programs designed to minimize the negative effects of the ninth-grade transition have the potential to produce relevant, measurable data. These data may be indicative of how ninth-grade transition programs impact ninth grade success beyond the state's borders.

The South Carolina Department of Education maintains a listing of all high schools in the state according to poverty index (SCDOE, 2011). The index is based on free and reduced-price lunch data and Medicaid eligibility data. The poverty index is used to identify "schools like us" and "districts like us" for the accountability report cards. Schools and districts within 5% (above or below) of a given school's or district's poverty index are considered to be like that school or district. In an effort to designate schools across the poverty index margins, the sample will include the ten schools with the lowest poverty index, ten schools in the middle of the poverty index range, and the ten schools with the highest poverty index. Once identified, these thirty schools will then be surveyed using defined criteria to determine the existence of a ninth-grade transition program.

The South Carolina Department of Education also supplies a listing of all high school enrollments by grade (SCDOE, 2009, 2010, 2011). Once the sample is identified, these enrollment data will serve a dual purpose: to determine tenth grade promotion rate and overall size of the sample school.

High school enrollment reports for three years will be used to calculate an average tenth grade promotion rate for each sample school. This calculation will be accomplished by comparing ninth grade enrollment with the subsequent year's tenth grade enrollment. The difference in the size of these respective cohorts of students will show how many students within the ninth grade cohort earned promotion to tenth grade. Likewise, the same enrollment data for the same time period will establish overall school size for each sample school. This will be accomplished by simply adding each grade cohort enrollment to determine overall size of the school.

Poverty and School Size

The term poverty is often used to encompass a plethora of circumstances including race and ethnicity, and the terms are often linked (Burney & Beilke, 2008). Homelessness is also a part of the poverty equation. More than 100 million families worldwide lack sufficient income to meet their basic needs (Capdevila, 2005). The impact of poverty upon school achievement is well documented. For example, high poverty schools are less likely to have experienced and qualified teachers, and schools with low-income student populations are less likely to offer rigorous curricula (Martin, Karabel, and Vasquez, 2005). Literacy is often cited as the foundation of all learning, and poverty is the largest correlate of reading achievement (Cunningham, 2006). The

effects of poverty upon a school are manifested in lower student achievement and graduation rates.

School size is one of the more perplexing issues currently facing schools because there is no research-based consensus on optimal school size; however, recent studies of school size conclusively report that smaller is better (Mertens, Flowers, Mulhall, 2001). Such data have impacted ninth-grade transition programs. One possible example of this impact is the development of smaller learning communities for ninth graders (Kennelly & Monrad, 2007). As a result, making large high schools seem smaller and more accommodating to ninth graders has become a common feature of many ninth-grade transition programs across the country.

Presence of Ninth Grade Transition Program

An important element of this study is determining the existence of a ninth-grade transition program within sample schools. The complexity of the ninth-grade transition dictates that a variety of strategies are implemented into an effective transition program. Chapter Two will highlight current literature and research and identify eight strategies common to successful ninth-grade transition programs. An examination into the presence or absence of these strategies will be used to designate the existence of a ninth-grade transition program within a sample school. A transition program rarely incorporates all of these eight strategies, so the existence of a transition program – or not – will be determined by the practice of no less than five of these common strategies by a sample school. Additionally, one of the five criteria must include some level of targeted curriculum for at-risk students. Because the primary objective of a ninth-grade transition

program is to improve achievement, it seems prudent to mandate an instructional element into the identification criteria.

The following transition practices are identified within current literature as common to successful programs:

1. Organized visits to the receiving high school by eighth graders (Cauley & Jovanovich, 2006).
2. Meet the teacher nights prior to the start of ninth grade (Cushman, 2006).
3. Freshman first days prior to the start of school (Lindsay, 1997).
4. A freshman wing or area of the school dedicated to ninth graders (Kennelly & Monrad, 2007).
5. A cadre of teachers designated for the ninth grade only (Cotton, 2001).
6. Targeted curriculum for at-risk ninth-grade populations (Bland & Breslin, 2005).
7. Involvement of parents in one or more transition activities (Noll & Watkins, 2004).
8. Special activities, such as assemblies and targeted programs, for ninth graders (Hall, 2006).

A survey of participating schools will be used to determine how many of these practices exist within the school. Each of the eight criteria will be listed and will be accompanied by a description of what the practice should look like and some identifiable examples of each transition activities and/or strategy. The results of this completed principal survey will then be analyzed for each participating school to determine the

existence of a ninth-grade transition program or the absence of one, which will be called a traditional model. The schools will then be categorized accordingly.

Statistical Analysis

The goal of this study is to determine the impact of ninth-grade transition programs upon promotion to tenth grade. However, two other factors – poverty and school size – are also identified as having an impact upon student achievement and, hence, grade promotion. This complex circumstance requires statistical analysis that can evaluate and compare the impact of each of these independent variables upon the dependent variable, promotion to tenth grade.

Regression allows two variables (X and Y) to be related in an effort to make a prediction. One is the independent variable (X), and the other is the dependent variable (Y). Regression can determine the impact of X upon Y. The problem described herein identifies a common dependent variable, promotion to tenth grade. However, three independent variables are established: existence of a ninth-grade transition program, poverty, and school size.

Multiple regression allows for the simultaneous use of two or more independent variables in predicting a dependent variable. This study will employ multiple regression analysis to determine the relative impact of a ninth-grade transition program, of poverty index, and of school size upon promotion to tenth grade. This analysis will produce results that may help determine the relationship of each independent variable to promotion to tenth grade. Analysis of these results may also allow one to infer which of these independent variables has the greatest value in terms of predicting promotion to tenth grade in a given school.

Significance

More than 40% of high poverty students and 27% of low-poverty students fail to be promoted to tenth grade (Editorial projects in Education, 2006). The ninth grade is a critical grade that has implications for sustained success in high school and graduation. Research conducted by Neild (2009), Cauley & Jovanovich (2006), and Cooper & Liou (2007) helps identify common challenges ninth graders face as well as appropriate strategies that can improve a student's probability of future success. Furthermore, research conducted by Burney & Bielke (2008), Rothstein (2004), and Howley (2002) identifies poverty and school size as factors impacting student achievement. These examples provide evidence that much attention has been given to these factors in terms of their impact upon graduation. However, less research exists concerning the impact of such factors on promotion to tenth grade.

Because as many as 30% of high school dropouts were never promoted beyond the ninth grade (Neild, 2009), the importance of successfully completing ninth grade is distinct. Promotion to tenth grade is the initial, necessary step toward graduation. Students cannot attain graduation without completing ninth grade. Therefore, evaluating the impact of ninth-grade transition programs, poverty, and school size on promotion to tenth grade is important.

This study will attempt to focus attention on the critical first step to graduation: completion of ninth grade. This effort will attempt to determine how each of the three circumstances – the presence of a ninth-grade transition program within a given school, the poverty index of a given school, and the size of a given school - will impact students' promotion to tenth grade. The results will add to the body of knowledge surrounding the

importance of the ninth grade and may help to identify strategies schools might choose to employ to minimize ninth-grade retention and to maximize graduation probability.

Positionality of Researcher

The researcher served as a junior high school (grades 7 and 8) and middle school (grades 6, 7, and 8) principal prior to becoming a high school principal. These roles have provided unique insight into the transition to ninth grade from both the middle and high school perspective. Furthermore, the anxieties, struggles, and successes associated with the transition to high school have been observed from both eighth-grade and the ninth-grade perspective. The similarities between middle school philosophy, ninth-grade transition philosophy and their intent to positively impact social and academic development are compelling.

Similar to middle school philosophy, the intent of ninth-grade transition programs is to create a learning atmosphere of support and engagement in which students are supplied with the tools, attitudes, and motivations to have a successful high school career. Succinctly stated, transition programs seek to address both academic and social challenges many ninth graders face upon entering high school. Experience has led the researcher to believe that the existence of comprehensive transition programs as described herein can influence student achievement and promotion to tenth grade.

Limits of the Study

The sample and methodologies used in this study cannot account for every anomaly or unique circumstance. To provide focus for the study, decisions were made by the researcher which may limit the comprehensiveness of the study and its findings.

Delimitations

The sample used in this study is composed of South Carolina high schools that are purposefully chosen based on their poverty indices. Intent was made to select ten schools at the lowest level of poverty index, ten schools in the middle of poverty index, and ten schools at the highest level of poverty index. The poverty index is determined in South Carolina by a combination of free/reduced lunch program participants and Medicaid qualifiers.

The variables chosen for this study include: 1) the existence of a ninth-grade transition program; 2) the poverty index of a selected school; and 3) the size of the school. Each of these will be evaluated statistically to determine impact on promotion to tenth grade. These chosen variables may help address the complexity of issues impacting promotion to tenth grade across the nation.

For the purpose of this study, the existence of a ninth-grade transition program is defined as the presence of five of eight criteria gleaned from current literature. Though all of these eight practices are supported by literature, they do not necessarily address every manifestation of ninth-grade transition practices implemented in every school. Furthermore, the existence of these practices does not qualify the level of implementation.

Limitations

The calculation of promotion rates to tenth grade are based on total number of students enrolled in a defined ninth grade and the number of tenth graders enrolled the following year for each school. Because the sample schools reside in different school districts, promotion criteria may be defined differently for each school. Furthermore, this calculation does not address students who may enter or leave a given school and grade for reasons other than academic promotion.

The presence of ninth-grade transition programs is determined through a survey of principals in sampled schools. However, the strategies present in a respective school may

vary in terms of the richness and quality of their implementation. The possibility of inflation may also be present in terms of principals identifying the presence of a transition program within their respective school incorrectly.

The length of implementation of a transition program may also be important in terms of the richness and quality of their implementation. The principal survey only identifies the existence of a transition program within the timeframe of the current study.

The preceding delimitations and limitations may impact the transferability of the findings and conclusions of this study, and all variables, conditions, and populations not so specified are considered beyond the scope of this study. Nonetheless, it is believed that this effort does contribute to the existing body of knowledge surrounding the impact of the chosen variables upon promotion to tenth grade and may imply avenues through which the problem can be examined in future research.

Definition of Terms

Transition grades – Grades between which a change in school organization, learning environment, and academic and social expectations occur.

Enrollment – The size of a school as calculated by adding each grade cohort.

Ninth-grade transition program – The presence of organizational structure and/or practical strategies designed to positively impact the academic and social success of ninth grade students and to mitigate transition effects.

Poverty index – A numerical value determined by the percentage of students participating in federal free and reduced lunch programs and Medicaid programs.

Tenth grade promotion – Attainment of the necessary academic criteria required for a student to move from ninth to tenth grade.

Targeted transition activities – The variety of strategies implemented to assuage the ninth-grade transition.

Traditional model – The organization of a high school in which no differentiation is made between services provided to each grade.

Organization of Dissertation

Chapter one introduces the problem of low graduation rates in public schools and the importance of this data to the perceptions of public education. Ninth grade is illuminated as a critical year in determining subsequent success in high school, and promotion to tenth grade is established as the initial step toward graduation.

Chapter two presents a review of peer-reviewed literature and relevant research that serves as a foundation for this study. The literature is clustered under the headings “Grade Configurations,” “Transition Grades,” “The Ninth-Grade Transition,” “Promotion to Tenth Grade,” “Ninth-Grade Transition Programs,” “Elements of Transition Programs,” “Other Factors Affecting Social and Academic Success,” and “Criteria of an Effective Transition Program.” These sections are followed by a summary of the findings. The review of literature frames the problem within current research.

