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Summer Credit Recovery and Middle Grade Students

A dissertation

presented to

the faculty of Department of Educational Leadership and Policy Analysis

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor of Education in Educational Leadership

by

James Christopher Sharp

December 2013

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Keyword: Retention, Credit Recovery, At-Risk Students, Summer School, Intervention

Academic Failure

ABSTRACT

Summer Credit Recovery and Middle Grade Students

by

James Christopher Sharp

The purpose of this study was to examine the difference in student success by retained students who participate in the Hamblen County (Tennessee) Credit Recovery Program [HCCRP] in the year prior and following their participation. HCCRP is an alternative intervention for students who have been retained in the middle grades of Hamblen County School System. Student success was defined and assessed in the areas of academic proficiency, discipline, and student absenteeism. Student information regarding each area was obtained from the Hamblen County School System, coded, and analyzed through quantitative testing.

This study was guided by 8 research questions and 8 corresponding null hypotheses. Five of the null hypotheses were tested for significance using a paired sample t tests, 2 were tested using a chi square testing, and 1 was tested using a single sample t test. The population of this study was 94 students who had participated in the HCCRP in the 2010-2012 school years.

The analysis of data showed no significant difference in student science scores, number of discipline referrals, or absenteeism in comparing the year prior and the year following the students' participation in HCCRP. The paired sample t test did reveal significant increases in both student math and reading/language arts scores. A chi squared test showed a significant number of low socioeconomic students within the population. Additionally, a single sample t test showed a significantly higher number of days students missed prior to attending HCCRP and the acceptable level of absenteeism. The result of this study indicates that students who have attended HCCRP as an alternative to grade level retention benefited academically in math and reading/language arts.

DEDICATION

This dissertation is dedicated to my wife Amy. Thank you for your love, support, and patience through this process. I am truly humbled to share my life with you.

I would also like to dedicate this paper to my children Hayden and Marley. I love you deeply and hope that this paper will serve as an example to you of the importance of education.

I dedicate this study to my father Jim. You instilled in me the value of hard work and determination that guides my life. These qualities have shaped me into the person I am and contributed to my successes in life.

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CHAPTER 1

INTRODUCTION

In today's educational environment the importance of ensuring students' long-term academic success has become a central focus of many state and local boards of education. With a heightened pressure coming from federal legislation and a renewed awareness towards curriculum rigor schools are refocusing on instructional methods that increase the likelihood all students will graduate and have long-term academic success. To complicate the issue schools must specifically focus on students who have fallen behind in mastering grade level performance and are unprepared for the next grade level. According to American College Testing [ACT] (2008) only 2 out of 10 eighth grade students are currently on track to be prepared for college level work. If schools are focused on preparing students for high school completion and college success, intervention in the middle grades seems to be an important and often overlooked area for students who are failing to meet academic expectations.

One of the most common practices for schools when addressing the problem of students' lack of grade level achievement is retention. Nearly 450,000 students qualify for grade level retention each year (Warren & Saliba 2012). This is concerning, as research has shown that students are 50% more likely to drop out of school after their first retention and 90% more likely to drop out after their second grade level retention (Roderick, 1994). A study by ACT (2008) reported that failing students in middle grades exhibited a deficit in two key indicators, academic discipline and orderly conduct. To counter this increasingly difficult problem of course failure without increasing the

likelihood of student drop out, many systems have moved towards summer interventions to reinforce areas that students are struggling with and strengthen study skills. While it is understood by many educators and administrators that retention has long-term negative effects on student performance, the effects of summer intervention programs on student academic achievement and social factors is an area that must be closely monitored to promote student success.

Statement of Problem

The focus of this study was to examine the short-term effects of the Hamblen County Tennessee Credit Recovery Program for middle grades on participating students. This program is designed as a middle grade intervention for students who have been identified for grade retention. The program provides remediation in core grade level subject areas and introduction to the next year's curriculum. The goals are to offer students an alternative to grade level retention, increase content knowledge, and proactively address potential long-term effects student retention has on graduation rates and student success. Ultimately the long-term goal is to maintain the student's progression towards high school graduation.

The Hamblen County Credit Recovery Program (HCCRP) is designed as an instructional hybrid, using web based intervention software and traditional classroom instruction. Students voluntarily attend the program as an alternative to grade retention. The design of this intervention has been developed by curriculum personnel from the central office, program administrators, and classroom instructors. The purpose of this study is to determine if a relationship exists between student success and completion of

the HCCRP. Student success is defined by academic proficiency level on TCAP, attendance, discipline referrals, and previous retentions. These areas will be outlined in Chapter 2 as potential at risk factors contributing to students dropping out.

Research Questions

The study's purpose is to investigate the relationship between participation in the Hamblen County Credit Recovery Program and students' academic performance, disciplinary incidents, and school attendance in the school year following their participation. The following research questions were generated to guide this study.

Research Question 1

Is there a significant difference between students' TCAP scores in mathematics the year prior to participation in the HCCRP and their TCAP or EOC scores after participation?

Research Question 2

Is there a significant difference between students' TCAP scores in reading/language arts the year prior to participation in the HCCRP and their TCAP or EOC scores after participation?

Research Question 3

Is there a significant difference between students' TCAP scores in science the year prior to participation in the HCCRP and their TCAP or EOC scores after participation?

Research Question 4

Is there a significant difference in the proportion of students completing HCCRP who qualify for free and reduced lunch as compared to students in Hamblen County School System who qualify for free and reduced lunch?

Research Question 5

Is there a significance difference in the number of students by middle grade level who completed the HCCRP as compared to the distribution of students throughout the middle grade levels in Hamblen County School System?

Research Question 6

Is there a significant difference between individual discipline referrals for students in the previous year and the number of individual discipline referrals the year following completion of the HCCRP?

Research Question 7

Is there a significant difference in the absenteeism of students who participated in HCCRP in the pervious school year and their absenteeism the year after completion of the HCCRP?

Research Question 8

Is there a significance difference between the absenteeism of students who participated in the HCCRP and the average number of days missed by middle school students?

Significance of Study

Each year students are referred to the Hamblen County Credit Recovery Program as an intervention, addressing course failure or grade retention. This study was used to

examine the influence of a course failure intervention program specifically designed for middle grade students. The purpose of this study was to examine the influence this intervention has on the students' at-risk factors and academic performance in the immediate year following participation in the intervention. The results are available to the program coordinators, central office personnel, and the Hamblen County Board of Education. The results of this research project could provide valuable information to assist coordinators in evaluating the effectiveness of this intervention and future program design.

Definitions of Terms

The following terms are used frequently throughout this paper. For clarity their definitions as they relate to this research project have been provided.

Grade Retention: The act of having a student repeat a grade level or course due to a failing grade or unlikelihood of future course success (Ou & Reynolds, 2010).

Absenteeism- For the purpose of this study absenteeism was assessed by the number of days a student missed first period. The test level was set as 10 as this is the maximum number of excusable absences in a year for students in Hamblen County without medical documentation.

At-risk Student: A student with an increased likelihood of course failure due to previous failures, socioeconomic status, race, and attendance (Balfanz, Mac Iver, & Herzog 2007).

Discipline referral- A documented incident by school administrator of student misbehavior.

Dropout Factory: A school that has consistently reported a high school graduation rate of 60% or less (Balfanz, Bridgeland, Bruce, & Fox, 2013).

Dropout Intervention Programs: A program designed by schools to address at-risk factors, reengage, and place students on a continued path to graduation (Princiotta & Renya, 2009).

High School Dropout: A student who has stopped attending high school prior to completing the required credits for graduation, including enrolment in a General Education Development (GED) program (Aud et al., 2012).

Limitations and Delimitation

This quantitative study was conducted with a limited sample of students who had participated in the Hamblen County Credit Recovery Program. Participants were limited to middle grade students who had received a letter of grade retention, attended this intervention program during 2009-2011, and possessed data in each of the areas tested. Due to the length of time between the state assessments it should be noted that the results of this study could be influenced by the natural maturation of the students. The 1 year between testing could allow for growth in the students' levels of engagement and a shift in their perception of school. The study focus is specifically on the effectiveness of Hamblen County's Credit Recovery program and students of Hamblen County. Therefore, the results of the study cannot be generalized beyond the study's population as they are unique to the population and program studied.

Overview of Study

This quantitative study is organized into five chapters to give a comprehensive view of the problem, related literature, methodology, analyses of data, and conclusions. Chapter 1 defines the problem, presents the research questions, defines key terms, and

identifies limitations to the study. Chapter 2 presents a review of literature that addresses the problem schools face with retention, at-risk students, and high school dropouts.

Chapter 3 presents the research questions with corresponding null hypotheses and the method of data analysis used in the completion of this study. Chapter 4 presents the findings of each of the quantitative analysis conducted in relation to the null hypothesis.

Chapter 5 presents summary, conclusions, and findings related to the data analysis as well as suggestions for practice and additional research.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

Over the last 2 decades educators and policy makers have focused on the importance of high school graduation rates and contributing factors to students dropping out of school. Chapman, Laird, and KewalRamani (2011) stated that national graduation rates are at a historically high level, with 75% of students completing the requirements for high school graduation. Despite this increased level of high school completion there are students that are not being successful in our system. Researchers from Editorial Project in Education [EPE] Research Center (2011) state:

Despite the marked progress highlighted in the report, nearly 3 out of every 10 students in America's public schools still fail to earn a diploma. That amounts to 1.2 million students falling through the cracks of the high school pipeline every year, or 6,400 students lost every day. (p. 1)

This high number becomes more relevant as the cost of the nation's high school dropouts continues to rise. It is estimated that nationally the annual cost of student failure has risen into the billions (Ou & Reynolds, 2010). This high cost and large number of students failing to complete high school pushes educators to close the gap of student success and examine methods to intervene prior to students quitting school.

Currently the state of Tennessee is effectively reducing the number of students dropping out. Between 1998 and 2008 the state of Tennessee reported a 20 point gain in the percentage of students who completed high school on time. Tennessee has shown the most improvement nationwide in graduation rates (EPE Research Center 2011). In 2012, state officials reported a graduation rate of 87% statewide (Tennessee Department of Education, 2012). While this is a marked improvement in student success, continuing to

close the gap will likely become more difficult. To continue this progress, school systems statewide must increase their focus on individual factors that contribute to student dropout rates.

Despite numerous legislative measures to increase graduation rates, many schools continue to overlook the importance of student engagement, early intervention, and the effects of retention on long-term student success (Henry, Knight, & Thornberry, 2011). To effectively address the dropout problem, school systems need to shift their thinking away from assessing performance and toward evaluating contributing factors that impact high school completion. Recent studies have shown that a positive shift in school climate and increased student engagement can reduce dropout rates and increase student performance (Nelson, McMahan, & Torres, 2012). In addition, grade retention not only impacts the likelihood of students' dropping out but also future delinquent behavior (Jimerson, Brock, & Cowan, 2005). Educators and leaders seeking to increase graduation rates must consider these factors and reevaluate interventions to address these issues that lead to students not completing high school.

Retention

The act of grade level retention has been used as a means of remediation for underperforming students throughout the history of American schools. This practice seems logical for many educators because it seemingly allows the student to mature emotionally and revisit the curriculum they have failed to master (Jimerson & Renshaw, 2012). While many understand the intentions of grade retention, it seems that the process by which students are chosen for retention and the volume of students repeating grades is uncertain and varies by state and system (Warren & Saliba, 2012). Smink (2001) stated:

The critical issue of grade promotion practices by schools is really an expression of school and community values about the general purpose and expectations of the local education system. The local policies that guide the practice of each school regarding their intent to socially promote or retain a student in the same grade level for an additional year remain under attack today as they have been for the past 2 decades. (p.3)

Schnurr, Kunder, and Nickerson (2009) found that student's grades, academic performance, and teacher recommendations were the primary sources of retention. In addition, student behavior, request by parents, and poor performance on state tests were often considered in the decision-making process. While each of these factors might provide a current perspective of a student's potential needs and warrant intervention, the decision of grade level retention of a student has been shown to have a lasting negative impact over the long-term (Jimerson, 2001).

The need for student remediation for struggling students is clear and has an impact on their future educational success. In a study by ACT (2008) researchers found that only 2 in 10 eighth graders are currently on track to perform college level work. Light suggested that many of the school systems choose to retain students for not testing proficient on state academic tests. The theory is students currently underperforming cannot comprehend the next level of the curriculum and have not earned the right to move on to the next grade (Light, 2006). Jimerson et al. (2006) explained that the act of grade level retention is considered by many educators to be an effective and convenient intervention for short-term gains in academic performance, including performance on standardized testing. Jimerson et al. (2006) suggested that students, especially in younger grades, may perform better on standardized tests in the immediate year following retention. However, this level of short-term success is potentially misleading, as retained students have shown a dramatic decrease in their scores on state tests over extended

periods of time (Jimerson et al., 2006). However, Jimerson and Renshaw (2012) explained the lure of seemingly immediate academic performance, increased test scores, and an increased pressure for schools to achieve their Annual Yearly Progress (AYP) that pressures educators to continue this practice.

Currently the United States retains 3.5 % of first grade students, the highest grade level percentage of grades first through eighth. While the percentage decreases over time there is an increase in retention rates for students in sixth, seventh, and eighth grades. In 2009 447,000 students were retained (Warren & Saliba, 2012). In the Tennessee 2012 Report Card it was reported that 98.4% of students in primary and middle grades were promoted statewide (Tennessee Department of Education, 2012).