Chapter three contains a summary of the methodology used. The design of this study is quantitative and uses inferential statistics, specifically multiple regression, to determine the impact of ninth-grade transition programs, poverty, and school size upon promotion to tenth grade.

Chapter four contains an analysis of the data evaluating the relationship between the presence of a ninth-grade transition program, the poverty index of a school, and the size of a school upon promotion to tenth grade.

Chapter five includes a summary of the findings as well as a discussion and interpretation of the data analysis. The chapter concludes with recommendations for further research surrounding the impact of ninth-grade transition programs.

Summary

Grade transitions are the result of our graded school system. The ninth grade is identified as a critical grade that has implications for sustained success in high school and, ultimately, graduation. Significant research has been conducted to identify common challenges ninth graders face as well as appropriate strategies that can improve a student's probability of future success. This body of research has shown that completing ninth grade – ergo, promotion to tenth grade – is the quintessential first step towards graduation. Ninth-grade transition programs are a common strategy designed to address the overall problem of students not completing high school.

As schools strive to meet accountability standards, strategies, new programs, and new curricula have been developed to assuage circumstances that can impact student achievement. In addition to the ninth-grade transition, poverty and school size are also limiting factors for student achievement and eventual graduation. Studying the impact of each of these factors upon promotion to tenth grade examines the stated problems through a new approach and focuses on the most important step towards graduation.

CHAPTER II

Literature Review

Graduation rate has become a primary measurement of the effectiveness of public schools in this age of accountability. An examination of the literature surrounding this problem will identify the completion of ninth grade and promotion to tenth grade as the essential first step toward graduation. The following literature review is organized with the intent of recognizing the impact of transition grades on students' success and of defining completion of the ninth grade as the gateway to graduation. Specific strategies will be identified and will serve to define the existence of a comprehensive transition program within a given school.

The development of graded schools is the genesis of transition grades. The processes of changing school buildings and merging student populations into larger schools have created unique challenges for students experiencing grade transition. These challenges are manifested in students' academic and social development, both of which are shown to impact the ability to earn promotion to the next grade. These challenges are accentuated in the ninth grade.

The unique academic and social obstacles confronting ninth grade is examined in an effort to highlight common struggles therein. Developing an awareness of these obstacles and identifying common organizational strategies and practices designed to mitigate the ninth-grade transition is necessary to defining criteria that will distinguish the existence of a transition program within any school. Though ninth-grade completion

is a national concern, this effort will focus on South Carolina as the research sample used to analyze the impact of ninth-grade transition programs on promotion to tenth grade.

Other obstacles impacting promotion to tenth grade are also reviewed.

Homelessness, poverty, and school size are identified as additional variables in the promotion equation. Because these circumstances are often beyond the control of schools, transition programs cannot directly address these issues. Therefore, these variables are examined as factors also influencing promotion to tenth grade.

Grade Configurations

Grade span, or grade configuration, is the range of grades a school comprises (Coladarci & Hancock, 2002). A wide variety of organizational patterns are manifested across our nation's school districts. More often than not, grade spans and even school size are not a choice, but are dictated by outside factors. Schools must consider projected enrollments, transportation costs, number of transitions, physical size of school, and overall school goals when deciding upon appropriate grade spans of schools (Howley, 2002). Examining the evolution of grade span configurations may provide some insight into various organizational practices and into the motives behind them.

The Evolution of Grades

The earliest public school organization was the one-room schoolhouse which served all ages simultaneously, usually with one teacher. This was the predominant model of public education from its outset. In these bygone days, the school frequently was the focus of people's lives outside the home and served various functions such as a church and community center (Mays & Sauceman, 1999). School was more than the place where kids learned the "three R's"; it was often the identity of any given

community. This circumstance cemented school and education as a community-driven endeavor. That ideal still exists to a large degree in modern times. Community influence is still evident when examining the differences between schools across the country and is often demonstrated in local school organizational practices.

One-room, ungraded schools merged into larger schools, introducing the graded system in the mid-1800's, and grades one through eight were usually the norm (Dove, Hooper, & Pearson, 2010). The evolution of grade configurations from this one room schoolhouse model has been hastened by several factors including economics, content development, and growing knowledge of the varied instructional and developmental needs of students. By 1900, the predominant configuration was eight years of primary followed by four years of high school; by 1920, 80% of graduates attended schools in this configuration (Augustine, Constant, Juvonen, Kaganoff, & Le, 2004).

Our traditional structure of primary-secondary school is based in 19th Century economics where the goal was to transition students into the workforce (Hough, 1995). Dove, et al. (2010), contend that the change from an agricultural society to an industrial society hastened the need for more education in order to secure better employment. The goals of education were keeping pace with economic changes, and these circumstances became the primary catalysts for changes in grade spans. The first junior high opened in 1909 and was initially a mechanism to reduce the time spent in elementary schools (Association of Supervision and Curriculum Development [ASCD], 1961). In 1946, thirty-seven years after the first junior high opened, the 6-3-3 grade configuration replaced the 8-4 pattern as the most common grade configuration (Lounsbury, 2009).

The junior high was the first step toward today's middle schools, but Weller (1999) states that existing human development research had minimal impact on junior high implementation because little was known about early adolescent development at the time. Growing dissatisfaction with the junior high, coupled with growing research into the developmental needs of young adolescents, began to erode confidence in the 6-3-3 model. By 1983, the 5-3-4 configuration featuring grades six through eight became a predominant pattern (Lounsbury, 2009). Though this brief historical look at grade configurations provides an intriguing overview of the evolution of grade configuration patterns, it is by no means exhaustive in terms of determining grade span effects on student achievement or social development. There is no single grade configuration that is unanimously accepted as the standard for efficacy of today's schools.

Renchler (2000) states that factors such as geographic location, student populations, and limited financial resources may well dictate the grade configuration within a given school system. Therefore, grade configurations within individual schools are not always an educational choice based on research and philosophy, but a reflection of prevailing realities that must be addressed by each local school district and community.

Transition Grades

While understanding how grade spans have evolved and how they are determined is worthwhile, one important effect of grade spans is the creation of transition grades. Schiller (1999) defines academic transition as a time “during which institutional and social factors influence which students’ educational careers are positively or negatively affected by this movement between organizations” (pp. 216-217). Such a definition

highlights the complexity of transitions as multiple organizations and constituencies interact (Smith, Agos, Lim & Wiley, 2008). The American public school system is typified by a series of transitions, and students who do not navigate them successfully can endure personal and academic confusion and often fall off pace for promotion and eventual graduation (Lee, Cornell, Gregory, & Fan, 2011). Anderson, Jacobs, Schramm, and Splittgerber (2000) posit there are developmental and systemic transitions experienced by students as they move through public education. Developmental transitions are those related to the aging process (e.g. puberty), and systemic transitions are imposed by school structure (e.g. grade span).

Developmental transitions mirror the aging process. Physical maturation and cognitive development are the two primary influences in developmental transitions. There are typically four major systemic transitions students experience: home to school, elementary school to middle school, middle school to high school, and high school to college or workforce (Anderson, et. al, 2000). Inherently, these transition events include changes in the environment and circumstance in which students find themselves and require adaptation (Reyes, Gillock, Kobus & Sanchez, 2000). Though common challenges exist in each developmental and systemic transition, this effort will focus on the transition from middle school to high school and its impact on students' social and academic growth and successful promotion to tenth grade.

The Ninth Grade Transition

Each grade transition students experience brings new levels of concern regarding academic preparation and social adjustment. Schiller (1999), states that the transition to high school can be a critical turning point in teenagers' social and academic lives. The

developmental and academic challenges facing ninth grade students include advances in cognition as well as physical and social challenges. Changes in the school environment exacerbate these concerns (Cauley and Jovanovich, 2006). In particular, the transition to ninth grade requires freshmen to “negotiate new physical settings while they integrate themselves into new social systems and take greater responsibility for their social and academic lives” (Schiller, 1999, p. 217).

The large, bureaucratic organization of most high schools often does not support incoming ninth graders possessing weak social and academic preparation, and academic failure during this transition is linked to the probability of dropping out (Letgers and Kerr, 2000). Some groups of students are more susceptible to the transition. Low-income and minority students often show greater declines in academic motivation and performance upon entering the ninth grade (Newman, Myers, Newman, Lohman & Smith, 2002). This transition, more than any other, exacerbates academic and social problems for ninth grade students.

Academic responsibility. Increases in the amount, variety, and depth of content associated with each subsequent grade in school correlate with increases in academic responsibilities and pressures. This circumstance is highlighted when students enter high school. The work of Hertzog and Morgan (1996) reveals that the transition from eighth to ninth grade often leads to low self-perception, academic failure, and dropout. Fulk (2003), states that many students must earn passing grades in all core courses for the first time in high school. Core courses in high school are typically the most rigorous and challenging classes taken in high school (Smith, Akos, Lim, & Wiley, 2008). This reality presents new academic challenges for which ninth graders can be unprepared.

The intensified rigor of high school core curriculum is echoed by Fritzer & Herbst (1996), who uncovered that the lowest grade point average (GPA), the most absences, the most failing grades, and the most discipline referrals belong to the ninth grade. Cooper & Liou (2007) reiterate that students who fail to make a smooth transition to high school dropout as early as the end of ninth grade. The increased rigor and personal responsibility associated with high school academics underscore social concerns also associated with ninth grade.

Social concerns. In addition to academic issues, social anxieties of students during the high school transition are also apparent. Ninth-grade students often complain of tedium, confusing schedules, overly-challenging workloads, and uncaring, inhospitable, and indifferent teachers (Mizelle & Irvin, 2000). Patterson, Beltyukova, Berman & Francis (2006) identified the socialization function of high school as critical, citing negative interactions with teachers, administrators, and peers as deciding factors for leaving school. Simpler problems, such as getting lost and being bullied by older students, are also concerns for ninth graders (Akos & Galassi, 2004). When given opportunity to discuss the transition first hand, students often cite social reasons rather than academic issues as the genesis of their discontent. Cushman (2003) found that students preferred to talk about teacher-student relationships - specifically respect, trust, and fairness - versus curriculum and assessments. In short, students seem most concerned with the quality of their interactions with others in school over the academic demands of school. That being said, the impact of transitions on academic success cannot be overlooked.

The dichotomy of the high school transition – academic and social – presents a unique circumstance for ninth-grade students. The perception of high school by many eighth graders has often been developed through preconceived ideas of what high school is like. Student perception can be influenced through anecdotal information passed down through peers, much of which does not accurately depict academic and social aspects of high school life. These phenomena result in ninth graders often feeling marginalized in high school. As a result, nearly one third of all dropouts are lost in ninth grade (Editorial Projects in Education, 2007).

Promotion to Tenth Grade

With only 74.1% of high school students graduating with a diploma within four years (NCES, 2010), research has been conducted to find the reasons why students are not completing high school. The growing academic and social pressures associated with entry into high school converge on ninth-grade students. Current research reveals an increased dropout rate when students are retained during their freshman years (Bowman 2005; Jimerson, Anderson & Whipple 2002). Hertzog and Morgan (1998) described the ninth grade as a “holding tank” for high schools. A 2006 report issued by Editorial Projects in Education showed that more than 40% of high poverty students and 27% of low-poverty students fail to be promoted to tenth grade.

This circumstance causes ninth-grade cohorts to be larger than subsequent classes and reflects higher retention rates in ninth grade. Neild (2009), suggests that as many as 30% of high school dropouts were never promoted beyond the ninth grade. Freshmen, more than any other high school class, are at increased risk for high school dropout. In a study of 450 Mid-Western high schools, Hertzog and Morgan (1998) found that being

retained in the ninth grade causes as many as 25% of ninth graders not to graduate.

Promotion to tenth grade becomes a conspicuous event in the path to graduation.

South Carolina

Though poor graduation rates are clearly a national problem, mining the data reveals that student performance varies greatly state-by-state. South Carolina typically appears near the bottom of many national educational rankings. For example, SAT scores in South Carolina rank forty-eighth out of fifty (NCES, 2010). Though this measure does not give a complete picture of education in the state, it is indicative of generally lower achievement by the population of students. A closer look at promotion to tenth grade in South Carolina provides a context for examining the influence the ninth grade has on student success.

A study by Thomas West (2009) examining ninth-grade retention across six states, showed an overall graduation rate of 72.8% in South Carolina, indicating that nearly three of ten students do not graduate on time in the state. Providing further relevance to the completion of ninth grade as a crucial step toward graduating, West (2009) also discovered that 27.6% of the ninth-grade population in South Carolina is retained in the grade. The ninth-grade retention rate in South Carolina, when paired with the state's low graduation rate, confirms evidence that promotion to tenth grade is an important factor in building high school graduates. These data support the utilization of South Carolina high schools as a viable subject for examining the impact of transition programs on promotion to tenth grade.

Ninth Grade Transition Programs

Ninth grade has been established as a seminal year in the lives of students and a predictor of potential graduation. The research reflects the importance of the ninth grade to high school completion and graduation. In order for a student to progress through high school towards graduation, he must first navigate the ninth grade successfully. When the struggles of ninth graders are quantified in terms of successful promotion to tenth grade, the question of appropriate interventions for this at-risk grade is highlighted.

The necessity of facilitating a successful transition from middle school to high school and completion of ninth grade is evident. Creating the perfect school environment that ensures academic and social success for every student is foremost in every administrator's mind and heart (McIntosh & White, 2006). Recent research by Kenelly and Monrad (2007) suggests that high schools with fully operational transition programs have an average dropout rate of 8%, while schools without these programs have dropout rates of 24%. High schools with minimal or no transition programs (two or fewer transition practices for eighth/ninth graders) reported a retention rate in ninth grade as high as 40%; however, the degree of implementation of a ninth-grade transition program can affect a decrease in student retention and dropout rates (Hertzog and Morgan, 1996).

Ninth Grade Concerns

As students move into high school, much of their anxiety is centered on academic, procedural, and social concerns (Cauley & Jovanovich, 2006). Potter, Schliskey, Stevenson & Drawdy (2001) address each set of concerns accordingly:

- Academic concerns include more assignments and distractions, teacher expectations, amount of homework, taking tests, and earning good grades.

- Procedural concerns include locating classes, having enough time to get to classes or eat lunch, and finding and opening their lockers.
- Social concerns include making new friends, getting along with older students, liking their teachers, and dressing for PE.

Though the problems of transition can be complex, solutions to ease the transition can be simple and affordable (McCallumore & Sparapani, 2010). In turn, a plethora of initiatives designed to address academic and social issues for ninth graders have evolved, and ninth-grade transition programs have become commonplace in many high schools. Ninth-grade transition programs are purposeful efforts designed to directly impact promotion to tenth grade and graduation itself.

Elements of Effective Transition Programs

Two primary models of ninth-grade transition programs exist in our schools: a school within a school, where ninth graders are housed on a unique campus or in a common area of the larger school, or, some combination of unique programs, courses, and strategies targeting specific ninth-grade populations and cohorts (Hall, 2006). A third, which can be referred to as the traditional model, offers no distinctions between the ninth and other grades. No clear criteria exist which define the existence of a ninth-grade transition within a school; however, an examination of the various organizations thereof can help to identify a set of specific strategies and practices that will identify the presence of a transition program for the purposes of this research effort.

Schools-within-schools. Some ninth-grade transition initiatives are comprehensive by design. Hetrtzog and Morgan (1999) suggested creating a “ninth-grade house” that can assist students in making the transition into high school. Many

schools have begun to provide a wing within the high school or a separate facility just for ninth graders, allowing for a full year of transition time prior to blending with upper grades (Kennelly & Monrad, 2007). Such comprehensive programs intend to create a small learning community of ninth graders. These organizations can also be called a school-within-a-school, a cluster, or an academy (McIntosh & White, 2006). The goal underpinning such efforts is to create an environment responsive to the needs of ninth graders that sustains collegiality among teachers and personalized teacher-student relationships (Cotton, 2001).

The impact of such a comprehensive transition program was studied by McIntosh and White in 2006. They studied the impact of the “Freshman Wing” at Findlay High School in Findlay, Ohio, by examining academic performance among six cohorts of freshman classes. The study showed a steady decrease in the number of freshmen failing one or more classes after the implementation of the comprehensive program. In 2003, the year prior to implementation, 29% of ninth grade students failed one or more courses. Over the next five years, the percentage declined annually to 20.3% failing one or more courses by 2008.

Targeted transition activities. Transition programs can include simple activities such as providing rising ninth graders with bell schedules and maps or providing samples of ninth grade academic work to address the rigor of high school classes (Morgan & Hertzog, 2001). Other solutions can include, but are not limited to, meet the teacher nights, rising ninth-grade orientations, or the use of student mentors (Cushman, 2006). Though such initiatives are not comprehensive, they do have potential to alleviate some of the simple anxiety of starting high school.

Lindsay (1997) examined the transition activity of Worthington Kilbourne High School in Columbus, Ohio. The “Freshman-Only First Day of School” allowed incoming ninth graders the opportunity to have the entire school to themselves for one day prior to all students returning. Students began the day in the auditorium and were presented the opportunity to meet faculty, administration, and student council officers. Welcome banners directed students to their homerooms where they received their student handbooks and their schedules. Freshman then followed their schedules and had the opportunity to find their classrooms and meet their teachers. A cookout lunch gave opportunity to socialize with classmates and staff.

The Manchester High School Success program in Chesterfield, Virginia, provides another example of a ninth-grade transition. After identifying at-risk populations, these students were scheduled into special classes that focused on relevant topics such as study skills, organization, self-discipline, and tolerance. The program bridged the sophomore year, where a second study-skills class was scheduled which also had a community service element. Many of these students became ninth-grade mentors in their junior and senior years. According to Bland and Breslin (2005), the Manchester High School Success Program reduced failure rates of ninth graders from 10.3% to 2.7% and increased their performance on the state’s Standards of Learning assessments.

Traditional Model. While some schools actively seek ways to mitigate the social and academic concerns associated with the transition to high school, comprehensive programs and targeted strategies are not a part of every school’s makeup. Such an organization is a traditional model. A school’s grade configuration and resulting transition grades are not always a choice but are often determined by other

factors (Howley, 2002). Perhaps it is a choice not to create a ninth-grade transition program, and there are some negatives associated with such efforts.

Success of ninth-grade transition programs in all forms has been established; however, with every positive, some negatives exist (McCallumore & Sparapani, 2010). Sarasota County Schools have eliminated freshman academies. They have found that their students experience a second transition from ninth grade to the upper tenth through twelfth grade school (Scott, 2006). McIntosh and White (2008) reported that faculty rivalries often develop between ninth-grade teachers whose commitment is to the ninth-grade academy rather than the school as a whole.

It is also clear that some transition programs simply house ninth grade in a separate wing and do not implement real strategies to alleviate transition concerns (White, 2008). In other words, these programs exist in name only and exhibit a lack focus and commitment to the mission of improving ninth graders' movement through high school. If freshman academies are merely the result of the desire to reduce overcrowding or to create more space in the high school building, they lack focus and have minimum chance of success (Chmelynski, 2004).

Other Factors Impacting Social and Academic Success

Ninth-grade transition programs intend to diminish the social and academic concerns of ninth-grade students. These programs are designed with specific strategies and interventions targeting those concerns. However, there are other factors impacting students' social and academic success that schools cannot directly control. Among these factors are homelessness, poverty, and school size.

Homelessness

Homelessness can be caused by lack of affordable housing, domestic violence, low wages, and even natural disasters (Walker-Dalhouse & Plisko, 2008). The National Center on Family Homelessness 2010 report *America's Youngest Outcasts* tells us that 1.6 million children – 1 in 45 – are homeless. This number represents a 38% increase during the recent recession between 2007 and 2008. The impact of this circumstance is very real to our public schools. While some homeless children can be successful, many face challenges that can directly impact social and academic success. These risks include emotional, physical, social and behavioral problems (Books, 2004) and can impact attendance and performance. The mobility and absenteeism of homeless children often limit teacher and school connections (Noll & Watkins, 2004). Homelessness is often associated with poverty in terms of impact on student achievement.

Poverty

Schools often use the term *socio-economic status* (SES) to refer to one's relative standing related to income, level of education, employment, health, or access to resources (Burney & Beilke, 2008). Schools determine SES through participation in the Free and Reduced Lunch Program, which is determined through a student's family income as compared to federal poverty income guidelines. However, income alone is not sufficient in determining access to resources. Rothstein (2004) reports that the length of time a family has been in poverty, other family assets such as home ownership or college accounts, and the poverty level of a child prior to age five also influence school preparation, achievement, and performance.

Race and poverty are frequently linked (Burney & Beilke, 2008). For some time in scholarly research and public policy, poverty has been described as a mostly urban and black problem (Cotter, 2002). Although a larger number of minorities may live in poverty, the growing diversity of our public schools and the increase in poverty indices are forcing a change in educators' perceptions of the issue.

The existence of a ninth-grade transition program cannot always overcome the obstacles associated with homelessness or poverty, yet many strategies and practices of effective ninth-grade transition programs described herein are intended to assuage the disconnectedness associated with homelessness and the lack of access to resources associated with poverty.

School Size

Homelessness and poverty are not under the control of schools; however, school size can be controlled to some degree. Howley (2002) showed that school size is often a product of economics, community sentiment, and existing facilities. It has also been established that many ninth-grade academies are implemented as a control for school size. Research has shown that the number of schools with larger enrollments increased between 1988 and 1993 (McEwin, Dickson & Jenkins, 1996). Some benefits associated with larger schools include greater diversity of curriculum and programmatic offerings. While research on the connection between school size and student achievement is not exhaustive, evidence is growing that supports smaller schools as well as a variety of strategies used to create smaller more personalized learning communities (Mertens, Flowers & Mulhall, 2001). This evidence has also been a catalyst for the growth of ninth-grade transition programs.

Criteria of an Effective Transition Program

The variety of strategies, practices, and organizations associated with ninth-grade transition programs exemplify its complexity. The school-within-a-school model in and of itself is not a sufficient solution for the complexities of ninth grade (Chmelynski, 2004; Scott, 2006; White, 2008). Likewise, isolated transition activities lacking cohesion and purpose do not produce results. However, the research examined does provide some common examples of practices and strategies that have been implemented with success. This circumstance also underscores the need to identify elements of transition programs most likely to impact promotion to tenth grade.

The most effective transition programs are comprehensive and should span the spring and summer prior to entry into the new school and continue during the fall (Rice, 2001). Cauley & Jovanovich (2006) state that effective transition programs address the academic and procedural concerns of students, as well as, social concerns. Given the literature cited herein, successful transition programs should include strategies that address academic and social concerns of ninth graders and should begin prior to ninth grade.