Effects of Retention

Though grade level retention is still widely used in schools nationally, multiple studies have consistently shown that the retention of students has a profoundly negative effect on their academic performance, their emotional wellbeing, and their likelihood of high school completion (Jimerson, 2001). Tingle, Schoenberger, and Algozzine (2012) found that students who were retained showed a significantly lower level of performance on subject area testing the year after retention compared to those students who were promoted normally. The study reported the largest effect size was seen in elementary grades and eighth grade. The results of this study remained consistent over the next year of testing, showing no increase in student performance in any of the grade levels. Additional research has shown that students' performance in reading continues to drop rapidly in the years following retention (Jimerson et al., 2006). This indicates that the

students retained are at a higher risk of low test scores on state assessments over their academic career.

In addition to a negative effect on test scores, the act of grade retention can have a lasting impact on students emotionally and potentially contributes to delinquent behavior (Jimerson, Pletcher, & Kerr, 2005). Jimerson, Brock, et al. (2005) identified grade retention and lack of student engagement as potential indicators for students who commit acts of violence in schools. Additional research identified grade retention and course failure as key indicators for school disengagement leading to an increase in a negative attitude, truancy, and gang activity (Henry et al., 2011). Jimerson and Renshaw (2012) explained that students who are held back may deal with serious social and psychological issues associated with not being promoted. They suggested this act has a negative effect on students' peer interactions and self-image. Consequently, retained students were more likely to use tobacco, drugs, and alcohol at an early age.

The psychological ramifications of student retention should be a consideration for educators in the decision-making process, as it could have a lasting effect on students identified as failing. In a study of 250 school psychologists 77 % of professionals surveyed viewed retention as having a long-term negative impact on students as it was ineffective in addressing academic performance and behavioral issues. Additionally, 90% of respondents desired more input into the decision-making process of student retention. It was found that school psychologists were often brought in after the decision had been made to address the potential psychological impact, conference with parents, and to assist the student in the future (Schnurr et al., 2009). Jimerson (2001) stated:

Because of their unique training, roles, and responsibilities, school psychologists are in an optimal position to move education systems and research forward,

beyond the discussion of retention and social promotion in order to facilitate the education success of all students. School psychologists are encouraged to explore alternative interventions, empirically examine the efficiency of such efforts, document merits and limitations of various strategies, and disseminate the results of current and past research to other educational professionals. (p. 433)

The inclusion of school psychologists in the decision-making process would offer a deeper understanding of the long-term emotional affect of grade failure and potentially increase the likelihood of student engagement and success.

In considering student retention educators should consider the long-term academic effect and the correlation to student dropout associated with retention (Jimerson, Anderson, & Whipple, 2002). Research has shown that previous failure in core subject areas and in earlier grade levels are key identifiers of student disengagement and increase the likelihood of students not completing high school (Balfanz et al., 2007). Ou and Reynolds (2010) found that students who had been previously retained were less likely to complete high school and participate in any form of postsecondary education. Overall, research cautions that while retaining a student is not causation for student dropout rates, it is a factor consistently seen in students leaving schools early (Tingle et al., 2012).

Student Disengagement and Failure

In examining the need for retention and its relationship with high school dropout rates, educators must consider factors leading toward student academic failure and implement appropriate intervention strategies to assist those students (Jimerson, 2001). Smink (2001) suggested that understanding the individual needs of under performing students is the most effective method of avoiding course failure and student dropout. He reported that classroom educators are essential in identifying these needs and must be

willing to accommodate the student accordingly. The classroom teacher's ability to identify early warning signs of academic distress and address them is potentially the difference in a student's success or failure (Jackson, 2010).

One of the most prevalent factors contributing to course failure and school dropout is student disengagement (Henry et al., 2012). Studies have shown that disengaged students exhibit similar qualities that can help in identifying those at risk. Low attendance rates, behavior problems, and course failure are identified as common indicators of students who are becoming disengaged (Balfanz et al., 2007; Henry et al., 2012). In a study of students from high poverty and culturally diverse areas less than 20% of those who exhibited these indicators completed high school (Balfanz et al., 2007). Gallant (2011) suggested that for many students the structure and perceived pressure of schools increases the likelihood of disengagement as they get older. To reach these students, schools must change their methods of interacting with them and seek a change in the manner of instruction.

A school's culture and staff have the ability to promote student success or further his or her level of disengagement (Christle, Jolivette, & Nelson, 2007). In a study of middle grade students participants identified strict rules, a dislike for teachers, and problems with peers as reasons for not attending school and becoming disengaged (Nelson et al., 2012). In these circumstances the teacher is potentially the most capable of identifying these students and intervening. School staff can positively affect this movement toward disengagement and failure. Research has shown that a positive student-teacher relationship can improve student test scores and lower the chance of dropping out (Barile et al., 2012). In addition, students who said teachers were

supportive of them exhibited a behavior of increased engagement (Skinner, Furrer, Marchand, & Kindermann, 2008). An increased focus by schools in the areas of engagement and teacher involvement is a low cost and highly effective means of promoting student success.

Economic Impact of Student Dropout

The cost of disengagement can be seen in the economic impact of students who fail to complete high school. Wise (2008) suggested that one of the biggest issues facing education is the system's dated design that does not effectively engage students and fails to prepare them for the workforce or college. This is due in part to the system's inability to retain students until graduation. Wise suggested the issue is compounded in areas that have historically high poverty and ethnic diversity. In 2010-2011, 369,000 students nationwide left school without obtaining a diploma (Bureau of Labor and Statistics, 2012). Because of the increase in skills required for employment these students who drop out are unprepared for the workforce and less likely to find employment. These students have an increased likelihood of applying for public services and higher occurrences of criminal activity (Bloom, 2010).

Students who failed to complete school have been shown to have difficulty finding steady employment. Of the students who dropped out in the 2011 school year, 55% were able to find work (Bureau of Labor and Statistics, 2012). This is lower than those who graduated, who demonstrated a 68.7% employment rate. In addition, the jobless rate for those nongraduates was 38.4%, compared to a 33.6% jobless rate of high school graduates. This is an increase from unemployment rates of recent graduates and nongraduates in 2005, which showed a 32.9% unemployment rate for dropouts (Bureau

of Labor Statistics, 2005). It appears that as time progresses, job opportunities for nongraduates become fewer and their level of unemployment continues to rise.

Based upon this information, the lack of a high school diploma potentially has a long-term negative impact on a student's ability to find employment in today's job market or a job that pays above the poverty level. This factor is compounded by a nationwide decrease in employment opportunities for all young men and teens in the last 10 years, which is at a historic low (Sum, Khatiwada, McLaughlin, & Palma, 2011). Shril (2010) reported that the division between high skill and low skill job opportunities is growing as employers seek more qualified applicants. Mid-level skill jobs seem to be fading away; therefore, high school dropouts are being forced to compete for low skill work. While the earnings of students possessing a high level of education and high level skill set have continued to increase over the last 25 years, students lacking a high school education have seen a steady decrease in hourly pay (Legters & Balfnaz, 2010).

This trend of lower employment and earning potential for dropouts has continued over recent decades. The income level of high school dropouts has dropped dramatically since the 1970s. Students who drop out of school are currently earning only 37 cents for every dollar earned by a graduate (Rouse, 2005). This is considerably less than the earnings of nongraduates 40 years ago. At that time, dropouts were earning 64 cents for every dollar earned by those who completed high school. For those dropouts who find work upon leaving high school, there is little potential for job longevity. The Bureau of Labor Statistics (2013) reported that 56% of students who fail to complete high school will leave their job within a year and 70% will leave their position within 2 years. This current trend can be linked to a dropout's lack of academic skills and motivation in a job

market where employers are seeking higher levels of competency from those students who completed high school (Olson, 2007).

While all students who fail to graduate have an overall problem with continued employment and earning potential, there is an increase in this trend within specific subgroups among these students. Females at the age of 24 without a high school diploma had 20% less presence in the workforce than their male counterparts. In addition, female and African American dropouts were less likely to have ever been employed by the age of 25 (Bureau of Labor Statistics, 2013). The impact of the decision to leave school can be seen in the poverty level among these subgroups. In 1999 the poverty level of female led households of women who did not earn a diploma was 60%. African American and Hispanic subgroups in this study reported a 45.9% and 46.6% rate of poverty respectively (Mangum, Mangum, Sum, & Levitan, 2003).

Effect of Student Dropout on Schools

In today's educational system, schools who persistently report low graduation rates are at risk of federal, state, and local consequences. One of the most prevailing fears for schools and systems has been the failure to maintain Adequate Yearly Progress (AYP), with many states and districts being accused of manipulating data to reach target goals (McLester, 2006). The requirement for schools to meet the state requirement for *AYP* and consequences for failing to meet that level is defined in the *No Child Left Behind Act of 2001 (No Child Left Behind [NCLB], 2001)*. Spring (2005) explained NCLB was designed to clearly define educational standards and assess student learning in an attempt to remain competitive in a global market through high stakes testing. As with its predecessor the Elementary and Secondary Act of 1965, it is intended to ensure a

quality educational opportunity to disadvantaged groups (p.21). As outlined in Part A Subpart 1 Section 1111 of this law, schools are required to report graduation rates annually to the state for consideration in assessing the school's AYP status (*NCLB*, 2001). Rates must meet or exceed the state's agreed upon graduation rate, as deemed acceptable by the federal government, or face being label as a school in need of improvement (*NCLB*, 2001). However, the increased pressure to meet the requirements of this law places pressure upon schools and teachers to make decisions that keep their school in good standing and may not be beneficial to students.

Currently Tennessee is making significant gains in graduation rates and methodology of reporting such data as they relate to curriculum rigor and AYP (EPE, 2011; Sparks, 2010). State officials reported a graduation rate of 87% statewide (Tennessee Department of Education, 2012). This is higher than the national average for graduation rates in 2010 of 74% (Snyder & Dillow, 2011). The Alliance for Excellent Education (2009) explained that under the reauthorization of NCLB school graduation rates must be comprised of students who completed school with a regular diploma during a 4-year period and compared to the population of the group as freshman. Those students who move, leave school, or receive a GED do not count as a graduate (The Alliance for Excellent Education, 2009). While Tennessee has made significant strides in graduating students, they will need to alter portions of the graduation data being reported to align themselves with the reauthorization of NCLB and more clearly define AYP, including a more detailed look at information regarding subgroups (The Alliance for Excellent Education, 2009). Many legislators and researchers are working to standardize the

reporting of school graduation rates so low performing schools are more easily identified and interventions may begin (Hoff, 2008; Sparks, 2010).

On a national level struggling schools who fail to graduate 60% or more on time are being identified by the term dropout factories, where students are at an increased risk of failing to complete high school (Balfanz et al., 2012). Researchers suggested that these school that are considered dropout factories are a major reason that the goal set by No Child Left Behind of 90% of students graduating will not be met by 2014 (Balfanz et al., 2012). Another study found that many of these schools that are not adequately graduating students share common characteristics. For example, these schools tend to have abnormally high rates of poverty, absenteeism, and discipline problems (Christle et al., 2007). These schools comprise 15% of schools nationwide and produce half of the nation's dropouts (Hoff, 2007). Though progress is being made to turn around these schools through increased funding and higher standards, many of them possess unique problems that must be identified at the state and local level (Amleidia, Balfanz, & Steinberg, 2009).

The diverse cultures that these failing schools serve create a difficult environment for stimulating graduation success. Some schools suffer the label of dropout factory due to the trend shown in students of rural schools to leave school and earn a GED, which does not count in graduation totals (Zher, 2010). This has become a popular choice for many students. Snyder et al. (2011) stated that in 2010 more students completed GED programs than any year since 2002 when the exam was altered to increase the test's rigor. Conversely, Legters and Balfanz (2010) stated that many of these dropout factories are often found in the largest cities, which are unique due to their urban setting. These

schools have a high rate of diversity and low economic population, who choose to leave school due to failing grades, life events, or disengagement (Letgers & Balfanz, 2010). This contributes to the disproportionate number, nearly 50% of African American and Hispanic students who are leaving school early compared to less than 30% of white students (Bridgeland, DiIulio, & Morison, 2006). While each school has its own unique issues in addressing graduation, all schools are held equally accountable for their graduation rate and face consequences for failing to meet their goal.

Recently waivers have been created to address requirements of NCLB while being less strict on struggling schools. However, the implications for schools that fail to achieve AYP remains the same. Failing schools still face the possibility of staff replacement, state takeover, or closure (A Blueprint for Reform, 2010). The Alliance for Excellent Education (2013) reported that the Department of Education has recently created waivers to assist schools struggling under NCLB regulations. Though many of these waivers will effectively allow the states and systems to influence AYP guidelines, they do not change the effect that graduation rates have on a school's AYP (The Alliance for Excellent Education, 2013). Schools are still in danger of being targeted and taken over if they fail to adequately improve their number of students graduating.

Though the process of state intervention on targeted schools is the end result of a long period of failure, the consequences for short-term failure are equally as steep and potentially detrimental to the future of the school (Balfanz, 2009). Schools that have been labeled by the state as targeted school for not meeting AYP are required to report the problems to the parents and offer students the opportunity to change schools at the expense of the local system (NCLB, 2001). This compounds the school's problem for

meeting the state requirement for AYP, as many of the high achieving students choose to leave the school due to its label. In many cases the exodus of high scoring students from underperforming schools leaves a student population comprised of low performing and unmotivated students who are often minorities or from a low socioeconomic background (Blanfanz, 2009).

Effect of Student Dropout on Society

The effect of a student's decision to leave school without earning a diploma has lasting effects on the community and on the nation as a whole. The Alliance for Excellent Education (2007) found reports that students who failed to complete high school in 2007 will earn significantly less annually over their lifetime than those who earned their diploma, a difference of \$9,634 per year. This effect is felt on our nation's economy because if those students who dropped out had completed high school, they would have contributed an additional \$329 billion dollars to the economy over their lifetime (Alliance for Excellent Education, 2007). This effect is felt locally as dropouts in Tennessee would have collectively earned an additional estimated \$145 million dollars annually if they had completed high school (Alliance for Excellent Education, 2011).

The effects of dropouts on our economy are not only found in the decrease in earning potential but the drain in lost tax revenue. Rouse (2005) explained that due to their low level of income, dropouts contribute an average of \$60,000 less in income taxes during their lifetime. This low level of taxable income combines to an estimated \$50 billion dollars less annually in taxes collected from dropouts. The estimated economic cost of 1 year's group of nongraduates, in income and taxes, is approximately \$192 billion dollars. The impact of the inability for these individuals to earn an adequate living

not only affects our society in lost taxes but also increases the drain on our country's social programs (Levin, Belfield, Muenning, & Rouse, 2007).

The dramatic financial impact on our economy of student dropout occurs in many areas throughout society, including the cost of criminal behavior of nongraduates (Monrad, 2007). Sum et al. (2011) report that recent dropouts are more likely to be incarcerated than those who have graduated high school compared to previous generations of dropouts. In 2003 two thirds of the prisoners serving time in either state or federal prisons reported that they had not received a high school diploma (Harlow, 2003). The estimated cost of incarceration and lost wages for these individuals is \$8 billion dollars nationally per year (Wise, 2007). For the 750,000 who did not graduate high school in Tennessee the state averages an expense of \$950 for each dropout for incarceration (D'Andera, 2010). Trumbetta, Seltzer, Gottesman, and McIntyre (2010) found that the failure to complete high school was a significant predictor of delinquent behavior over the lifetime of an individual with lower standards of living and lower IQ acting as contributing predictors. Bjerk (2011) found students who decided to leave school due to behavior problems or disengagement were much more likely to sell drugs or commit crimes later in life than students considered at-risk who completed school. While failure to complete school can not be directly identified as a cause for criminal behavior, males who leave school due to behavioral problems or disengagement have been shown more likely to commit crimes in the years immediately following the dropout event (Sweeten, Bushway, & Paternoster, 2009).

The national cost of students failing to graduate school becomes overwhelming, as these students tend to have larger families and an increased dependence on public aid

(Mangum et al., 2003). Additionally, male dropouts are also more likely to father children out of wedlock leaving several families headed by poorly educated female parents (Sum et al., 2011). This serves as a contributing factor to the persistence of low income families as demonstrated by the 41.9% of children from a female led household living in poverty (Mangum et al., 1999). Recently this trend can be seen in the poorest communities, as identified by the U.S. Census, of the country where 46% of the families were led by a single female (Bishaw, 2011). This appears to be a continuing trend related to poverty, as these children living in poverty are six times more likely to leave school prior to graduation (Monrad, 2007). Ultimately this trend appears to create a cycle of poverty where parents who left school prior to graduation raise children who are likely to drop out also.

Garfinkel et al. estimate that the cost of these poorly educated families associated to public aid programs is \$7.9 billion to \$10.8 billion dollars each year (as cited in Alliance for Education, 2007). Unfortunately this expense seems to be rising, as current census data show an increase in individuals applying for government insurance and an increase in individuals without insurance (DeNavas-Walt, Proctor, & Smith, 2012). One report stated that our nation could potentially save \$17 billion dollars in Medicare benefits if all students graduated on time (Alliance for Education, 2006). In Tennessee alone the cost of supplementing Medicaid for dropouts is an estimated \$1,100 per person each year (D'Andera, 2010).

Identifying At- Risk Students

Occurrences of student failure and eventual dropout events are not without key indicators that are often present in the student's record and academic performance data (Heppen & Bowles-Therriault, 2008). Many researchers have suggested that the key to addressing the problem of school failure is in early detection of at-risk behavior and appropriate intervention programs with the middle grades being identified as a crucial time for student success (Henry et al., 2012; Jimerson & Renshaw, 2012). Cratty (2010) found that at-risk factors influencing dropouts could be seen in students as young as the third grade and continue to be present in years leading to high school. Additionally, several researchers have found that a student's middle grade performance and behavior are strong indicators of his or her probability of graduating on time with course failure being the strongest indicator (ACT, 2009; Balfanz et al., 2007). Often these factors elude teachers before they become contributing factors to failure. Schools, administrators, and classroom teachers who identify these students early in their academic careers have more success in reengagement (Cratty, 2010; Jackson, 2010).

For many educators the easiest and most accessible information that is considered an at-risk identifier is a student's academic performance. Casillas et al. (2012) found that a student's middle school grades and standardized test scores were the strongest predictors for student academic success in high school and, therefore, graduation. Additionally, supporting research has shown that as many as one in five students entering high school are unprepared for academic success in core subject areas (Balfanz, 2009). Many students perceive the lack of fundamental knowledge gained in middle school as a contributing factor to the inability to succeed in high school courses (Bridgeland et al.,

2006). Bridgeland, Dilulio, and Balfanz (2009) reported that 62% of teachers surveyed in their study reported students being unprepared for course work is a major factor in failure. This lack of prior knowledge and an increased focus on rigorous assessment raise the likelihood of these students leaving school early (Allensworth & Easton, 2007).

The risk of failure for these low performing students continues to rise as they progress through school. Allensworth and Easton (2007) found that as ninth grade students' performance begins to decline and their GPA falls below 2.0, there was an increase in the probability of their being retained and ultimately leaving school. MacIver and Messel (2013) found that only 30% of students who fail multiple courses in their first year of high school graduated on time. When compared to high performing students, the gap in high school success attributed to course failure becomes evident. Monrad (2007) suggested that low performing students are 20 times more likely to leave school than their top performing peers.

For many years the educational system has used very practical data based methods for identifying students at risk of failure, specifically in subject area proficiency and GPA (Dorrell, 1989). Heppen and Bowles-Therriault (2008) suggested that the two key indicators associated with academic failure are student performance and attendance, with personal background factors acting as supporting identifiers. Likewise Jimmerson et al. (2012) found that students' individual backgrounds and level of engagement are key identifiers for school based interventions. They suggested that systems, schools, and teachers should examine data relating to students' socioeconomic status, discipline, parental involvement, and academic achievement in attempting to identify at-risk students for early interventions (Jimmerson et al., 2012). Balfanz (2011) stated that a

student who exhibits one of these indicators has a 20% less chance of graduating but 80% of these students exhibit one or more of these warning signs during their academic careers.

As students continue to accumulate at-risk factors such as course failure and retentions, the likelihood of future retentions and school dropout also increases (Henry et al., 2012). To combat this complex problem many states have introduced at-risk detection programs that assess many of these potential indicators as well as academic performance (Ryan, 2011). Programs designed to detect at-risk students are most effective when they track student performance, discipline, and attendance for shifts while incorporating proactive engagement reforms (Balfanz, 2011). Johnson and Semmelroth (2010) found that one such program, The Early Warning System, developed by the National High School Center, was capable of identifying between 96%- 100% of dropouts in sample schools. Schools and systems that are able to accurately identify at-risk students have an increased opportunity to implement interventions and put the student back on track to academic success.

In the past many in education assumed a student's academic failure was a direct result of the students being unprepared for higher levels of course work and opting out of the challenge (Roderick & Camburn, 1999). However, recent qualitative research by Bridgeland et al. (2010) found that many students associate their academic failure with being bored with school and feeling unmotivated. Bridgeland, Diluio, and Morison (2006) examined the reasons that students left high school and found that 47% claimed that the classes were not interesting. Bridgeland et al. (2006) also found that 69% of the students said they were not motivated to complete course work and nearly 70% felt they

could have successfully completed the work if motivated. This suggests that many students who fail academically are suffering from motivational problems to complete required grade level tasks.

For students' academic performance to increase they must be present in the classroom for instruction. Several researchers have found a strong relationship between student absenteeism and school failure (Allensworth & Easton, 2007; Balfanz et al., 2007; Heppen & Bowles-Therriault, 2008). Balfanz et al. (2007) found that students who attended school less than 90% of the time were at an increased risk of not graduating on time. Bridgeland et al. (2006) found that 65% of dropouts studied admitted to frequently missing school. Once a student has missed school 20% of the time the chances of graduation are only 13% (Balfanz et al., 2007). This trend was also supported in the McIver and Messel (2013) study of Baltimore area schools, where only 26% of ninth grade students with high absenteeism graduated on time. Often, the reasons students gave for not attending school are related to school culture and engagement. Many studies have shown that students attribute their truant behavior to strict school rules, school culture problems, and boredom (Bridgeland et al., 2006; Nelson et al., 2012).

Identifying At-Risk Students Through Individual Background Information

In addition to monitoring student academic history, schools must be aware of factors that contribute to student disengagement, course failure, and ultimately dropout that occur outside of school (Christle et al., 2007; Jimerson, 2012). One of the strongest indicators for potential at-risk students, aside from academic performance, is the student's socioeconomic status. Nationally students from families identified as low

socioeconomic status are six times more likely to experience failure and drop out of school (Monrad, 2007). The increased likelihood for students in poverty to fail is concerning as 21% of the nation's students are identified as living below the poverty level (Snyder & Dillow, 2012). This tendency for failure can be originated to the lack of experiences that raise cognitive ability and help to establish an individual's desire to learn in early childhood (Heckman, 2011). Additionally, Michael (2004) explained that the influence of poverty on education is related to the family's perspective of education, child nutrition, and parental involvement. These are potential influences on a student's educational success that teachers have little influence on but must understand to address the child's needs.

As educators examine the prevalence of poverty in schools, student racial demographics and poverty status appears to have a strong relationship (Balfanz, 2007). DeNavas-Walt et al. (2012) reported that 27% of African American families and 25% of Hispanic families are reported as below the poverty level, compared to 10% of Caucasians. Stillwell and Sable (2011) found that students from these two ethnic groups have an increased risk compared to Caucasians of failing to complete school. When both economic status and race are taken into consideration, educators have strong indicators for students at potential risk of academic problems. In their study of factors that contribute to students in poverty achievement scores, Lubienski and Crane (2010) found that Hispanic and Black students receiving free lunches score lower in math and reading tests over the first 5 years of school. The issue of minority poverty is compounded by the fact that these students are attending the poorest schools. Studies have shown that 37% of all students identified as African American or Hispanic are attending high poverty

schools, which have higher rates of student failure and drop out (Stillwell & Sable, 2011). This high number of minority students attending poor schools, with fewer resources, limits our society's ability to help students achieve and rise out of poverty.

While the persistence of poverty can be clearly seen in racial subgroups, the affects of poverty on a student's education appears to be similar regardless of race or location. Jordan, Kostandinmi, and Mykerezzi (2012) found that dropout rates in these two culturally different areas are near identical and report this is due in part to high levels of poverty found in each. In her examination of rural South Carolina schools, Zehr (2010) found educators attributed the high rate of poverty, similar to large urban areas, to be major factors in students leaving school in their region. Lyttle-Burns (2011) reported that educators in rural Appalachia struggle with support from poorly educated parents living in poverty contributing to the large gap between students of poor and wealthy families. Families in poverty lack resources to supplement school instruction, as students from low socioeconomic families often have difficulty in core courses due to lack of support outside of school and fewer enrichment opportunities (Lyttle-Burns, 2011; Waldfogel, 2012).

This lack of outside support can be seen in students' academic performance. Shores, Smith, and Jarrell (2009) found that students who qualified for free and reduced price lunch scored significantly lower in math courses. Additional research has shown that children of poverty have problems in reading/language arts comparable to students from non-English speaking households (Lesaux, 2012). A student's level of poverty and the impact on educational achievement is not specifically an issue of finance but includes cultural influences stemming from poverty. James Heckman (2011), recipient of the

Nobel Prize in economics, lists the financial and social affects of poverty and the benefits of effective educational reform:

1. Inequality in early childhood experiences and learning produces inequality in ability, achievement, health, and adult success.
2. While important, cognitive abilities alone are not as powerful as a package of cognitive skills and social skills—defined as attentiveness, perseverance, impulse control, and sociability. Cognition and personality drive education and life success, with character (personality) development is an important and neglected factor.
3. Adverse impacts of genetic, parental, and environmental resources can be overturned through investments in quality early childhood education that provide children and their parents with the resources they need to properly develop the needed cognitive and personality skills.
4. Investment in early education for disadvantaged children from birth to age 5 helps reduce the achievement gap, reduce the need for special education, increase the likelihood of healthier lifestyles, lower the crime rate, and reduce overall social costs. (p.32)

As families below the poverty level receive increased assistance, students have shown an increase in the likelihood of school success. Miler and Zhang (2011) found that graduation rates have constantly improved in schools who serve predominantly low socioeconomic students since welfare reforms of 1996.