The following transition practices are identified within current literature as common to successful programs:

1. Organized visits to the receiving high school by eighth graders (Cauley & Jovanovich, 2006).
2. Meet the teacher nights prior to the start of ninth grade (Cushman, 2006).
3. Freshman first days prior to the start of school (Lindsay, 1997).

4. A freshman wing or area of the school dedicated to ninth graders.
(Kennelly & Monrad, 2007).
5. A cadre of teachers designated for the ninth grade only (Cotton, 2001).
6. Targeted curriculum for at-risk ninth-grade populations (Bland & Breslin, 2005).
7. Involvement of parents in one or more transition activities (Noll & Watkins, 2004).
8. Special activities for ninth graders, such as assemblies and targeted programs (Hall, 2006).

These eight practices exemplify ninth-grade transition activities that are most common within current literature. None of these strategies are proven to be successful in isolation, and no single practice in and of itself defines the existence of a comprehensive ninth-grade transition program. For the purposes of this study, it is reasonable to identify the existence of a comprehensive transition program when no less than five of the eight practices are implemented. Additionally, the practice of targeted curriculum for at-risk students will be deemed necessary for a school to be identified as having a transition program. This practice is founded in instruction and ensures that there is an academic and curricular element to transition programs in this study.

Summary

The review of literature cited herein has established how grade transitions have evolved. The evolution of grade spans has created an ever-changing set of transition grades throughout our educational system. The break between elementary and secondary education is a product of changing economics. The genesis of the ninth-grade

transition is a consequence of the emergence of the four-year high schools and growing awareness of the struggles this age group faces.

The concerns associated with the transition to ninth grade are shown to be academic and social. The growing awareness of these concerns has catalyzed the development of comprehensive transition programs to minimize ninth-grade transition issues. Additionally, the implementation of targeted strategies and programs are designed to deliver the same result. Schools-within-schools, small learning communities, special curricula, Freshman First Days, and special programs are the result of educators attempting to meet the varying needs of students during the crucial time.

Declining graduation rates are of grave concern to educators, and the impact goes far beyond the ratings and evaluations of our educational system. The importance of completing the ninth grade as the first step towards graduation is also evident. Promotion to tenth grade is the obvious first step en route to graduation. Though low graduation rates are a national problem, the state of South Carolina's struggle with graduation rate and ninth graders' promotion to tenth grade is highlighted as a sample worthy of further investigation.

Other factors impacting the academic and social achievement of students include homelessness, poverty, and school size. These factors are also changing as economic and social forces shape our schools' demographics over time. This evidence further illustrates the reasons educators must endeavor to continually meet the needs of our students with directed strategies designed to maximize the social and academic achievement levels of our students.

Finally, eight criteria of ninth-grade transition programs have been identified in literature as sufficient conditions that can positively impact student success. These strategies address identified academic and social concerns associated with ninth grade. Ninth-grade transition programs share the same goals, but the complexity of obstacles mandates a comprehensive approach if the goals are to be met. The variety of organization within successful transition programs underscores the lack of a prototype. This study will identify the existence of a ninth-grade transition program when no fewer than five of the eight aforementioned strategies are in place in a given school, with one of the necessary strategies being targeted curriculum for at-risk students.

CHAPTER III

Research Methodology

The goal of this study is to determine the impact of ninth-grade transition programs, poverty, and school size upon promotion to tenth grade. Studies by Hall (2006), Lindsay (2007), and Hertzog & Morgan (1996) demonstrated the impact ninth-grade transition programs may have. Furthermore, research conducted by Walker-Dalhouse & Plisko (2008), Bierney & Belke (2008), and Mertens, Flowers & Mulhall (2001) provided evidence of the influences of poverty and school size on student achievement. Therefore, the research questions addressed by this study are:

1. Does the existence of a comprehensive ninth-grade transition program impact students' promotion to tenth grade?
2. Does the poverty index of a school impact students' promotion to tenth grade?
3. Does school size (as measured by enrollment) impact promotion to tenth grade?

This complex circumstance requires statistical analysis that can evaluate and compare the impact of each of these independent variables upon the dependent variable, promotion to tenth grade. Below is the variables grid for this study.

Table 3.1

Summary Table of Methodology

Sample	Research Questions	Independent Variables	Data Source	Dependent Variable (source)	Statistic
Set 1: Ten (10) SC high schools with low poverty indices	Does the existence of a ninth-grade transition program impact students' promotion to tenth grade?	Presence of ninth-grade transition program	Principal Survey	Promotion to Tenth Grade (SC Department of Education)	Multiple Regression
Set 2: Ten (10) SC high schools with middle poverty indices	Does the poverty index of a school impact students' promotion to tenth grade?	Poverty index	SC Department of Education		
Set 2: Ten (10) SC high schools with high poverty indices	Does the enrollment of a school impact students' promotion to tenth grade?	Enrollment	SC Department of Education		

Methodology

It is important to clearly define and identify the data to be used in the study. The researcher will purposefully select sample schools for the study to reflect various poverty levels. The three dependent variables, the presence of a transition program, poverty index, and school size, demand unique processes. The researcher has defined criteria through literature that will determine the existence of a ninth-grade transition program within a school or identify a school as a traditional model in its absence. Poverty indices of sample schools are a matter of public record as are school enrollment data. Specific calculations using the available enrollment data will be used to determine school size. Enrollment data will also be used to calculate tenth-grade promotion rates for each sample school.

Sampling Method

The schools included in this study will be purposefully selected and categorized according to poverty indices. Though the problem described herein has implications for schools across our nation, high schools from the state of South Carolina will supply this endeavor with a representative sample from which one may infer to the broader population.

According to the U. S. Census Bureau (2009), the state of South Carolina ranks tenth in the percentage of families living in poverty as determined by family incomes during the previous twelve months, and the report indicates a 12.9% family poverty rate for the state. When considering the complexity of factors impacting ninth-grade success, these data position South Carolina as a state in which programs designed to minimize the negative effects of the ninth-grade transition have the potential to produce relevant, measurable data. These data may be indicative of how ninth-grade transition programs impact ninth-grade success beyond the state's borders.

Presence of Transition Program

A fundamental piece of data – the existence of a comprehensive ninth-grade transition program – will be defined by the researcher. The definition of the existence of a ninth-grade transition program will be established by surveying the identified schools for the presence and/or practice of no fewer than five of eight transition practices gleaned from literature. The following transition practices are identified within current literature as common to successful programs:

1. Organized visits to the receiving high school by eighth graders (Cauley & Jovanovich, 2006).

2. Meet the teacher nights prior to the start of ninth grade (Cushman, 2006).
3. Freshman first days prior to the start of school (Lindsay, 1997).
4. A freshman wing or area of the school dedicated to ninth graders.
(Kennelly & Monrad, 2007).
5. A cadre of teachers designated for the ninth grade only (Cotton, 2001).
6. Targeted curriculum for at-risk ninth-grade populations (Bland & Breslin, 2005).
7. Involvement of parents in one or more transition activities (Noll & Watkins, 2004).
8. Special activities for ninth graders, such as assemblies and targeted programs (Hall, 2006).

These eight practices exemplify ninth-grade transition activities that are most common within current literature. None of these strategies are proven to be successful in isolation, and no single practice in and of itself defines the existence of a comprehensive ninth-grade transition program. For the purposes of this study, it is reasonable to assume the existence of a comprehensive transition program when no fewer than five of the eight practices are implemented. Additionally, practice number six, targeted curriculum for at-risk populations, must be present.

The researcher will use a web-based survey to determine if a comprehensive transition is present. The survey will be sent to the principal of each sample school accompanied by an invitation to participate letter and email. The survey will list each of the eight aforementioned transition practices accompanied by a description of answer criteria to determine a YES or NO response. Based on individual school responses, a

school will be designated as having a comprehensive transition program or as a traditional model school.

Poverty Index

The South Carolina Department of Education maintains a listing of all high schools in the state according to poverty index (SCDOE, 2011). The index is based on free and reduced-price lunch data and Medicaid eligibility data. The poverty index is used to identify "schools like us" and "districts like us" for the accountability report cards. Schools and districts within 5% (above or below) of a given school's or district's poverty index are considered to be like that school or district. In an effort to designate schools across the poverty index margins, the sample will include the ten schools with the lowest poverty index, ten schools in the middle of the poverty index range, and the ten schools with the highest poverty index. The intent of this purposeful sample is to identify schools within low, medium, and high poverty indices that exist within the state. Once identified, these thirty schools will then be surveyed using the aforementioned criteria to determine the existence of a ninth-grade transition program.

School Size

The South Carolina Department of Education also supplies a listing of all high school enrollments by grade (SCDOE, 2009, 2010, 2011). Once the sample described above is identified, these enrollment data will serve a dual purpose: to determine tenth-grade promotion rate and overall size of the sample school.

These enrollment data reports will be used to calculate the tenth-grade promotion rate for each sample school. This calculation will be accomplished by comparing ninth-grade enrollment with the subsequent year's tenth-grade enrollment. The difference in

the size of these respective cohorts of students will show how many students within the ninth-grade cohort earned promotion to tenth grade. An average promotion rate value will be calculated by averaging individual promotion rates for the three-year data sample then averaging the rate for each sample school.

These same enrollment data will establish overall school size for each sample school. This will be accomplished by simply adding each grade cohort enrollment to determine overall size of the school.

Statistical Analysis

Regression allows two variables (X and Y) to be related in an effort to make a prediction. One is the independent variable (X), and the other is the dependent variable (Y). Regression can determine the impact of X upon Y. The problem described herein identifies a common dependent variable which is promotion to tenth grade. However, three independent variables are established in literature: existence of a ninth-grade transition program, poverty, and school size. Existence of a ninth-grade academy is a categorical variable while poverty index and school size are continuous variables, also known as a covariates. The researcher will conduct a General Linear Model (GLM) to examine the relationship between the variables under study.

Multiple regression allows for the simultaneous use of two or more independent variables in predicting a dependent variable. Essentially, multiple regression employs two or more simultaneous GLMs which can allow comparisons to be made between variables. This description is a suitable term for the analysis procedure. Though these data will be analyzed simultaneously, which by definition is multiple regression, a more appropriate

term might be Analysis of Covariance (ANCOVA) if poverty and school size are considered to be true covariates.

The data will be input using IBM SPSS Statistics (SPSS) software using the GLM protocol. In the SPSS procedure, continuous variables are considered covariates. In this study, poverty and school size are continuous variables (covariate) while the existence of a ninth-grade transition program is a categorical variable. By default, SPSS will not include covariates in interaction terms.

The output of the syntax will be organized into a Tests of Between-Subjects Effects table. The P-values for each factor in the model will be derived. P-values above 0.05 would not be considered to have a significant effect on average promotion rate. The Partial Eta squared for each variable will also be derived. This value is used as a measure of effect size, or how large the effect of a single independent variable is upon the dependent variable. It is called partial because the effect is measured in absence of any other independent variable. The Partial Eta squared value can be easily converted into a percentage to allow for more simple interpretations to be made.

It may be necessary to determine if any correlations exist between the continuous variables of poverty and transition. If a correlation is present, the possibility exists that the effects of these variables may be masked in some ways by one another. If this circumstance is confirmed, subsequent regression models may be run with each excluding one of the covariates to remove any potential masking effect.

Such statistical analysis will produce results that will determine the relationship of each independent variable to promotion to tenth grade. Disciplined scrutiny of these

results will then allow one to infer which of these independent variables may have the greatest value in terms of predicting promotion to tenth grade and, possibly, if the existence of a ninth-grade transition program has the ability to assuage the influence of poverty or school size.

A visual representation of the study is given in Figure 3.1. This diagram provides a framework of the design of the study beginning with the research questions to the dependent variable.

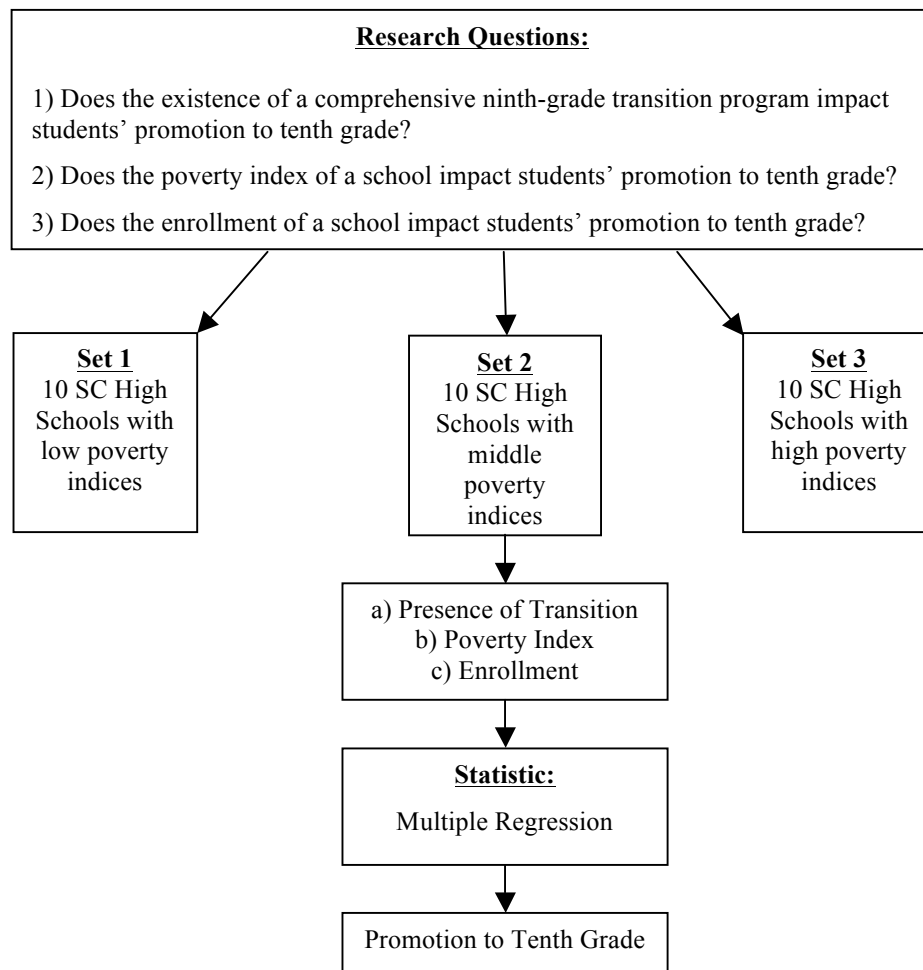


Figure 3.1 Design Framework

CHAPTER IV

Results of Study

This chapter reports the findings of the methodology outlined in Chapter III. As the data were analyzed, however, some new discoveries were made. The discovery of the high negative correlation between the two continuous variables poverty and enrollment caused the researcher to extend the regression process beyond the initial model including all variables simultaneously. The decision was made to run additional regression models that excluded one of the highly correlated variables. This effort was made to remove any possibility that the correlation between poverty and enrollment affected the output. These findings are discussed in detail within this chapter.

Research Questions

The research questions addressed by this study are:

1. Does the existence of a comprehensive ninth-grade transition program impact students' promotion to tenth grade?
2. Does the poverty index of a school impact students' promotion to tenth grade?
3. Does school size (as measured by enrollment) impact promotion to tenth grade?

The Sample

Thirty South Carolina high schools were purposefully selected based on the poverty index assigned by the South Carolina Department of Education. Thirty were

chosen in an effort to gain a cross-section of poverty indices within the state, and to manage the sample efficiently. The sample is statistically large enough to provide relevant data. These high schools are organized into three sets: Set One consists of ten high schools with high poverty indices ranging between 95.3% and 98.24%; Set Two consists of ten high schools with median poverty indices ranging between 66.67% and 69.59%; and Set Three consists of ten high schools at the lowest poverty indices ranging between 19.85% and 40.68%.

Eight common practices of ninth-grade transition programs were identified through literature in Chapter Two. These practices are:

1. Organized visits to the receiving high school by eighth graders (Cauley & Jovanovich, 2006).
2. Meet the teacher nights prior to the start of ninth grade (Cushman, 2006).
3. Freshman first days prior to the start of school (Lindsay, 1997).
4. A freshman wing or area of the school dedicated to ninth graders.
(Kennelly & Monrad, 2007).
5. A cadre of teachers designated for the ninth grade only (Cotton, 2001).
6. Targeted curriculum for at-risk ninth-grade populations (Bland & Breslin, 2005).
7. Involvement of parents in one or more transition activities (Noll & Watkins, 2004).
8. Special activities for ninth graders, such as assemblies and targeted programs (Hall, 2006).

For the purposes of this study, the existence of no fewer than five of the eight practices must be present to determine the presence of a ninth-grade transition program.

Additionally, one of the five practices in place must be practice number six, targeted curriculum for at-risk ninth-grade populations (Bland & Breslin, 2005).

Principals at each high school were surveyed using a web-based survey. The survey listed each of the eight practices, a short list of examples of the practice and a yes/no response. Individual surveys were collected electronically, and each school was appropriately coded as either having or not having a transition program.

Enrollment for each school was calculated using the South Carolina Department of Education's School Enrollment by Grade Reports for 2009, 2010, and 2011. Grades nine through twelve were added together for each year; then each year was averaged to provide a three-year average enrollment for each school within each set.

The promotion rate was calculated using the same data included in the South Carolina Department of Education Enrollment By Grade Reports for the years 2009, 2010, and 2011. The ninth-grade enrollments from 2009 and 2010 were compared with the tenth-grade enrollments from 2010 and 2011 respectively. The promotion rate was calculated by dividing the tenth grade enrollment by the prior year ninth-grade enrollment, providing a promotion rate for each year 2009 to 2010 and 2010 to 2011. The average promotion rate for the period 2009-2011 was then calculated by averaging the promotion rates for each school.

Table 4.1 represents the collective data of poverty index, presence of transition, enrollment, and promotion rate for each set of schools studied. Sample schools are

numbered one through thirty, listed from lowest poverty to highest poverty within each set.

Table 4.1

Data Set for Sample Schools

High School	Poverty index	Transition	Transition Practices Present	Enrollment	10 th Grade Promotion
<i>Set 1 – High Poverty</i>					
1	95.30	Yes	6/8	383	89.50
2	95.57	Yes	8/8	577	61.15
3	95.70	Yes	8/8	726	66.30
4	95.71	No	4/8	152	65.40
5	95.76	Yes	7/8	419	94.30
6	96.68	No	7/8	252	77.70
7	96.73	Yes	6/8	364	87.80
8	96.74	No	7/8	730	102.6
9	98.24	No	6/8	421	80.85
10	99.50	No	3/8	423	89.20
<i>Set 2 – Medium Poverty</i>					
11	66.67	Yes	5/8	809	98.78
12	66.87	No	4/8	634	87.65
13	67.75	No	2/8	604	89.60
14	68.15	No	4/8	461	77.10
15	68.28	Yes	8/8	530	76.30
16	68.60	No	1/8	552	88.95
17	69.36	Yes	7/8	1823	81.60
18	69.43	Yes	6/8	1229	93.05
19	69.58	No	0/8	382	79.05
20	69.59	Yes	6/8	430	96.03
<i>Set 3 – Low Poverty</i>					
21	19.85	Yes	7/8	1514	99.35
22	21.96	No	4/8	1299	97.60
23	28.55	No	3/8	2866	92.60
24	28.62	Yes	6/8	3318	95.40
25	32.43	Yes	5/8	1462	97.25
26	34.92	No	5/8	659	98.45
27	36.38	Yes	6/8	2014	92.70

Table 4.1 (Continued)

Data Set for Sample Schools

High School	Poverty index	Transition	Transition Practices Present	Enrollment	10 th Grade Promotion
<i>Set 3 – High Poverty</i>					
28	38.73	Yes	8/8	1584	85.45
29	40.15	Yes	7/8	1836	90.40
30	41.68	Yes	6/8	1149	83.80

These data were input into SPSS Statistics (SPSS) software to generate a set of combined descriptive statistics for all schools. These descriptive statistics include the frequencies of the presence of transition within the full sample as shown in Table 4.1. Additionally, the means and standard deviations of the three dependent variables for the schools regarding the presence of a transition program have been generated and are reported in Table 4.2.

Table 4.2

Frequencies of the Presence of Transition Programs

Transition	Frequency	Percent
No	13	43.3
Yes	17	56.7
Total	30	100.0

Table 4.3

Descriptive Statistics by Presence of Transition Program

Presence of Transition		10th Grade Promotion	Enrollment	Poverty
No	M	86.6731	725.8205	70.2500
	N	13	13	13
	SD	10.34691	700.7254	27.4344
Yes	M	87.5976	1186.3333	62.3665
	N	17	17	17
	SD	11.0006	792.0695	27.1533
Total	M	87.1970	986.7778	65.7827
	N	30	30	30
	SD	10.5491	776.6516	27.0927

Note: M = mean; N = sample size; SD = standard deviation.

Correlation of Variables

As noted in Chapter III, the presence of a transition program is a categorical variable while poverty index and enrollment are continuous variables, or covariates. To determine if these two continuous variables impact each other, a Pearson correlation test was run between the two covariates, poverty index and enrollment. If a significant correlation is determined, it is possible that the interaction between the two continuous variables could mask the impact of one another in a multiple regression model testing all factors simultaneously. The correlation test of poverty index and enrollment resulted in a Pearson Correlation (P-value) of $-.729$. This P-value indicates that the two continuous variables of poverty index and enrollment are significantly correlated as the P-value of $-.729$ is closer to the -1 endpoint of correlation value where the correlation value range is $-1 \dots +1$. The negative value of the P-value indicates that these two continuous variables inversely interact with one another. Within the sample, as poverty increases, enrollment

decreases. This correlation signals the likelihood that the interaction of poverty and enrollment within a multiple regression model including all independent variables may affect the significance measure.

In Table 4.3, high schools are organized into three sets – High, Medium, and Low – based on the poverty index as assigned by the South Carolina Department of Education. Table 4.3 displays the descriptive statistics of the population organized by the presence of transition. Descriptive statistics for the population organized by poverty set are in Table 4.4. These descriptive data by poverty set exclude the transition program variable. These data highlight the negative interaction of poverty and enrollment not apparent in Table 4.1. Table 4.4 displays these descriptive statistics.

Table 4.4

Descriptive Statistics by Poverty Set

Poverty Set		Poverty Index	Enrollment	10 th Grade Promotion
Set 1 (High)	M	96.593	444.7	81.48
	S	1.341666	186.442	13.7083
Set 2 (Medium)	M	68.428	745.4	86.81
	S	1.088136	450.648	7.9749
Set 3 (Low)	M	32.327	1770.1	93.30
	S	7.4833	795.6975	5.4033

Note: Set means for Poverty index and Enrollment are in boldface. N = 10 for each set. M = Mean; S = Standard Deviation.