The in-home culture of students has an additional influence on student behavior and academic achievement. Finn, Fish, and Scott (2008) reported that students from low socioeconomic families have a high occurrence and more severe acts of misbehavior. This misbehavior leads to students being suspended or receiving a punishment that removes the student from the regular instructional setting. Caver and Lewis (2010) reported that 646,500 students nationally were placed in alternative settings due to misbehaviors or at-risk behaviors during the 2008 school year. Additional research by U.S. department of education has found that 24% of all American students have been suspended at least once in their school career (Aud, KewalRamani, & Frohlich, 2011).

Studies have shown that missed instructional time due to misbehavior has a strong correlation to student dropout rates (Suh, Suh, & Huston, 2007).

Student misbehavior is often associated with at-risk factors related to students, including family structure, race, and poverty status. Staff and Kreager (2008) found that young men from poor families were more likely to have incidents of violence as a means of gaining peer acceptance. Their study also reported a close relationship between these incidents of delinquency and the likelihood of these students leaving school.

Additionally, research has shown that minority students are more likely to be suspended from school for behavioral problems than white students (Losen & Gillespie, 2012).

Davis and Dupper (2004) suggested that many schools have discipline policies that harshly and unfairly target at-risk students, contributing to their leaving school prior to graduation. In 2007 49% of African American students and 26% of Hispanic students were suspended for at least 1 day during high school, compared to 17% of White students (Aud et al., 2011). It is unclear if the large difference in discipline problems between these groups is a cultural difference or an organizational problem in which minorities are punished more harshly for minor behavioral issues (Losen & Gillespie, 2012).

Student discipline can be an effective and supportive factor in identifying at-risk students (Jimerson, 2012). However, a clear definition of behavior problems is not universally defined and consequences of such behavior differ from state to state (Finn et al., 2008). Losen and Gillespie (2012) stated that the inconsistent nature of school discipline possibly targets students who are already disengaged, affected by other at-risk factors, and are on a path to leaving school. As legislators increase their attention on school safety, many schools are creating discipline policies that identify students as

discipline problems for minor offenses, such as truancy, cell phones, and disrespect (Thompson, 2011). Carver and Lewis (2010) reported that 57% of school systems referred students to alternative school for academic failure, and 53% referred students for truancy. This additional labeling of at-risk students as a behavior problem for nondisruptive behavior seems to increase the risk of leaving school, as the national graduation rate for alternative schools is 68% (Lewis & Carver, 2010).

Interventions for At-Risk Students

As complex as identifying student at-risk factors is the ability for schools to effectively create interventions to meet the needs of these failing students seems equally overwhelming. Research has shown that many intervention programs have been developed to address specific at-risk factors, but few have proven to effectively address the multiple problems attributed to at-risk students' academic success (Lehr, Hansen, Sinclair, & Christenson, 2003). Caver and Lewis (2011) found that 84% of high schools and 79% of middle schools nationally reported the implementation of at least one academic intervention targeted to address the needs of at-risk students. Additionally, they found that programs designed to mentor students or address behavioral problems were found in fewer than 50% of the reporting high schools. These data suggest that as at-risk students advance through school an increased effort is made to address student academic deficits and less attention is placed on cultural factors that contribute to the student's decision to drop out.

To effectively address the needs of at-risk students and reduce dropout rates, schools must consider an intervention that addresses the multiple factors related to

student failure. Princiotta and Renya (2009) identified academic failure, disinterest in school, behavior problems, and life events as the most commonly identified reasons for students leaving school. Carver and Lewis (2011) reported that many high schools are monitoring these factors in their attempt to identify students in need of intervention programs. The National Dropout Prevention and Recovery Committee suggested that states nationwide adopt intervention programs that implement a four pronged approach that addresses many of the issues facing students at risk. Princiotta and Renya (2009) outline their proposal:

1. Promote high school graduation for all;
2. Target youth at risk of dropping out;
3. Reengage youth who have dropped out of school; and
4. Provide rigorous, relevant pathways to a high school credential

This proposal has the potential to address prevalent issues related to student failure. However, it does not clearly define a specific intervention program that effectively addresses all student at-risk factors.

Many of the interventions that systems implement are those that are directed at addressing the immediate need of increasing students' academic performance (Myint-U, O'Donnell, & Phillips, 2012). This push to improve student performance in light of increasingly higher standards seems to be counterproductive for many students and has been associated with an increase in disengagement (Gelnnie, Bonneau, Vandellen, & Dodge, 2012). However, the need for students to learn relevant content for the work place and college courses is persistent. The Alliance for Excellent Education (2008) suggested that schools must work to create classes that are challenging and offer

additional support to struggling students. Bridgeland et al. (2010) found that students tended to achieve the level set by their teachers and school systems. In their study students who were placed in lower level academic settings had lower achievement and increased disengagement. For these at-risk students, raising their level of competency through supportive instruction and increased autonomy improves their level of engagement and achievement (Bridgeland et al., 2010; Skinner et al., 2008). The challenge for many schools is presenting these higher standards in a manner that is more palatable and relevant that will help teachers in the struggle to engage at-risk students.

In an attempt to address this issue of engagement and achievement, some schools have shifted their instructional focus to include more real world and career based instruction to increase student interest in course content (Rose, Woolley, Orthner, Akos, & Jones-Sanpei, 2012). Noddings (2010) suggested that schools should move from a standardized curriculum for graduation and toward a curriculum that offers at-risk students the opportunity to take courses relevant to the current job market. Myint-U et al. (2012) reported that of the currently used interventions from their study, 68% were career based programs. Wonacott (2002), in examining the effects of career based instructional classes on dropout rates, found that schools that adopted a career based program showed a decrease in dropout rates. Dorrell (1989), in his early study of the affects of career based instruction, found that low performing students participating in the program showed a 100% increase in achievement levels and 75% were on track for graduation. These programs are more successful in engaging students at-risk, as they offer a clear application and relevance of course content (Alliance for Excellence in Education, 2008). As students discover the relevance of course content to career applications, they are likely

to become more deeply engaged in the curriculum and to complete their education (Orthner et al., 2010).

In addition to raising the level of engagement within course content, schools must become environments that foster engagement through supportive teachers and involved parents. Bridgeland (2010) found that 83% of parents with children at higher performing schools were actively communicating with the school. In lower performing schools, 43% of the families were regularly communicating with the school. Schools can benefit from increased parental involvement regardless of the parental education or income level (Alliance for Excellent Education, 2008; Bridgeland et al., 2010). Reglin, Cameron, and Losike-Sedimo (2012) found that parental involvement in a middle school reading intervention had significant and positive effects on student reading scores. Often students perceive parental involvement in their education as a stronger motivator to succeed than the student-teacher relationship (Lyttle-Burns, 2011). While some teachers resist an increase of cooperation with parents due to fear of conflict, parents are typically a willing and strong motivator for getting students on track to achieve (Bridgeland, 2010).

Teachers play a crucial role in the academic achievement of all students. For many failing and at-risk students the influence of a teacher will play a decisive role in their decision to complete school (Barlle et al., 2012). In implementing intervention programs, teachers are the most involved personnel in the process, the most knowledgeable of the student's academic needs, and the most likely to recognize potential warning signs of failure (Jackson, 2010; Myint-U, 2012). With this increased knowledge of students, teachers have the ability to design activities that specifically address student learning differences. Faria, Freire, Galvao, and Bapsista (2012) observed

the successes science teachers had with reengaging at-risk students and improving test scores through the incorporation of hands-on experiments. When teachers create lessons that take into account the individual needs and learning differences of a student, they will find their students more engaged and successful (Perrin, 1990).

While knowledge of student needs is important, the relationships and expectations that a teacher has with students will impact at-risk students more significantly. Bergeron, Chouinard, and Janosz (2011) found that the likelihood of students' leaving school was significantly impacted by their positive or negative relationship with teachers. In her study dealing with the reason young men left school, Harrington (2008) discovered that many of the students interviewed attributed poor quality teachers to their decision to leave school. Davis and Dupper (2004) explained impacts of a positive student-teacher relationship on the students' engagement and performance. They stated:

Teachers who express confidence in their students and praise students when they do well set the foundation for building positive relationships and learning experiences. This type of positive regard enhances the students' motivation to do well and contributes to the development of a bond of loyalty between the teacher and the student. When students respect and have confidence in their teachers, they are likely to do their best. (p.183)

Bridgeland et al. (2006) found that 81% of the participants felt that a teacher's ability to make content interesting was a factor in the decision to continue in school. Johnson and Lampley (2010) found that at-risk students who were assigned a staff mentor to help reengage them in school showed significant improvements in all at-risk variables including GPA, attendance, and behavior.

As students continue to struggle academically, school systems address the need to increase instructional time through summer programs and credit recovery programs.

Studies have shown that an increase in instructional time, beyond current compulsory time, has a positive and dramatic effect on student ability levels (Cabus & De Witte, 2010; Mayers & Peterson, 1999). For students who are failing or are struggling, the summer could be a time to make up academic ground or fall dangerously behind. Cooper (2003) studied the effects of summer school programs and found that students lost nearly 1 month of instructional content over the summer break and were unprepared for future classes upon their return to school. At-risk students are at a greater risk of this loss and typically score lower in reading compared to classmates from other demographics (Cooper, 2003). McCombs and Sloan (2011) stated that while summer programs are expensive for school systems to facilitate, they are an effective method of closing achievement gaps in low performing and at-risk students. Summer programs specifically designed for remediation or to address course failure have shown significant gains in test scores in reading and math (Cooper, 2003). For failing students, a supplemental instructional intervention during the summer may be their only option for getting back on the path to graduation.

In designing summer or supplemental programs to address the needs of failing students, many schools have turned to technology-based programs to assist them in engaging these students (O'Hanlon, 2009). For students who have failed a course, school systems nationwide are offering a computer-based credit recovery program to assist students in staying on track to graduation (Loewen & Fryer, 2006). The programs are designed to help failing students maintain their grade status and avoid further disengagement (Franco & Patel, 2011). These programs have been found to be highly effective in increasing the number of credits that at-risk students can earn toward

graduation thereby decreasing the likelihood of their leaving prior to graduation (Franco & Patel, 2011; Loewen & Fryer, 2006). In his study on webbased curriculum Robins (2011) found that 95% of administrators surveyed agreed or strongly agreed with schools using web-based technology to address at-risk students' needs. Rulloda (2009) found that students who participated in a web-based instructional course increased their graduation rate by 72%. To support the use of these programs, systems have found an overwhelmingly positive community perception of these web-based interventions (Robbins, 2011).

The choice of technology-based intervention programs continues to rise and systems must consider how each program adequately addresses their needs. Study Island is a popular online program used by many systems as an at-risk intervention, supplemental course instruction, and standardized test preparation (Doe & Felix, 2010). This program has shown to be beneficial for struggling students, particularly with an IEP, in maintaining academic progress with their peers on standardized tests (Viviano, 2011). This intervention offers an interactive lesson that is focused on increasing student engagement and accommodating learning differences through animated instructional videos, various text to speech options, and customizable lessons (Doe & Felix, 2010). Teachers have the ability to use the program to monitor areas of proficiency, increasing their amount of detailed instructional data about participating students (Hixson, 2007). Struggling schools will find this additional data to be a useful tool in identifying areas to be strengthened and helpful in creating lessons to address emerging academic problems (Duke & Jacobson, 2011).

An additional benefit to these computer-based courses is their versatility. Reports have shown Study Island and similar online programs to be an effective instructional supplement for improving scores on college entrance exams, ACT and SAT, in the highest performing students (Doe & Felix, 2010; Hua, 2010). Heppen and Bowles-Therriault (2008) found that participation in online courses significantly improved student scores and the likelihood of taking additional advanced math courses in the future. The study also found that there were no negative effects on students taking these web-based courses. The adaptability for web-based content offers teachers and schools the freedom to address the needs of students at different levels and design interventions that benefit all students academically.

While technology based interventions seem to be the current trend in keeping students on the path to graduation, some teachers are not as supportive as other stakeholders (Robbins, 2011). Dessoiff (2009) reported that systems reluctant about strictly web-based interventions have found success in creating a hybrid intervention that uses online courses combined with face-to-face instructors. These hybrid interventions are seen to address many teachers concerns about lowering standards by allowing educators an opportunity to maintain curriculum rigor, monitor student progress, and supplement areas of weakness (Kornholz, 2011). Simcox (2011), in her study of an intervention program in Northeast Tennessee, found that students participating in an intervention using online software and supplemental instruction were less likely to be retained, with students reporting the use of the online programs being the contributing factor to their success. In Virginia at-risk students participating in one of the community's hybrid programs scored higher collectively in core subject exit exams than

the state average (Kornholz, 2009). The blending of technology and personal instruction is an adaptable method of addressing the diverse instructional needs of students.

For many at-risk students the influence of fellow students, peer victimization, and a negative school culture increases the likelihood of school disengagement and increases delinquent behavior (Kline, Cornell, & Konold, 2012). Additionally, at-risk students frequently find themselves in circumstances such as pregnancy, discipline problems, or the need to work that limit their ability to attend school in a traditional manner (Chalker & Stelsel, 2009). As these problems persist, school systems must consider alternative means of maintaining student achievement outside the school walls. Some systems have found success in partnering with community organizations to facilitate or supplement student learning (Fries, Carney, Blackman-Urteaga, & Savas, 2012; Nelson et al., 2012). This outreach to the community offers students the opportunity to gain support from individuals within the community who are invested in their achievement. Students participating in such programs have shown an increase in engagement, identified the relevance of course curriculum outside the classroom, and are more likely to graduate (Harris & Princiotta, 2009). A study of a community sponsored, curriculum based, after school programs found that at-risk students felt more confident in their course work after attending the intervention program (Dodd & Bowen, 2011). For some at-risk students, the ability to learn outside of a traditional classroom allows the freedom to reengage in learning and complete their education (Chalker & Stelsel, 2009). The benefits of community based interventions have been seen by educators in several states, as many states have begun to allocate money to increase the availability of these programs to students (Harris & Princiotta, 2009).

Summary

The effects of students failing to graduate high school have a profound impact on our culture and are a drain on our nation financially (Ou & Reynolds, 2010). To address this schools are under increased pressure to identify factors contributing to student dropout. Course failure and psychological development of students have been identified as two key indicators of high school dropping out (ACT, 2009). For most students early assessments and interventions by schools are the best opportunity to avoid failing. Teachers must make a deliberate effort to make research-based decisions regarding student interventions and avoid choices, such as retention, that will have a lasting negative impact (Jimerson & Renshaw, 2012).

CHAPTER 3

METHODS AND PROCEDURES

Introduction

The purpose of this study was to evaluate the relationship between short-term student success, based upon academic proficiency level, attendance, previous retention, absenteeism, and number of discipline referrals, and the recommendation for retention and completion of the Hamblen County Credit Recovery Program. Student academic proficiency data were obtained from participant's T-CAP scores, as reported by the Tennessee Department of Education and were compared to previous academic years scores. Information dealing with students' attendance, socioeconomic status, and discipline were obtained and coded from the student permanent records provided by Hamblen County Schools. This chapter includes the definition of a population studied, null hypotheses tested, explanation of data collection, and quantitative methods of analysis.

Research Question and Null Hypotheses

Research Question 1

Is there significant difference between students' TCAP scores in mathematics the year prior to participation in the HCCRP and their TCAP or EOC scores after participation?

Ho1: There is no significant difference between students' TCAP scores in mathematics the year prior to participation in the HCCRP and their TCAP or EOC scores after participation.

Research Question 2

Is there a significant difference between students' TCAP scores in reading/language arts the year prior to participation in the HCCRP and their TCAP or EOC scores after participation?

Ho2: There is no significant difference between students' TCAP scores in reading/language arts the year prior to participation in the HCCRP and their TCAP or EOC scores after participation.

Research Question 3

Is there a significant difference between students' TCAP scores in science the year prior to participation in the HCCRP and their TCAP or EOC scores after participation?

Ho3: There is no significant difference between students' TCAP scores in science the year prior to participation in the HCCRP and their TCAP or EOC scores after participation.

Research Question 4

Is there a significant difference in the proportion of students completing HCCRP who qualify for free and reduced lunch as compared to students in Hamblen County School System who qualify for free and reduced lunch?

Ho4: There is no significant difference in the proportion of students completing HCCRP who qualify for free and reduced lunch as compared to students in Hamblen County School System who qualify for free and reduced lunch?

Research Question 5

Is there a significance difference in the number of students by middle grade level who completed the HCCRP as compared to the distribution of students throughout the middle grade levels in Hamblen County School System?

Ho5: There is no significance difference in the number of students by middle grade level who completed the HCCRP as compared to the distribution of students throughout the middle grade levels in Hamblen County School System?

Research Question 6

Is there a significant difference between individual discipline referrals for students in the previous year and the number of individual discipline referrals the year following completion of the HCCRP?

Ho6: There is no significant difference between individual discipline referrals for students in the previous year and the number of individual discipline referrals the year following completion of the HCCRP.

Research Question 7

Is there a significant difference in the absenteeism of students who participated in HCCRP in the pervious school year and their absenteeism the year after completion of the HCCRP?

Ho7: There is no significant difference in the absenteeism of students who participated in HCCRP in the pervious school year and their absenteeism the year after completion of the HCCRP.

Research Question 8

Is there a significance difference between the absenteeism of students who participated in the HCCRP and the average number of days missed by middle school students?

Ho8: There is no significance difference between the absenteeism of students who participated in the HCCRP and the average number of days missed by middle school students.

Population

The population of this study includes all 93 students who have attended the Hamblen County Credit Recovery Program at least 1 of the summers from 2009 through 2011. As this is an intervention program for course remediation, it is assumed participants have had low academic performance or failed the previous grade. No information is available on gender or ethnic breakdown of the population.

Instrumentation

The values used to compare student academic performance came from each student's score on state standardized tests. All middle grade students are required to take the Tennessee Comprehensive Assessment Program (TCAP) at the end of each academic year. This is an elementary and middle grade standardized assessment intended to assess a student's academic level for 1 school year. Students are tested in reading/language arts, mathematics, science, and social studies. For those students who attend HCCRP in their eighth grade year and have moved on to high school, scores from their End of Course Exams (EOC) were used for the comparison. EOC's are the state standardized exams for high school level English, math, and science. Students' normal curve equivalency (NCE)

score from each test were used for the comparisons between the two tests. The values used to assess student absenteeism were taken from the student's first period attendance for the year. Values compared for discipline were taken from the number of office referrals students received and were documented in their record.

Data Collection

This research project was designed to use existing student data provided by Hamblen County Schools. Student names were collected from the HCCRP records by the programs coordinator and placed into spreadsheets by Hamblen County's Assessment Coordinator. All information regarding student test data, absenteeism, discipline, and economic status was entered into the spreadsheet by the coordinator. Finally, the Assessment Coordinator for Hamblen County Schools assigned a coded number to each student, and all distinguishable personal information was removed. The analysis used the information regarding student attendance, socioeconomic status, academic performance level, and occurrence of discipline referrals. The projects design was submitted to Institutional Review Board (IRB) and has received a wavier, as all testing used archival data.

Data Analysis

Analysis of data was completed through the use of Statistical Program for the Social Sciences (SPSS) software. Student academic performance in each of the tested subject areas was analyzed for significant changes based upon student TCAP scores using a paired sample t-test comparing pervious score with scores 1 year after participating in the Hamblen County Credit Recovery Program. Additional paired sample t-tests were conducted to examine the before and after the intervention on student attendance and

frequency of discipline referrals compared to the year prior to attending the Hamblen County Credit Recovery Program. A single sample t-test was run to compare the average number of school days missed by middle school student in the Hamblen County and those and those missed by middle school students who participated in the Hamblen County Credit Recovery Program. A chi square test was conducted to see if there is a significant difference in students who have attended the Hamblen County Credit Recovery Program who qualify for free and reduced price lunch between 2009 and 2011 compared to the expected level based upon the reported percentage of free and reduced lunch students in the Hamblen County School System. A chi square test was also use to check for a significant difference in the number of students from individual grade levels in the population of HCCRP as compared to the distribution of students among grade levels throughout Hamblen County School System. The significance level for each of the aforementioned tests was set at the .05 level.

Summary

This chapter defines the study's design and procedures for testing. This chapter included an explanation of the study, a definition of population, the methodology for data collection, a statement of the null hypothesizes, and methods of testing for data analysis.

CHAPTER 4

ANALYSIS OF DATA

This study was designed to examine the impact the HCCRCP has on at-risk factors of middle grade students in the immediate year following retention and the HCCRCP intervention. Eight research questions were created to provide a focus for the study and were presented in Chapter 1. Based upon those research questions eight null hypotheses were created for quantitative testing as presented in Chapter 3. This chapter presents the finding and analysis of data for each hypothesis created for this study.

Research Question 1

Is there a significant difference between students' TCAP scores in mathematics the year prior to participation in the HCCRCP and their TCAP or EOC scores after participation?

Ho1: There is no significant difference between students' TCAP scores in mathematics the year prior to participation in the HCCRCP and their TCAP or EOC scores after participation.

A paired-samples *t*-test was conducted to evaluate if there was a significant difference in student performance on standardized state math exams following attending HCCRCP compared to the prior year's score. The results of the analysis were significant, $t(56)=2.43, p=.018$. Therefore, the null hypothesis was rejected. The results indicate that students performed significantly better on math testing the year following participation in HCCRCP ($M=37.63, SD=18.05$) compared to the previous years math scores ($M=32.14, SD=17.67$). The 95% confidence interval for the differences in the means was .96 to

10.01 as seen in Table 1. The η^2 was .09, which indicates a medium effect size. Based upon these results students who participated in the HCCRP were likely to perform better on the state math tests compared to the pervious years. Figure 1 shows the distribution of Math score for the years before and after the HCCRP intervention.

Table 1.

Means and Standard Deviations of Student Math Scores and the 95% Confidence Interval

Student Status	N	M	SD	Confidence Interval
Before HCCRP	58	32.14	18.05	.96 to 10.01
After HCCRP	58	37.63	17.67	

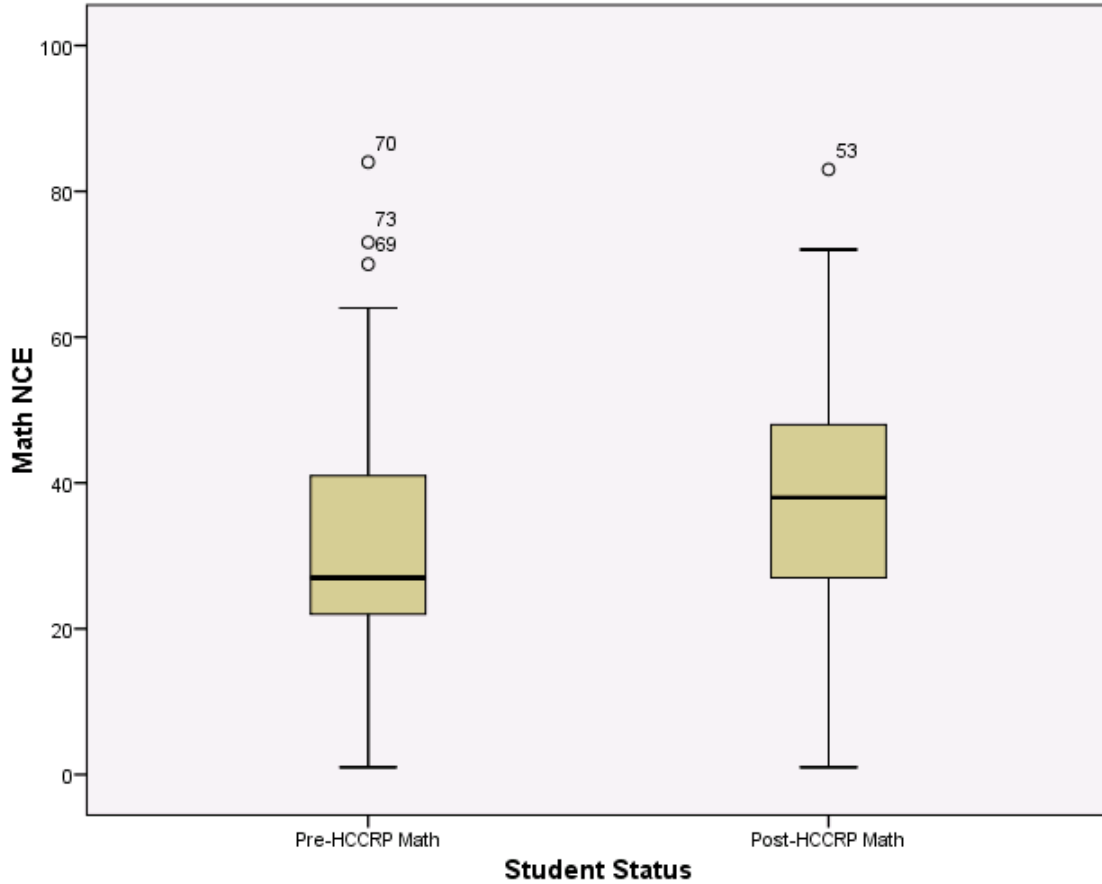


Figure 1. Distribution of student math scores prior to and after attending HCCR

Research Question 2

Is there a significant difference between students' TCAP scores in reading/language arts the year prior to participation in the HCCR and their TCAP or EOC scores after participation?

Ho2: There is no significant difference between students' TCAP scores in reading/language arts the year prior to participation in the HCCR and their TCAP or EOC scores after participation.

A paired-sample was conducted to examine if there was a significant difference in student performance in reading/language arts on state standardized test after participating in the HCCR. The results of the analysis were significant, $t(71)=3.30, p= .001$.

Therefore, the null hypothesis was rejected. The test results suggest that students preformed significantly better on the reading/language arts portion of state test after attending the HCCRP ($M=31$, $SD=17.01$) than the year prior to attending ($M=25.81$, $SD=16.71$). The 95% confidence interval for the differences in the means was -9.37 to -2.32 as seen in Table 2. The η^2 was .13, which indicates a medium effect size. Students who had attended the HCCRP were likely to show improvements in their score over previous performance on the reading/language arts portion of the state standardized test. Figure 2 below shows the distribution of the students' scores in the year prior to and after attending HCCRP.