Examination of the means of poverty and enrollment in Table 4.4 confirms the negative interaction of these two independent variables upon one another. In Set 1-High Poverty, the poverty mean is 96.59 and the enrollment mean is 444.7. In Set 2 –Medium Poverty, the poverty mean is 68.42 and the enrollment mean is 745.4. In Set 3 – Low

Poverty, the poverty mean is 32.32 and the enrollment mean is 1770.1. These data confirm that as poverty increases, enrollment decreases for the population. Another interesting dynamic exists in this data set. The tenth grade promotion rate is higher and the standard deviation of the tenth grade promotion rate is lower for each set as poverty decreases. Set 3 – Low Poverty has a higher promotion rate and they are more closely distributed than Set 2 – Medium Poverty and Set 1 - High Poverty.

Regression Model 1

As initially stated, a multiple regression model syntax including all three independent variables of presence of transition, poverty index, and enrollment was input into SPSS GLM. The parametric assumptions of equal variances and normality were tested. To test the assumption that the error of variance of the dependent variable is equal across groups, Levene's Test of Equality of Error Variances was performed. Levene's Test output a P-value of .490. The P-value of .490 shows non-significance (greater than .05), which indicates equal variances among the standard deviations of the population. To test the assumption that error terms are normally distributed, the Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-W) tests were administered. K-S produced a P-value of .200, and S-W produced a P-value of .990. Because these P-values are both greater than .05, they are not significant; therefore, the error terms are normally distributed. The results of the multiple regression model with all independent variables are reported in Table 4.5.

Table 4.5

Tests of Between Subject Effects – Regression Model 1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Transition	2.470	1	2.470	2.736	.873	.001
Enrollment	.037	1	.037	.000	.984	.000
Poverty Index	358.100	1	358.100	3.796	.062	.127

Note: df = Degrees of Freedom; F = Test Statistic; Sig. = P-value.

The P-values of transition (.873), enrollment (.984), and poverty (.062) are each not significant because they are greater than .05. However, the P-value of poverty can be considered borderline because of its relative closeness to .05. Included in the output is Partial Eta squared, which provides a measure of effect size, or how large the effect of the variable is. This statistic is called partial because it excluded the variations caused by other variables. The Partial Eta squared values of transition (.001), enrollment (.000), and poverty (.127) mirror the relative significance shown in the correlating P-values for the variables. The Partial Eta squared value can be converted into a percentage to show the effect of variation in promotion relative to each independent variable. Therefore, poverty can be said to account for 12.7% of the variation in promotion rate after excluding the variations caused by transition and enrollment.

The multiple regression model including all independent variables did not provide compelling results. However, the data do suggest that poverty might be significant at the P-value of .062. A probable explanation could be the significant negative correlation between poverty and enrollment discussed earlier. The correlation test of the continuous

variables output a P-value of -.729 suggests that the effects of these variables may mask one another in some way. Therefore, the significance of the correlation between poverty and enrollment indicates that more reliable data may be generated by running two separate multiple regression models, one with the presence of transition and poverty index and a second with presence of transition and enrollment. These additional independent tests will remove the possibility that the highly correlated variables of poverty index and enrollment mask the effect of one another within a multiple regression model including all three independent variables simultaneously.

Regression Model 2

Table 4.6 reports the SPSS output of Tests Between Subjects Effects for multiple regression models in which transition and poverty are run independently. Enrollment has been excluded because of its correlation with poverty. The parametric assumptions of equal variances and normality were tested, and both assumptions are upheld. Levene's Test output, a P-value of .488, is not significant. K-S produced a P-value of .200, and S-W produced a P-value of .988, both of which are not significant. The results of the multiple regression model with only transition and poverty index are reported in Table 4.5.

Table 4.6

Tests of Between Subject Effects – Regression Model 2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Transition	2.502	1	2.470	2.502	.869	.001
Poverty Index	767.915	1	767.915	8.452	.007	.238

Note: df = Degrees of Freedom; F = Test Statistic; Sig. = P-value.

In this model, the P-value of transition (.869) is not significant because the value is greater than .05. However, the P-value of poverty can be considered to be significant because .007 is less than .05. The exclusion of enrollment from this model removed any effect that it may have had on poverty within the first regression reported in Table 6. The initial GLM output a P-value for poverty of .62, relatively closer to .05 than other variables, yet still not significant.

When we consider Partial Eta squared for poverty, the value increases from .127 to .238 when enrollment is removed. Converting the Partial Eta squared value into a percentage, poverty can be said to account for 23.8% of the variation in promotion after excluding the variations caused by transition, as opposed to 12.7% in the initial model.

Regression Model 3

Table 4.6 reports the SPSS output of Tests Between Subjects Effects for the multiple regression model in which transition and enrollment are run independently. The parametric assumptions of equal variances and normality were tested, and both assumptions are upheld. Levene's Test output a P-value of .671 is not significant. K-S produced a P-value of .200, and S-W produced a P-value of .311, both of which are not significant. The results of the multiple regression model with only transition and enrollment Index are reported in Table 4.7.

In this model, the P-values of transition (.723), and enrollment (.057) are not significant because each is greater than .05. The P-value of enrollment might be considered borderline because of its relative closeness to .05. After excluding poverty and any potential impact it may have because of its high correlation with enrollment, the P-value of enrollment decreases significantly from .984 to .057. However, enrollment

Table 4.7

Tests of Between Subject Effects – Regression Model 3

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Transition	13.362	1	13.362	.128	.723	.005
Enrollment	409.852	1	409.852	3.937	.057	.127

Note: df = Degrees of Freedom; F = Test Statistic; Sig. = P-value.

remains not significant in terms of its impact on promotion. Considering the Partial Eta squared value of .127, enrollment can be said to account for 12.7% of the variation in promotion rate after excluding the variations caused by transition as opposed to 0% in the initial model.

Conclusion

After comparing the P-value and Partial Eta squared outputs of the three regression models, the suspicion of masking between the highly correlated continuous variables enrollment and poverty is confirmed. Table 4.8 displays the essential data from the three regression models. Analyzing these data together allows for distinctions to be more clearly made.

Table 9 merges the essential data of the three regression models that were completed. The data support the decision to run additional regression models that exclude the negatively correlated variables of poverty and enrollment. In Regression Model 1, none of the variables were found to be significant although poverty could be considered borderline at .062. The correlation test was performed on the two continuous variables poverty and enrollment, which showed a Pearson correlation value of -.729. This value

Table 4.8

Comparison of Outputs among Models

Source		Model 1 <i>All Variables</i>	Model 2 <i>Transition and Poverty Only</i>	Model 3 <i>Transition and Enrollment Only</i>
Transition	Sig.	.873	.869	.723
	Partial Eta Squared	.001	.001	.005
Enrollment	Sig.	.984	-	.057
	Partial Eta Squared	.000	-	.127
Poverty Index	Sig.	.062	.007	-
	Partial Eta Squared	.127	.238	-

Note: Differences in P-values of Enrollment and Poverty are in boldface. Sig. = P value

demonstrates a highly negative correlation between the variables. Table 5, Descriptive Statistics by Poverty Set, confirmed the inverse correlation between poverty and enrollment by showing that as poverty increased, enrollment decreased within the sample.

The output of Regression Model 1 suggested that the two variables could mask the effect of one another. The decision was made to run two additional regression models with one of the variables removed. This effort generated data that confirmed the suspicion and provided clarity of the impact of poverty and enrollment upon promotion. Regression Model 2 excluded enrollment and generated the most significant data. The P-value of poverty in this model was .007, which is significant. Furthermore, the Partial Eta squared value revealed of .238 translates into poverty accounting for 23.8% of the variation of promotion. Regression Model 3 excluded poverty. The removal of the

poverty variable did change the relative significance of enrollment in terms of the P-value decreasing from .873 to .057. Although much closer to .05, the new P-value of enrollment value is not significant.

CHAPTER V

Summary, Discussion, Conclusions and Recommendations

This chapter summarizes the purpose of, methodology used, and data generated by this study. The discoveries are summarized, and interpretations and conclusions are offered. Additionally, discussion of the findings and their implications are presented along with recommendations for further study.

Purpose of the Study

Many factors impact students' ability to graduate; however, three factors emerge from literature as being worthy of further study in terms of their impact on achievement: 1) the presence of a ninth-grade transition program; 2) poverty index of a school; and 3) the size of the school. The growth and development of ninth-grade transition programs exemplify the efforts of educators to minimize the social and academic effects often associated with the transition into high school. Poverty and school size are also shown to influence students' social development and academic achievement. Therefore, the existence of a ninth-grade transition program, the poverty index of a school, and the size of a school may be important - if not interrelated - factors upon student achievement. These three characteristics of schools were measured and correlated with student achievement in this study.

Graduation has been identified as the conclusive measure of a school's effectiveness. Because promotion to tenth grade is the first step toward graduation, prudence dictated further research focused on the impact of transition programs, school

size, and poverty level upon promotion to tenth grade. Focus on promotion to tenth grade can provide evidence of the immediate impact of transition programs and their potential to mitigate factors such as poverty and school size.

The research questions addressed by this study are:

4. Does the existence of a comprehensive ninth-grade transition program impact students' promotion to tenth grade?
5. Does the poverty index of a school impact students' promotion to tenth grade?
6. Does school size (as measured by enrollment) impact promotion to tenth grade?

These research questions have guided this study and required a design to reveal the potential impact of each factor upon promotion to tenth grade. The purpose of this study has been to determine the impact of the three factors upon promotion to tenth grade in an effort to better understand their influence. The study also attempted to determine if current strategies of ninth-grade transition programs impact promotion to tenth grade.

Methodology

This study purposefully sampled schools at various poverty levels and determined the presence of a transition program through a principal survey. School size and promotion to tenth grade have been calculated from enrollment data.

The schools included in this study were purposefully selected and categorized according to poverty indices. High schools within the state of South Carolina were chosen for this study. The sample size of thirty was chosen to give equal representation from each poverty set and to provide a manageable size for the study. South Carolina has

historically performed below average when compared to the nation on comprehensive education assessments such as the SAT. West (2009) showed an overall graduation rate of 72.8% and a 27.6% ninth-grade retention rate in the state. These data supported the use of the South Carolina high schools as a reasonable sample for testing the impact of ninth-grade transition programs and provided a sample from which the findings may be expanded to the broader population.

Using the South Carolina Department of Education's Poverty Index List (2009, 2010, 2011), thirty schools were chosen for the study. South Carolina uses a combination of free and reduced lunch participants and Medicaid participants to determine a school's poverty index. The ten high schools with the lowest poverty index were selected. Correspondingly, the ten schools with middle poverty indices and the ten high schools with the highest poverty index were also selected. This process has provided a sample of thirty high schools, with each set of ten exemplifying one of three poverty categories.

The South Carolina Department of Education also supplies a listing of all high school enrollments by grade (SCDOE, 2009, 2010, 2011). These enrollment reports were used to calculate an average tenth-grade promotion rate for each sample school. This calculation was done by comparing ninth-grade enrollment with the subsequent year's tenth-grade enrollment. The difference in the size of these respective cohorts of students represents how many students within the ninth-grade cohort earned promotion to tenth grade. The average promotion rate of the three years was calculated and used as the dependent variable. Likewise, these enrollment data establish overall school size for each sample school. Enrollment was calculated by adding each grade cohort enrollment to determine overall size of the school and then averaged for the three years under study.