Table 2
Means and Standard Deviations of Student Reading/Language Arts Scores and the 95% Confidence Interval

Student Status	N	M	SD	Confidence Interval
Before HCCRP	72	25.81	16.71	2.32 to 9.37
After HCCRP	72	31	17.01	

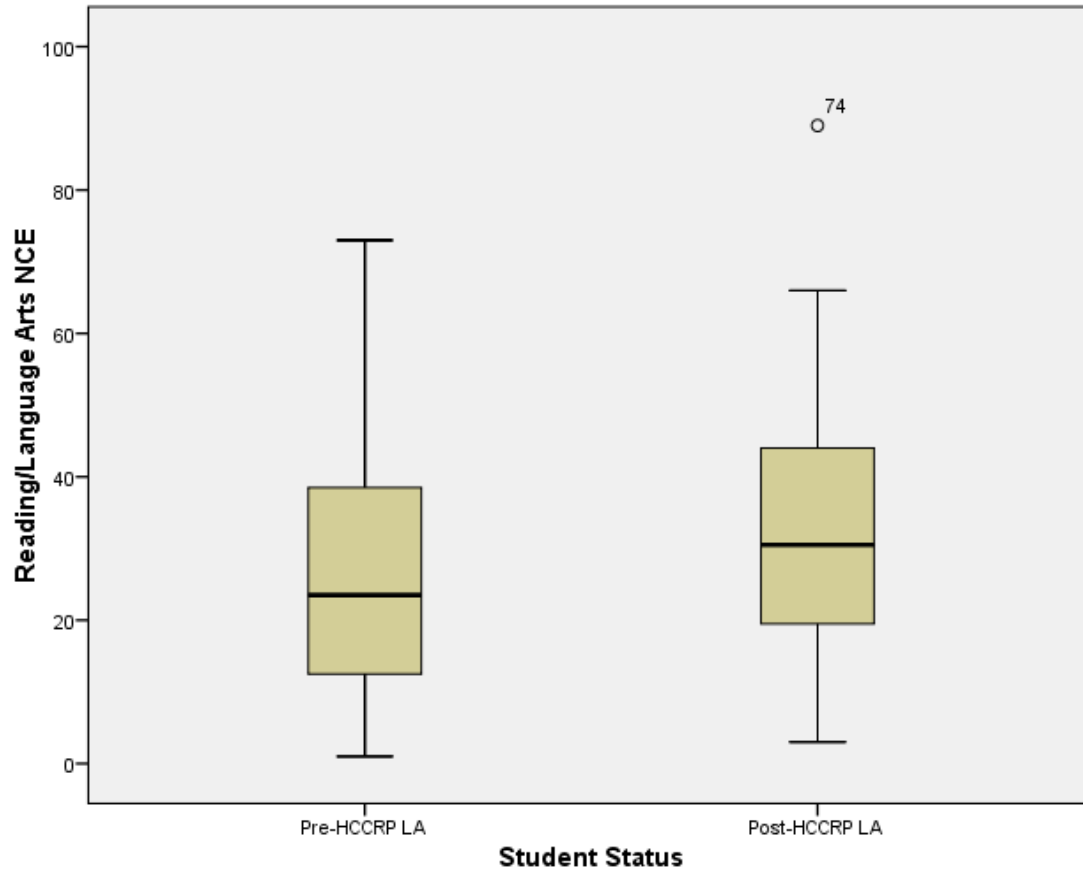


Figure 2. Distribution of student reading/language arts scores before and after HCCR

Research Question 3

Is there a significant difference between students' TCAP scores in science the year prior to participation in the HCCR and their TCAP or EOC scores after participation?

Ho3: There is no significant difference between students' TCAP scores in science the year prior to participation in the HCCR and their TCAP or EOC scores after participation.

A paired sample *t*-test was conducted to compare student's performance on the science portion of the state standardized tests in the year prior to and after attending HCCR. The results of the test were not significant, $t(57) = 1.35, p = .180$. Due to the *p*-

value not exceeding the .05 level, the null hypothesis was retained. Students seem to perform around the same level on the state science test after attending HCCRP ($M=37$, $SD=16.63$) as they did previously ($M=34.43$, $SD=17.38$). The η^2 was .04, which indicates there is a small effect size. The 95% confidence interval for the differences in the means was -6.35 to 1.21 as shown in Table 3. Student performance in science was not likely to change in the year after participating in HCCRP. Figure 3 below shows the distribution of student science scores for the year prior to and after attending the HCCRP.

Table 3
Means and Standard Deviations of Student Science Scores and the 95% Confidence Interval

Student Status	N	M	SD	Confidence Interval
Before HCCRP	58	34.43	17.38	-6.35 to 1.21
After HCCRP	58	37	16.63	

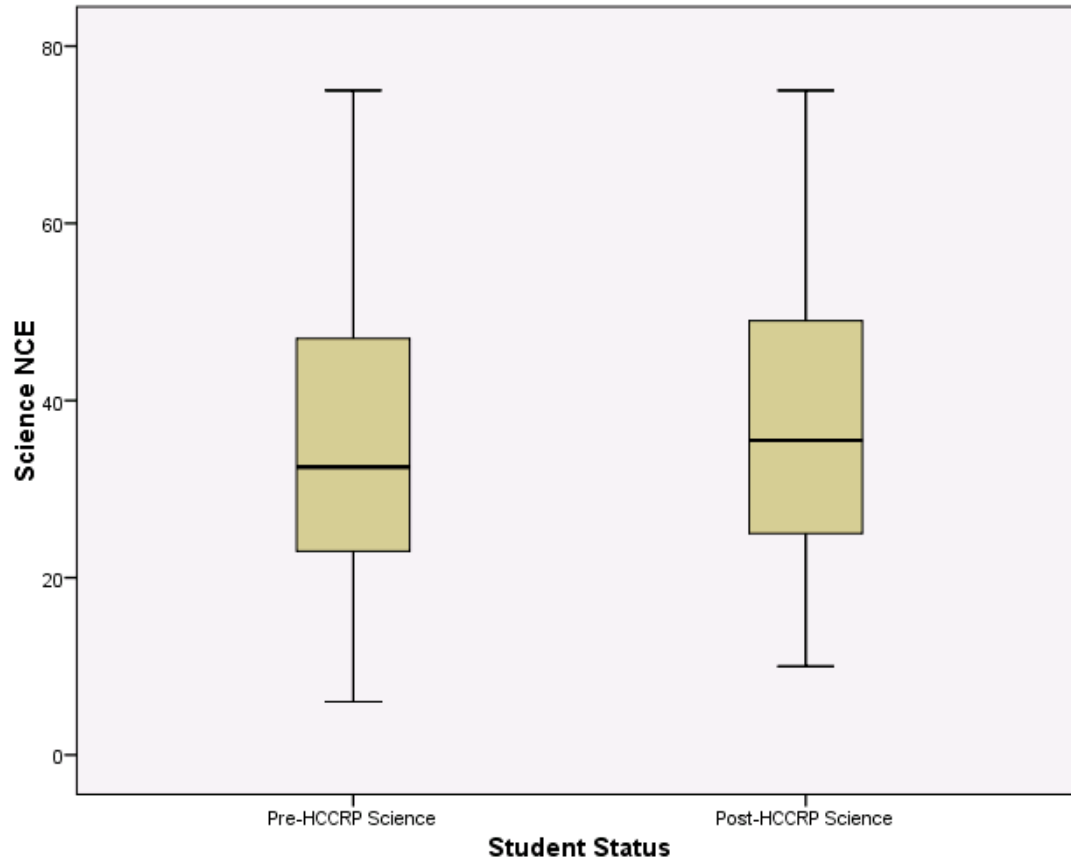


Figure 3. Distribution of students' science scores before and after HCCR

Research Question 4

Is there a significant difference in the proportion of students completing HCCR who qualify for free and reduced lunch as compared to students in Hamblen County School System who qualify for free and reduced lunch?

Ho4: There is no significant difference in the proportion of students completing HCCR who qualify for free and reduced lunch as compared to students in Hamblen County School System who qualify for free and reduced lunch?

A one sample chi square test was conducted to examine if students from one socioeconomic status were more prevalent in HCCR than others. Students were classified as either free or reduced lunch or fully paid lunch. The results of the test were

significant, $\chi^2(1, N=91) = 4.54, p < .05$. Therefore, the null hypothesis was rejected. The expected number of students among the socioeconomic subgroup was 58.24 which is based on the fact that 64% of the student in the district qualify for free or reduced lunch (Tennessee Department of Education, 2012). Of the population, 68 students were identified as receiving free or reduced lunch. A smaller portion of the population was identified as full price (23). Significantly more program completers (68) qualify for free or reduced lunch than expected (58.24). The results suggest that the student population of HCCRP possessed a significantly high number of students classified as receiving free or reduced lunch. Figure 4 illustrates the distribution of the socioeconomic subgroups through out the HCCRP population.

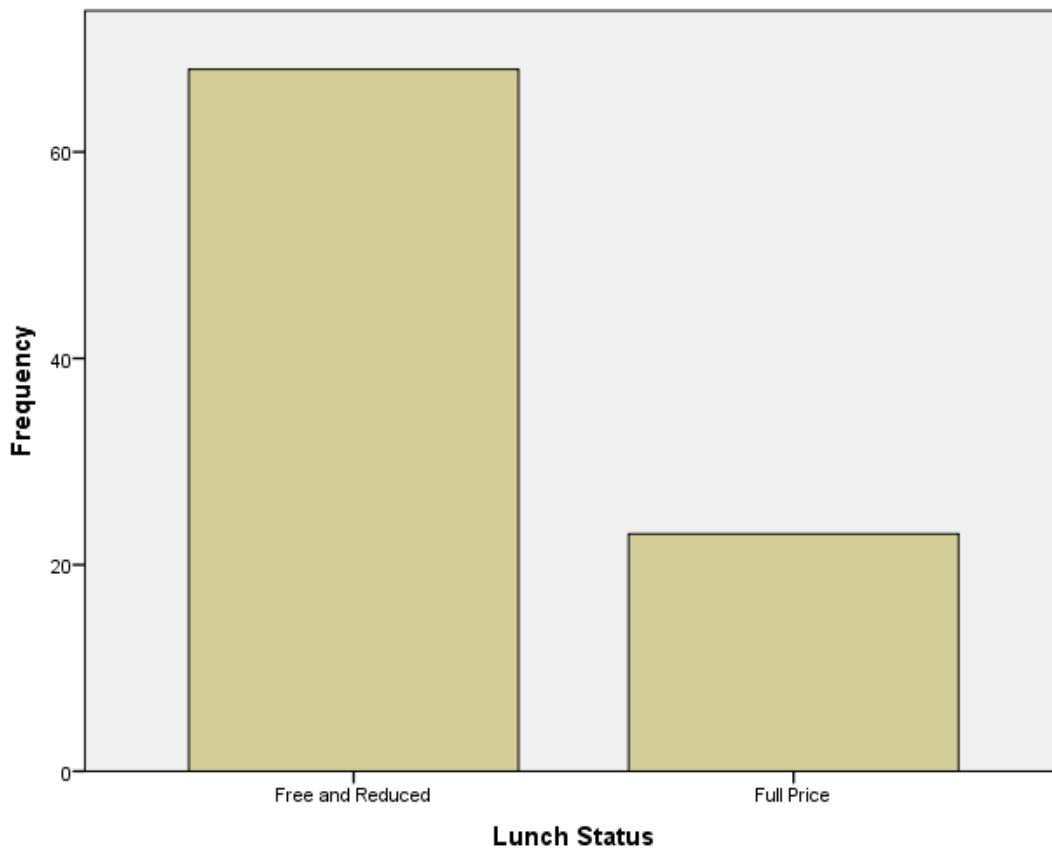


Figure 4. Distribution of student socioeconomic status among HCCRP population

Research Question 5

Is there a significance difference in the number of students by middle grade level who completed the HCCRP as compared to the distribution of students throughout the middle grade levels in Hamblen County School System?

Ho5: There is no significance difference in the number of students by middle grade level who completed the HCCRP as compared to the distribution of students throughout the middle grade levels in Hamblen County School System?

A one-sample chi square test was conducted to examine if there was prevalence of any one middle school grade level over another within the population of the HCCRP. Students were identified by the grade level for which they were retained when referred to the HCCRP. The three grade levels for middle school students in Hamblen County are sixth, seventh, and eighth grades. The results of the test were not significant, $\chi^2(2, N=93) = 3.09, p > .05$. Therefore, the null hypothesis was retained. The hypothesized distribution of students was 31 among all grade levels, based upon equal distribution of middle grade students county wide (Hamblen County School System, 2013). The population was approximately equally represented by sixth graders ($P=27$) and seventh graders ($P=27$) with both slightly below the hypothesized level. There was a higher number of the eighth grade students who attended the HCCRP ($P=39$), which slightly but not significantly exceed the hypothesized frequency of 31. This test suggests that each middle school grade level is equally represented in student referrals to the HCCRP. Figure 5 shows the distribution of student grade levels among the HCCRP population.