An important element of this study was to determine the existence of a ninth-grade transition program within sample schools. The complexity of the ninth-grade transition dictates that a variety of strategies be implemented into effective transition programs. Current literature and research were used to identify eight strategies common to successful ninth-grade transition programs. The following transition practices are common to successful programs:

1. Organized visits to the receiving high school by eighth graders (Cauley & Jovanovich, 2006).
2. Meet the teacher nights prior to the start of ninth grade (Cushman, 2006).
3. Freshman first days prior to the start of school (Lindsay, 1997).
4. A freshman wing or area of the school dedicated to ninth graders.
(Kennelly & Monrad, 2007).
5. A cadre of teachers designated for the ninth grade only (Cotton, 2001).
6. Targeted curriculum for at-risk ninth-grade populations (Bland & Breslin, 2005).
7. Involvement of parents in one or more transition activities (Noll & Watkins, 2004).
8. Special activities, such as assemblies and targeted programs, for ninth graders (Hall, 2006).

A transition program rarely incorporates all of these eight strategies, so the existence of a transition program – or not – was determined by the practice of no fewer than five of these common strategies by a sample school. Additionally, one of the five practices must include some level of targeted curriculum for at-risk students. Because the

primary objective of a ninth-grade transition program is to improve achievement, it seems prudent to mandate an instructional element into the identification criteria.

The principals of participating were surveyed to determine how many of these practices exist within the school. Each of the eight criteria were listed and accompanied by a description of what the practice should look like and some identifiable examples of each transition activities and/or strategy. The results of this completed principal survey were analyzed for each participating school to determine the existence of a ninth-grade transition program or the absence of one. These surveys identified seventeen schools as having a ninth-grade transition program and thirteen that did not.

Regression allows two variables (X and Y) to be correlated in an effort to make a prediction or determine impact. One is the independent variable (X) and the other is the dependent variable (Y). Regression can determine the impact of X upon Y. In this study, promotion to tenth grade is the dependent variable, and the presence of a ninth-grade transition program, poverty index, and enrollment serve as the independent variables.

Multiple regression allows for the simultaneous use of two or more independent variables in predicting impact upon a dependent variable. This study employed multiple regression analysis to determine the relative impact of a ninth-grade transition program, poverty index, and school size upon promotion to tenth grade.

Summary of Findings

The initial intent of this study was to perform a multiple regression analysis using our three independent variables. The multiple regression statistic was the first step, and the data were reported in Table 6, but the data generated raised questions that needed investigation. The output of the initial test, referred to as Regression Model 1, did not

provide compelling results as none of the variables proved to have significance in terms their relationship to tenth-grade promotion. However, it is important to note that two of our independent variables are continuous while one is categorical. Poverty and enrollment are the continuous variables, also called covariates because they can take on a range of values. The presence of a transition program is categorical because it does not have a numerical value. In this instance, it is known as a dichotomous variable with two categories, yes and no.

In Regression Model 1, the P-value of transition was .843, for enrollment was .984, and for poverty .062. Though not significant, poverty seemed to be close to the threshold of significance. The researcher also chose to generate the Partial Eta squared value for each independent variable. This value is a measure of effect size and can be converted into a percentage to show the effect of variation in promotion relative to each independent variable.

The Partial Eta squared value for transition was .001, or .1%, enrollment .000 or 0%, and for poverty .127 or 12.7%. The Partial Eta squared of poverty mirrors the P-value in suggesting that poverty looks like it may be trying to have an impact relative to other variables.

The decision was made to run a correlation statistic on the continuous variables poverty and enrollment to see if these two variables were somehow masking each other in Regression Model 1. The test results generated Pearson correlation of $-.729$. This value is close to the -1 endpoint of the correlation value range $-1 \dots +1$. This value shows there is a high negative correlation between poverty and enrollment. Analyzing the descriptive statistics of the sample by poverty set (Table 4) confirms this negative correlation. The

high poverty set had an average poverty index of 96.59 and average enrollment of 444.70. The low poverty set had an average poverty index of 32.32 and an average enrollment of 1770.1. Within our sample, poverty clearly decreases as enrollment increases.

With the discovery of the high correlation between two of the independent variable and the knowledge of the product of Regression Model 1 (Table 4.6), the decision was made to repeat the regression process and remove enrollment from the procedure. This is Regression Model 2 and includes only the presence of transition and poverty with tenth-grade promotion as the dependent variable.

The results of Regression Model 2 proved interesting. The presence of transition was not significant with a P-value of .829 and a Partial Eta squared of .001, or .1% of the variation in promotion. Both of these values are very similar to Regression Model 1 values for transition. However, the P-value of poverty was .007, which is significant. The Partial Eta squared for poverty in Regression Model 2 was .238. Poverty, then, accounts for 23.8% of the variation in promotion rate.

Regression Model 3 includes only the presence of transition and enrollment with tenth-grade promotion as the dependent variable. In this test, the presence of transition had a P-value of .723 and a Partial Eta squared of .005. Neither of these statistics is considered significant. The P-value of enrollment was .057, and the Partial eta squared was .127. Again, neither of these statistics is significant, but enrollment seems to have a larger impact when poverty is removed from the procedure.

The decision to run subsequent multiple regression models removing the highly correlated independent variables of poverty and enrollment was prudent. The results

generated by these additional tests provided the most significant statistics in terms of determining the role that transition, poverty, and enrollment may have on promotion to tenth grade. Regression Model 2 revealed that poverty may have a significant impact upon tenth-grade promotion with a P-value of .007 and a Partial Eta squared value of .238, accounting for 23.8% of the variation in promotion.

Discussion and Interpretation

This study evolved into a more comprehensive investigation into the impact of the presence of transition, poverty, and enrollment on promotion to tenth grade than anticipated. Three multiple regression models were run in an effort to generate meaningful data after the results of Regression Model 1 posed new questions. Furthermore, the discovery of the high correlation between poverty and enrollment directed further testing.

Regression Model 2 revealed the most compelling piece of data. Poverty was shown to have the most significance of any variable in all of the regression models performed. Table 9 in Chapter 4 compiles the outputs of each regression model. These collective data generated by all regression models also seem to confirm poverty as the primary factor of influence within this study. Interpreting the data as they relate to each research question posed may provide clarity.

The Ninth Grade Transition

The first research question was: *Does the existence of a comprehensive ninth-grade transition program impact students' promotion to tenth Grade?* The transition from middle to high school has been shown to be multi-dimensional. Fulk (2003) and Smith, Akos, Lim & Wiley (2008) provided evidence of increased rigor in high school

such as the necessity to pass core courses for promotion. The increase in rigor underscores the new academic responsibilities associated with high school versus middle school. The social struggles of the ninth grade have also been established. Mizelle & Irvin (2000) spoke of the confusion and indifference commonly experienced by ninth-grade students while Akos & Galassi (2004) identified other social concerns for ninth graders such as bullying by older students.

Because of the complexity of the ninth-grade problem, determining the best way of identifying the presence of a comprehensive ninth-grade transition program was challenging. Much effort was made to identify common ninth-grade transition program strategies within current literature and research. That being said, the variety of the ways in which ninth-grade transition programs are organized and implemented prevented the researcher from absolutely defining what they are.

Eight common strategies were identified in literature and used for the purposes of this study to determine the existence of a ninth-grade transition program within a school. The definition used may not include all potential variations of such programs, nor can it determine the richness of and commitment to the mission of a ninth-grade academy in terms of its implementation in the sample schools. However, the commonality of these practices in researched ninth-grade transition programs does assure that identified schools recognize the struggles associated with ninth grade and are making effort to address them within their respective schools. This recognition is manifested in two ways. First, the fact that these schools implement at least five identified strategies common to ninth-grade transition programs speaks to the effort of the school to address concerns for ninth graders. Second, each school principal identifies these practices as part of a ninth-grade

transition program within their respective school. Of the sample of thirty schools, seventeen had defined programs while thirteen did not.

Regression Model 1 provided the most compelling P-value and Partial Eta squared value for the presence of a transition program. This model incorporated all three independent variables, and none were significant according to measure. Poverty was illuminated as the variable with the P-values and Partial Eta squared values closest to significant levels, but, in fact, all were not significant in terms of impact on promotion.

The descriptive statistics for the sample based on the presence of transition also echoed this finding. The average promotion rate for schools with a transition program was 87.59% while traditional schools' was 86.67%. The standard deviation of the promotion rate in traditional model schools was smaller than transition schools, indicating there was not as much variance in the promotion rates. These data seem to indicate that the presence of a comprehensive ninth-grade transition program as defined does not have a significant impact on promotion to tenth grade within this sample.

Poverty

The second research question posed by this study was: *Does the poverty index of a school impact students' promotion to tenth grade?* Literature establishes poverty as a factor that can impact students' academic achievement at every level of school. Noll & Watkins (2004) and Books (2004) report increased behavioral problems and absenteeism in high poverty students along with lower academic achievement. Although poverty and race are frequently linked (Burney & Belk, 2008), the boundaries of poverty have expanded beyond race as diversity within public schools grows.

In Regression Model 1, none of the variables were significant, yet poverty was the most significant variable relative to transition and enrollment. The P-value of poverty was .062, and the Partial Eta squared was .127. These outputs were statistically not significant, yet were relatively closer to significance than transition or enrollment. Regression Model 2, in which the enrollment variable was removed due to its high correlation with poverty, provided the strongest data within the study. The resulting P-value (.007) and Partial Eta squared value (.238) of poverty in this model suggest that poverty has an impact on promotion to tenth grade. The P-value derived in this study was the only piece of data generated that was statistically significant.

The thirty sample schools were chosen according to poverty index and organized into three sets: Set 1- High Poverty, Set 2 - Medium Poverty, and Set 3 – Low poverty. Further investigation into the descriptive statistics by poverty set display compelling trends.

Set 1 – High Poverty had an average poverty index of 96.59, an average enrollment of 444.7, and an average tenth grade promotion rate of 81.48. Set 2 – Medium Poverty had an average poverty index of 66.43, an average enrollment of 745.4, and an average tenth grade promotion rate of 86.81. Set 3 – Low Poverty had an average poverty index of 32.33, an average enrollment of 1770.1, and an average tenth grade promotion rate of 93.3. These statistics mirror impact of poverty seen in Regression Model 2. As poverty increases, the tenth grade promotion rate decreases. Furthermore, the standard deviation of tenth grade promotion rate for high poverty schools (13.71) is more than twice as large as the standard deviation of tenth grade promotion rate for low poverty schools (5.4). This smaller standard deviation shows that the promotion rates for

low poverty schools have less variance than high and medium poverty schools. These data indicate that poverty seems to impact promotion to tenth grade to the highest degree.

Enrollment

The final research question addressed by this study is: *Does school size (as measured by enrollment) impact promotion to tenth grade?* Enrollment, or school size, is a topic of education that is gaining attention in current literature. Larger high schools are becoming more commonplace (McEwin, Dickson & Jenkins, 1996) and offer the advantages of a more diverse curriculum and programmatic offerings. Though research falls short of defining the optimal school size to maximize achievement, evidence is growing to support smaller schools and the creation of more personalized learning communities in large schools (Mertens, Flowers & Mulhall, 2001). Therefore, the belief in smaller schools that are more personalized may be one catalyst of ninth-grade transition program growth.