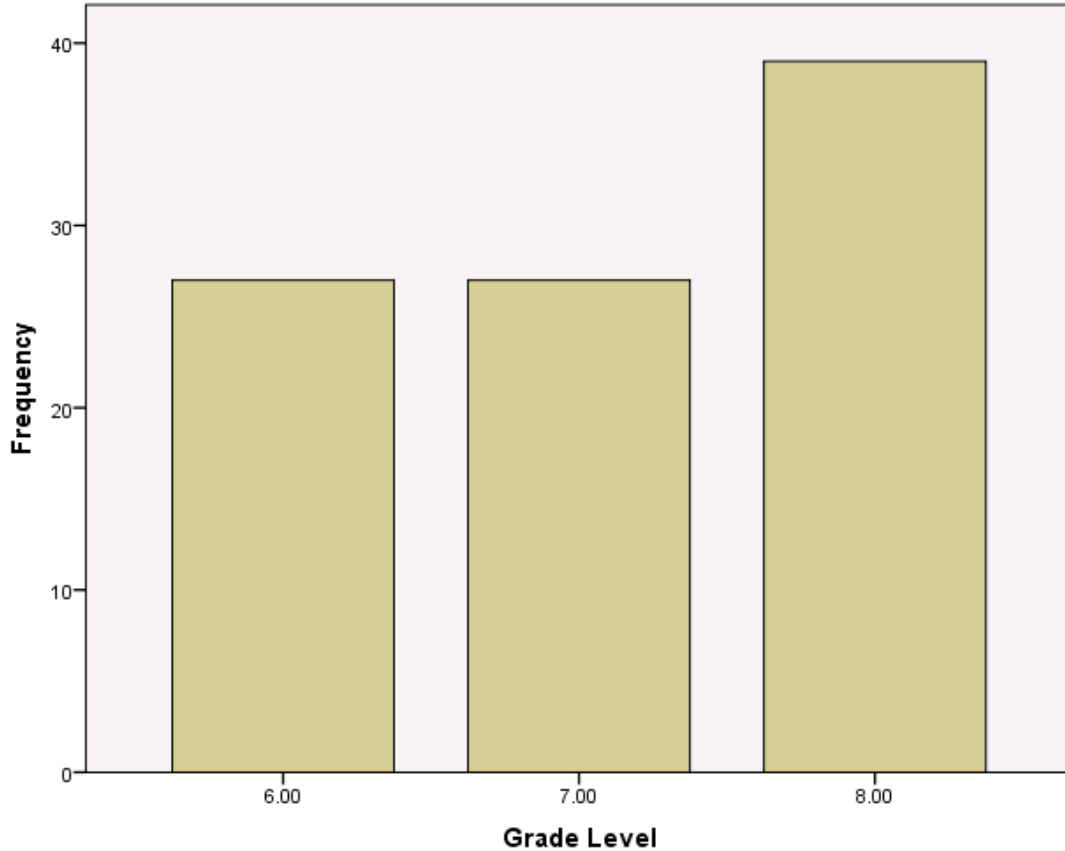


Figure 5. Distribution of students' grade level among HCCRCP population

Research Question 6

Is there a significant difference between individual discipline referrals for students in the previous year and the number of individual discipline referrals the year following completion of the HCCRCP?

Ho6: There is no significant difference between individual discipline referrals for students in the previous year and the number of individual discipline referrals the year following completion of the HCCRCP.

A paired sample *t* test was conducted to examine if there was a difference in the number of discipline referrals students receive in the year after attending HCCRCP and the year prior. The results of the test were not significant, $t(87)=-.236$, $p=.814$. Therefore, the

null hypothesis was retained. The η^2 was .001, which indicates there is a small effect size. The number of student discipline referrals after attending HCCRCP ($M=2.97$, $SD=3.60$) was not significantly different from the number of student discipline referrals in the year prior to the HCCRCP intervention($M=2.90$, $SD=3.45$). The 95% confidence interval for the differences in the means was $-.74$ to $.59$ as shown in Table 4. The results indicate little difference in the number of student discipline referrals in the school year after the HCCRCP and in the year before the intervention. Figure 6 shows the distribution of the discipline referrals in the year prior to and after the HCCRCP intervention.

Table 4
Means and Standard Deviations of Student Discipline Referrals and the 95% Confidence Interval

Student Status	N	M	SD	Confidence Intervals
Before HCCRCP	88	2.90	3.45	$-.74$ to $.59$
After HCCRCP	88	2.97	3.60	

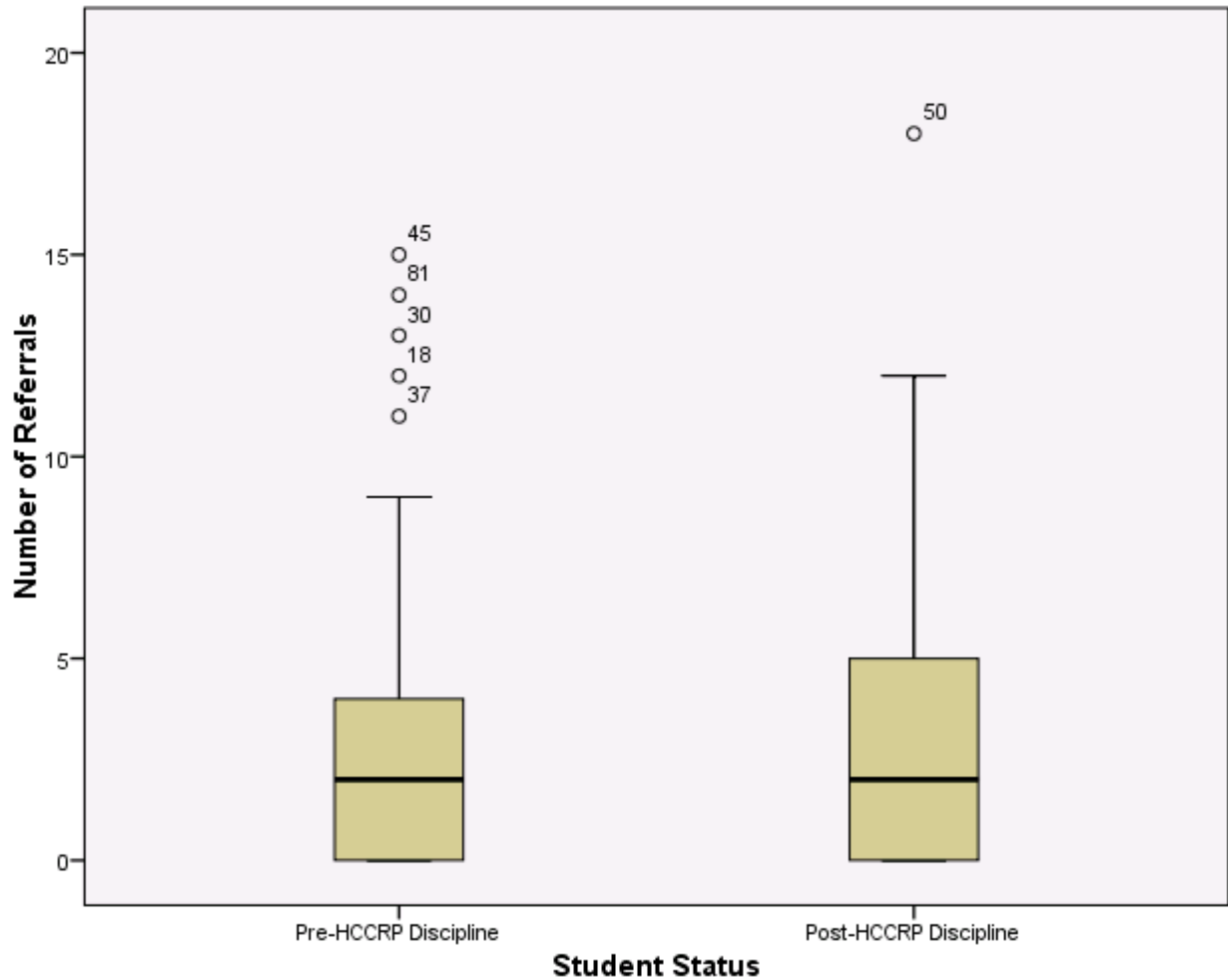


Figure 6. Distribution of student discipline referrals in the year prior to and after attending HCCR

Research Question 7

Is there a significant difference in the absenteeism of students who participated in HCCR in the previous school year and their absenteeism the year after completion of the HCCR?

Ho7: There is no significant difference in the absenteeism of students who participated in HCCR in the previous school year and their absenteeism the year after completion of the HCCR.

A paired sample *t* test was conducted to examine if there was a difference in student absenteeism after attending the HCCRP as compared to the year in which students were referred. The results of the test were not significant, $t(67)=.44, p=.659$. Therefore, the null hypothesis was retained. The η^2 was .002, which indicates a small effect size. Students appeared to maintain approximately the same level of absenteeism in the year after attending HCCRP ($M = 15.27, SD = 10.30$) as the year prior to attending the program ($M = 15.97, SD = 12.79$). The 95% confidence interval for the differences in the means was -2.42 to 3.80 as shown in Table 5. This test suggests that participation in HCCRP has little influence on student absenteeism in the year after the intervention. Figure 7 below shows the distribution of absenteeism among the population in the year before and after attending HCCRP.

Table 5
Means and Standard Deviations of Student Absenteeism and the 95% Confidence Interval

Student Status	N	M	SD	Confidence Intervals
Before HCCRP	68	15.97	10.30	-2.42 to 3.80
After HCCRP	68	15.27	12.79	

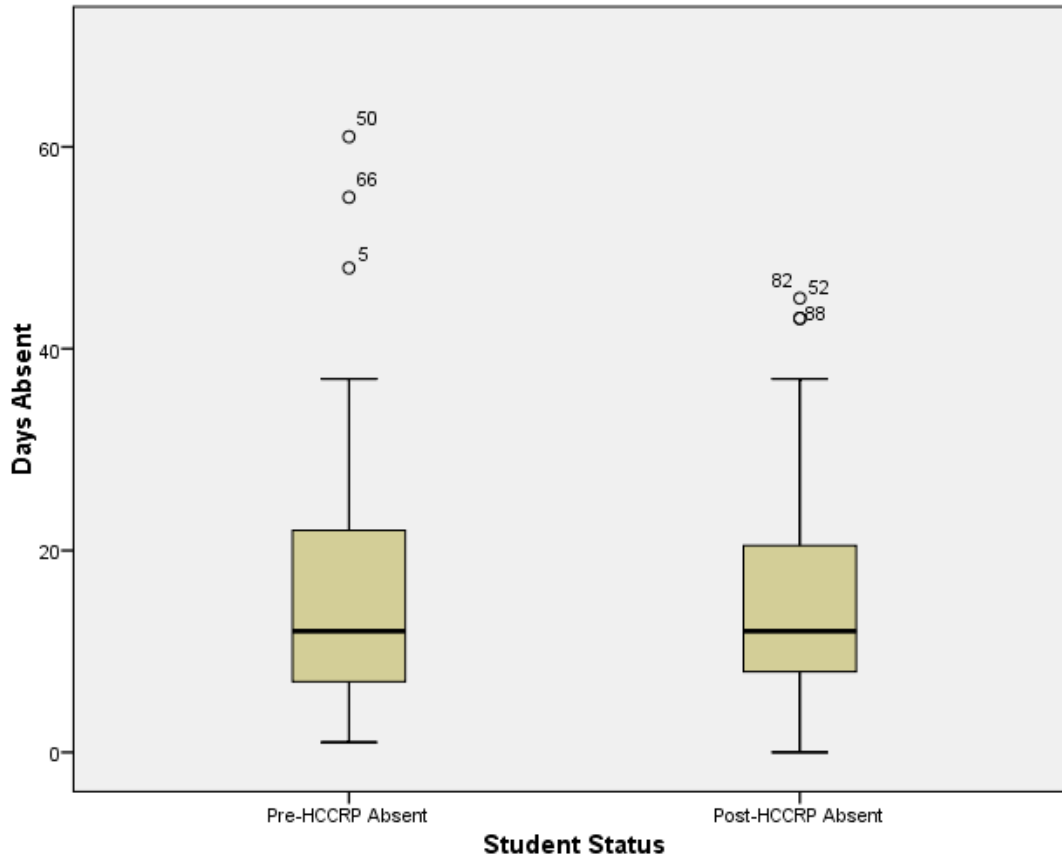


Figure 7. Distribution of absences in year prior to and after HCCR P

Research Question 8

Is there a significance difference between the absenteeism of students who participated in the HCCR P and the average number of days missed by middle school students?

Ho8: There is no significance difference between the absenteeism of students who participated in the HCCR P and the average number of days missed by middle school students.

A one sample *t* test was conducted on the number of days students missed prior to attending HCCR P to evaluate if the mean significantly exceeds 10 days, which is the number of excused absences a student receives each year. The sample mean for the test was 15.98 (SD=12.8). This result was significantly higher than 10, $t(69)=3.91, p<.001$.

Therefore, the null hypothesis was rejected. The 95% confidence interval of difference was 2.93 to 9.04. The η^2 was .18, which indicates there is a large effect size. The results suggest that students who attended the HCCRP typically missed significantly more school than the acceptable level of 10 days. Figure 8 show the frequency of student absenteeism in the year prior to attending HCCRP for the purpose of comparing mean to the test value of 10.