In Regression Model 1, none of the variables were significant, and enrollment was the least significant variable relative to transition and poverty. The P-value of enrollment was .984, and the Partial Eta squared was .000. In Regression Model 3, where poverty was removed because of its high correlation with enrollment, the P-value of enrollment was .057, and the Partial Eta squared was .127. These values were not significant once again, but indicate that enrollment may play a larger role than transition in terms of impacting tenth-grade promotion. Based on the outputs of the regression models including enrollment, its impact on tenth-grade promotion cannot be seen as significant.

Conclusions

The standard for significance used in this study was .05. In each regression model performed, a P-value was generated. These P-values were all measured against .05 as the determination of significance. Partial Eta squared values for each variable were also determined. The researcher chose this output in addition to P-values because it provides a measure of effect size, or how large the effect of the independent variable is on the dependent variable. This value excludes other independent variables within the respective model and offers another means of interpreting the variables effect on grade promotion.

Each of the three regression models differed in the independent variables used, with regression Model 2 and Regression Model 3 each respectively removing enrollment and poverty due to their high negative correlation. Regression Model 2 generated the only significant data with poverty having a P-value of .007 - well below the .05 standard – when enrollment was removed from the model. The Partial Eta squared revealed that poverty accounts for 23.8% of the variance in tenth-grade promotion. Though Regression Model 1 and Regression Model 3 provided results that are not significant, analyzing the P-values and Partial Eta squared values relative to one another seems to indicate that enrollment may have more effect than the presence of a transition program.

The descriptive statistics generated in this study seem to support the regression findings to a degree. These basic statistics were reported in Table 4.3 and Table 4.4 in Chapter 4. Table 4.3 reported descriptive statistics by the presence of transition, and traditional model schools did have a lower overall promotion rate of 86.67% compared with 87.59% for transition schools. The variance in promotion rates was also smaller in

traditional schools based on standard deviations. The enrollment averages for traditional schools was 725.82 and for transition schools was 1186.33. The poverty index average for tradition schools was 70.25 and for transition schools was 62.36. The variance of poverty in each set was nearly equal.

Table 4.4 reported the descriptive statistics by poverty set and shows interesting results. Set 1-High Poverty had an average poverty index of 96.59, an average enrollment of 444.7, and an average tenth-grade promotion rate of 81.48. Set 2 – Medium Poverty had an average poverty index of 68.42, an average enrollment of 745.4, and an average tenth grade promotion rate of 86.81. Set 3 – Low Poverty had an average poverty index of 32.32, an average enrollment of 1770.1, and an average tenth grade promotion rate of 93.3. These data match many of the findings of this study and support the significance of poverty as the seminal variable in terms of achievement. High-poverty sample schools are smaller and have lower achievement than low-poverty schools. It is interesting that the highest performing group, Set 3 – Low Poverty, also had the largest enrollments by a factor of more than three to one.

The question of the impact of a ninth-grade transition program was shown to not be significant. Current literature is consistent in reporting the struggles with ninth-grade transition and pointing to this grade as the most important in determining success in high school. A closer look at the criteria used to define a transition program in this study is warranted.

Table 4.1 provided all of the inputs for each school by poverty set. Included in this table is the number of transition activities of the eight identified that each school implements according to the principal. A school was defined as having a transition

program when no fewer than five practices were present, one of which had to be targeted curriculum to improve achievement. The thirteen traditional schools did not meet the defined criteria of having a ninth-grade transition program; however, within the traditional school set, an average of 3.8 strategies were in place. Four of the thirteen had more than five of the practices in place, but lacked the targeted curriculum element required in this study. Only one of the traditional schools had no ninth-grade transition activities present.

These data raise questions about the definition of a comprehensive ninth-grade transition program used by this study and may indicate that fewer, more richly implemented transition activities may have some effect. That being said, the quality of implementation of transition activities was beyond the scope of this study.

Enrollment and the presence of transition were clearly not significant in the regression models based on the P-values and Partial Eta squared values generated. Regression Model 2 showed that poverty may have a significant impact on tenth-grade promotion rates. The impact of poverty on student achievement is well documented in research, and these findings support poverty as the most important variable facing our schools.

The stated goal of this study was to determine if the presence of a ninth-grade transition program could assuage the effects of poverty and enrollment on student achievement. The data from the three regression models do not support this goal; therefore, the results are inconclusive in terms of the stated goal. It should be noted that a closer look at the descriptive statistics and a closer look at the number of transition activities in place within traditional schools may present areas for future research and

may uncover a more direct link between the presence of a ninth-grade transition program and promotion to tenth grade.

Recommendations for Further Research

This study was designed to identify the impact of a ninth-grade transition program, enrollment of a school, and poverty index of a school upon promotion to tenth grade. Comprehensive descriptive statistics were generated for the sample, and three independent multiple regression models were performed in an effort to answer the research questions. Although analysis of these data show that poverty is the only significant variable in terms of impacting promotion to tenth grade, questions can be raised when drilling into the descriptive data and addressing the stated limits of this study.

This study defined a transition program as having no less than five of eight criteria gleaned through current literature. One of the five had to be the presence of a targeted curriculum in an effort to mandate at least one academic feature within a defined program. Literature is clear that there is not concise definition of a ninth-grade transition program and that extreme variations exist. Furthermore, the quality with which each strategy is implemented nor the length of time the transition program had been in place was determined. It is also possible that the presence of a ninth-grade transition program could have been inflated by the principals surveyed.

The use of enrollment data to calculate the size of a school and promotion rate of a school was also a stated limitation. The calculations used could not address differing promotion standards between schools and districts, nor could it account for new students entering in tenth grade, transfers out of ninth grade, or if the sample schools merged and

gained new students in the respective cohorts studied. Based upon the findings of this study, the questions raised by some of the data, and a review of the limitations of the study, the following recommendations are made for future researchers:

1. This sample set of schools in this study was from South Carolina. Because the state is considered high poverty and poverty was shown to have significance in terms of tenth-grade promotion, expanding the sample across multiple states may provide the opportunity for alternative results. Studying a wider variety of schools may deliver more compelling data.
2. The sample data for enrollment and tenth-grade promotion in this study were calculated and averaged over a three-year period: 2009-2011. The existence of a ninth-grade transition program over that time frame was confirmed. More accurate data may be generated if this study was focused on annual data and compared over time. Comparing the impact of the variables in this manner could illuminate trends that this study did not.
3. This study did not investigate the quality with which ninth-grade transition programs were implemented within the sample schools. Further research on how transition activities are implemented could more accurately identify strategies most able to influence promotion to tenth grade and could supply a more accurate definition of a ninth-grade transition program in future research.
4. This study did not address the impact that a ninth-grade transition program may have had compared with circumstances that existed prior to implementation of a transition program. A comparison of achievement and/or

retention of ninth graders before and after the implementation of a ninth-grade transition program could yield new data.

5. This quantitative study did not consider perceptions and attitudes of the ninth-grade transition from teachers, students, or parents. Though some anecdotal information was cited in the literature review, gathering opinions of all stakeholders in relation to the ninth-grade transition may prove to be beneficial in determining strategies necessary for implementation of such programs.
6. This study was limited to the impact of the variables upon promotion to tenth grade. Looking at how a ninth-grade transition program, enrollment, and poverty impact achievement over a high school career may help to identify strategies to be continued in upper high school grades in an effort to impact achievement throughout high school.
7. Poverty index in South Carolina is based on student participation in the free/reduced lunch program and Medicaid program, not on the level of resources available to the school or district within which the school resides. Martin, Karabel, and Vasquez (2005) stated that high poverty schools are less likely to have experienced and qualified teachers and schools with low-income student populations are less likely to offer rigorous curricula. Further study into the impact of school poverty (i.e. quality of resources and opportunities) versus student body poverty, could provide some insight into the larger implications of equality of education for all students.

Summary

The intent of this researcher was to illuminate the impact that the presence of a ninth-grade transition program, enrollment, and poverty index of a school may have on promotion to tenth grade. Promotion to tenth grade was the defined measure of achievement because it is the first sign of high school success and is a necessary step toward graduation. A stated goal of the study was to determine if comprehensive ninth-grade transition programs could overcome enrollment and poverty in terms of promotion to tenth grade.

Much effort was made to define a ninth-grade transition program appropriately. Common practices and strategies were identified in literature; however, the complexity of the ninth-grade transition and the variation of such programs across the nation underscore the difficulty of the task. It is also clear that some transition programs simply house ninth grade in a separate wing and do not implement real strategies to alleviate transition concerns (White, 2008). If such programs are implemented for management rather than for instruction or pedagogy, there is likely no impact on achievement. The selection of schools by poverty index and the subsequent calculations of enrollment data and tenth grade promotion data were performed in earnest. Principals of sample schools were surveyed using the defined criteria to identify the existence of a ninth-grade transition program within each sample school.

Comprehensive descriptive statistics were generated, and multiple regression models were performed to test the impact of the presence of a ninth-grade transition program, poverty, and enrollment upon promotion to tenth grade. As discoveries were made about the variables tested, the researcher expanded the study by performing

subsequent multiple regression models in an effort to remove the potential of one variable masking the effect of another. The high negative correlation between poverty and enrollment within the sample proved to be an important discovery.

The subsequent multiple regression models excluding each of the highly correlated variables proved to be prudent. Regression Model 2 in which enrollment was removed generated significant data. This model indicated that poverty had the only significant impact on tenth grade promotion of the variables studied.

In terms of addressing the stated research questions, the study provided these answers:

1. Does the existence of a comprehensive ninth-grade transition program impact students' promotion to tenth grade? No. The data generated in the three regression models revealed no significant impact of the presence of a ninth-grade transition program on promotion to tenth grade. The P-values and Partial Eta squared values generated were all statistically not significant.
2. Does the poverty index of a school impact students' promotion to tenth grade? Yes. Poverty was included in two of the three regression models due to its high negative correlation with enrollment. In Regression Model 1, poverty was not significant, but relative to the presence of a ninth-grade transition program and enrollment, poverty was very close to the significance measure. Regression Model 2 proved the most revealing. Poverty output a P-value of .007, much less than the .05 measure of significance, and the Partial Eta squared result showed that poverty

accounted for 23.8% of the variation in tenth-grade promotion when enrollment was removed.

3. Does school size (as measured by enrollment) impact promotion to tenth grade? No. The data generated in the two regression models including enrollment were interesting, yet not significant. Regression Model 1 with all factors showed enrollment to be the least impactful relative to the presence of transition and poverty. When poverty was removed for Regression Model 3, enrollment approached significance, but did not reach the statistical threshold to be determined significant.

Research shows that the ninth grade is the most important year in high school.

Fritzer

& Herbst (1996) revealed that the lowest grade point average, the most absences, the most failing grades, and the most discipline referrals belong to ninth graders. Editorial projects in Education (2006) reports that 40% of high poverty students and 27% of low poverty students fail to earn promotion to tenth grade. Such research underscores the challenges that ninth-grade students face and have catalyzed the development of ninth-grade transition programs across the nation.

The experiences of the researcher in the field as a middle and high school principal led to the selection of the presence of a ninth-grade academy as a foundational variable.

The regression models performed illuminated poverty as the single significant variable having impact on tenth-grade promotion in this study. Although this study did not provide definitive answers in terms of the impact of a ninth-grade transition on promotion to tenth grade, it is apparent that the research questions as addressed by this

study need much more analysis over time. Future analysis should continue to study how the transition to the ninth grade affects student achievement. Furthermore, research intended to identify effective strategies and the quality of implementation necessary for success is recommended. Only through such efforts can final conclusions on the impact of ninth-grade transition programs be reached.

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