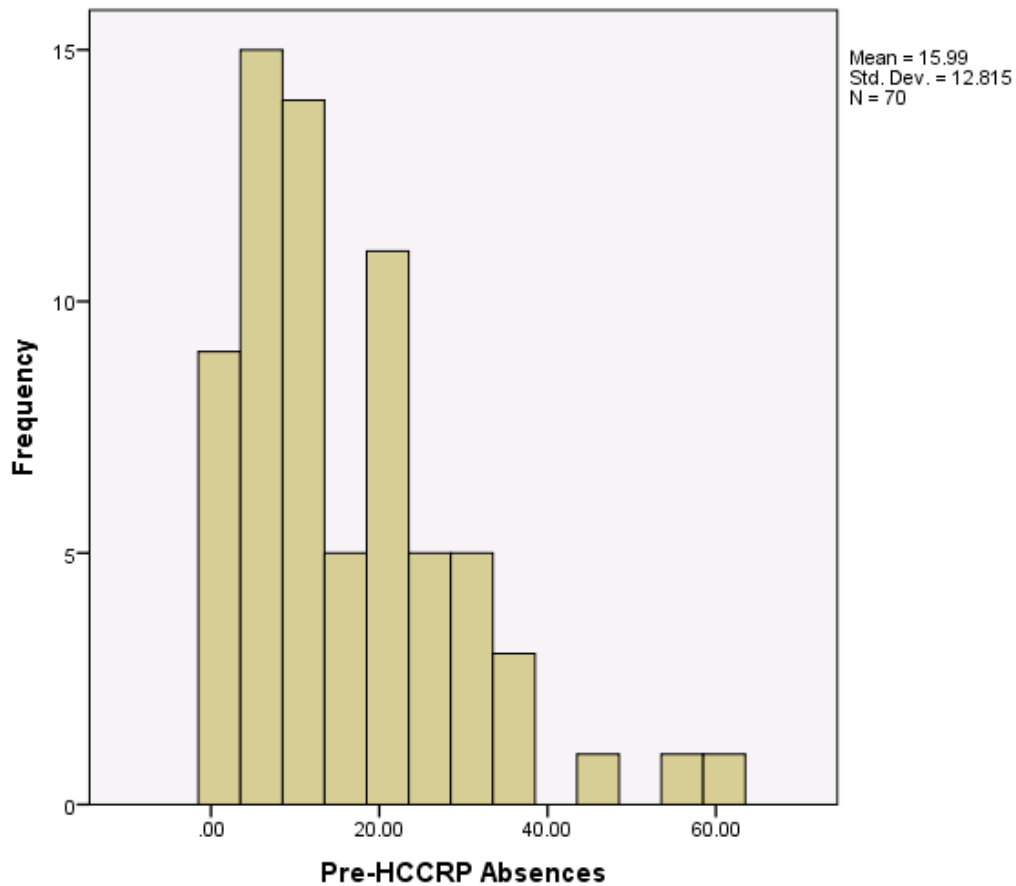


Figure 8. Student frequency of days absent in the year before attending HCCRP

Summary

This chapter analyzed student data to assess the difference of the HCCRP on student at risk factors for those students who attended the program in 2010-2012 school years before and after the program. Student academic performance data were retrieved for the state of Tennessee TVASS website, under the supervision of the Hamblen County Schools Student Data Coordinator. Student information regarding attendance, discipline, and socioeconomic status were coded and provided by Hamblen County Schools. Chapter 5 is a summary of the findings of this study and presents suggestions for further research.

CHAPTER 5

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter is a review the findings of this study, provides conclusions based upon the analysis of data, and offers recommendations for appropriate use of the findings. This study examines the short-term effects of the HCCRP on student academic achievement, behavior, and attendance in the year after the students' attendance. Readers may find the results for this study useful in the design and implementation of an intervention for retained middle school at-risk students.

Research Question 1

Is there significant difference between students' TCAP scores in mathematics the year prior to participation in the HCCRP and their TCAP or EOC scores after participation?

To test this research question a paired sample t-test was conducted to examine the relationship between students' participation in the HCCRP and students' performance on state math assessments. As a result of the test, the null hypothesis was rejected. The test showed that there was a statistically significant increase in student math scores on state math examinations after attending the HCCRP.

The mean student scores increased from 32.14 before retention to 37.63 after attending the HCCRP. These results are consistent with studies that address the use of student retention on increasing short-term test scores and the use of an at risk intervention program. Research has demonstrated that students tend to perform better on standardized testing after being retained in the immediate year after retention (Jimerson et al., 2006). Additionally, a study of a Virginia intervention program that used instructional computer

programs and classroom instruction in a hybrid setting showed significant gains in core subject areas (Kornholz, 2009). While it was not the focus of the question to determine which factor had a stronger influence on student performance in the HCCRP, the results show that student math scores benefited from the program. The increase in academic performance is crucial as once students begin a trend of low performance and failure they are at an increased risk of eventual high school dropout (Allensworth & Easton, 2007; Monrad, 2007).

Research Question 2

Is there significant difference between students' TCAP scores in reading/language arts the year prior to participation in the HCCRP and their TCAP or EOC scores after participation?

To examine the relationship between participation in the HCCRP and students' reading/language arts scores a paired sample *t* test was conducted. The results of the test were significant. Due to the significant level of the test, the null hypothesis was rejected. It appears that students who participated in the HCCRP showed academic improvement on the reading/language arts portion of the state assessment.

The results of the test indicated that students significantly increased their reading/language arts scores on state standardized test in the year following attending the HCCRP. Students had an $M= 25.81$ before and increased to an $M=31$ after the intervention. Students who participated in this program showed significant improvement on the reading/language arts portion of the state standardized test. This is supported by findings of Cooper (2003) who found that summer intervention programs increase math and language arts performance. This is an important improvement as Casillas et al.

(2012) found that middle school standardized test scores were the greatest predictor for future student success. Monrad (2007) reported that lowest performing readers were at the greatest risk of dropping out of high school.

Research Question 3

Is there significant difference between a student's TCAP scores in science the year prior to and the student's TCAP or EOC scores after participation in the HCCRP?

A paired sample *t* test was run to examine the relationship between student participation in the HCCRP and the student's performance on the science portion of the state assessment test. The results of this test were not significant. Due to the results of the paired sample *t* test, the null hypothesis was retained. Students who participated in the HCCRP did not show significant gains in the science portion of the state assessments.

The results of this test show that student science scores did not improve after attending the HCCRP. The students' mean score for the previous year was reported as 34.43 compared to 37 in the year after attending HCCRP. While there was an increase in the scores, the increase was not at a significant level.

Research Question 4

Is there a significant difference in the proportion of students completing HCCRP who qualify for free and reduced lunch as compared to students in Hamblen County School System who qualify for free and reduced lunch?

A chi square test was conducted to examine if there was a significant presence of any socioeconomic group in the population of participants in the HCCRP. Participants were identified as either receiving free lunch and reduced lunch status or paying full price. The results of the test were significant. As the test result exceeds the significant

level, the null hypothesis was rejected. The test suggests that HCCRP serves a population with a significantly higher number of students identified as low socioeconomic status.

The results indicate that most of the students attending the HCCRP receive free lunch and are considered low socioeconomic status. The population is divided into $P=68$ for free and reduced lunch status and $P=23$ for students paying full price. This high number of students being retained and attending HCCRP supports the findings of Shores et al. (2009) and Lesaux (2012) who found that low socioeconomic students tended to score lower in core curriculum courses. Additionally, Monrad (2007) suggests that students from the lowest economic status are six times more likely to drop out of high school.

Research Question 5

Is there a significance difference in the number of students by middle grade level who completed the HCCRP, as compared to the distribution of students throughout the middle grade levels in Hamblen County School System?

A chi square analysis was conducted to examine if there was a significant difference in the grade levels represented in the population of the HCCRP. The three middle school grade levels in which students are categorized in Hamblen County are sixth, seventh, and eighth grades. The test results were not significant. Due to the nonsignificant test results, the null hypothesis was retained. It appears that each grade was equally represented in the HCCRP and near equal numbers of each grade level of students were retained during the period tested.

The result of this test indicates that students are being retained and referred to the HCCRP equally throughout the middle grades. The distribution of the population was sixth grade $P=27$, seventh grade $P=27$, and eighth grade $P=39$. There was no significant difference in the populations despite the higher number of eighth graders. ACT (2009) stressed that the eighth grade year was becoming a pivotal year attributing to long-term student success. They suggested that 2 out of 10 students are on target for college level course work by graduation.

Research Question 6

Is there a significant difference between individual discipline referrals for students in the previous year and the number of individual discipline referrals the year following completion of the HCCRP?

A paired sample t test was conducted to analyze the relationship between student participation in the HCCEP and the number of discipline referrals received in the year after participation. Discipline referrals for the year prior to and after attending the HCCRP were compared. The test results were not significant. Due to the nonsignificant test results, the null hypothesis was retained. Students showed little difference in the number of discipline referrals in the year before and after attendance of HCCRP. Based upon the test, it appears that students' level of misbehavior at school was uninfluenced by participating in the intervention.

These results indicate that student behavior in school did not change after attending HCCRP. The means for the test were 2.90 the year previous and 2.97 after attending HCCRP. While the results show no significant changes in the number of

referrals, there was a slight increase in the means. Jimerson and Renshaw (2012) identified retention as an important factor in future student delinquent behaviors.

Research Question 7

Is there a significant difference in the absenteeism of students who participated in HCCRP in the previous school year and their absenteeism the year after completion of the HCCRP?

To examine the relationship between students' participation in the HCCRP and the students reported absenteeism, a paired sample *t* test was conducted to check for significance. Students' records of absenteeism from the year before and year following participating in HCCRP were compared. The results of the test were not significant. Due to the nonsignificant results, the null hypothesis was retained. The test suggests that a student's participation in the HCCRP had no significant influence on one's level of school absenteeism.

The results of this analysis show that there was no shift in student absenteeism after attendance to the HCCRP. The population mean prior to intervention was 15.97 and 15.27. Student absenteeism remained essentially the same between the year prior and after the intervention. Numerous studies have identified absenteeism as a strong at-risk indicator, cause for course failure and predictor for student drop out (Allensworth & Easton, 2007; Balfanz et al., 2007; Heppen & Bowles-Therriault, 2008).

Research Question 8

Is there a significance difference between the absenteeism of students who participated in the HCCRP and the average number of days missed by middle school students?

A single sample t test was conducted to assess if students participating in the HCCRP had a higher level of school absenteeism than the average number of days missed by middle grade students. The test value was set for 10 days because Hamblen County Schools designate that value as the highest number of parental excused absences in a school year. The results of the test were significant. Due to the significance of the test, the null hypothesis was rejected. Based upon the results, it appears that students who participate in the HCCRP miss significantly more school in the year prior to their referral to the HCCRP than the acceptable level as determined by the Hamblen County School System.

The results of this test indicate that students who are being retained and are attending HCCRP are absent significantly more than the acceptable level. The population mean for absenteeism was 15.96 which is considerably more than the 10 days chosen as the alpha level. Balfanz et al., in their study on at-risk students and drop-outs, found that students who have missed 10% or more of school are much more likely to leave prior to graduation. Students attending this program are close to this dangerous level of absenteeism and may be at a higher risk of drop out.

Recommendations for Practices

The goal of the HCCRP is to offer students an option to retention while improving academic performance. The results of the test show that HCCRP is causing significant improvements in math and reading/language arts on state standardized tests. The program design is effective in improving student test scores and allows students to be promoted to the next grade level. Increasing students' performance in core subject areas

lessens the likelihood of future academic failure contributing to at-risk factors or eventual drop out (Henry et al., 2012; Ryan, 2011).

- School personnel should increase awareness of the negative affects of retention as a common practice and become knowledgeable of the benefits of intervention such as HCCRP.
- Hamblen County School System should consider using the HCCRP program design as an early intervention to addresses academic failures rather than a postcourse failure intervention. This intervention could benefit students who are identified as at-risk or close to academic failure throughout the school year as a preemptive intervention. Using this program design as a preemptive intervention might help students avoid the negative affects of the retention process. Research has shown that the decision to have students repeat a grade level has long-term negative emotional effects, lowers test scores, and increases their likelihood of high school drop out (Henry et al., 2011; Jimerson et al., 2006; Tingle et al., 2012). Early and year-round intervention for struggling students may eliminate the need for student retention and raise test scores.
- The Hamblen County School System should increase funding of the HCCRP to allow for year-round intervention. Criteria for admittance should be broadened to allow for student at-risk factors beyond course failure.
- Hamblen County School System should incorporate interventions that address student behaviors and absenteeism. This would address more at-risk factors that lead toward course failure and eventual drop out. Balfanz (2011)

suggested that effective interventions address multiple at-risk factors and promote student engagement.

- Program coordinators should work to increase science and social studies portions of the programs curriculum. Doing so may lead to more gains in test results and increase student preparedness for future course work.
- The use of instructional software and classroom instruction was essential to the design of HCCRP. Students in general may benefit from the increased use of instructional software such as Study Island in regular classrooms as a means to increase engagement. Students using such technologies have been shown to improve test scores and help with preparation for standardized tests (Doe & Felix, 2010; Heppen & Bowles-Therriault, 2012).

Recommendations for Future Study

This study specifically examined the HCCRP program and the students who participated in that intervention. Findings of this study are specific to the HCCRP. Further study is needed to understand the influence of summer credit recovery programs on at-risk students and those programs correlation to drop out rates. Therefore, the following recommendations for further study are made:

- Conduct a meta analysis of summer retention or drop out intervention programs analyzing their influence on student at-risk factors.
- Study the relationship between student misbehavior, teacher perceptions, and retention
- Study the relationship between absenteeism, student mobility, and academic failure.

- Examine the retention policies of area schools and counties compared to graduation rates.
- Study the distribution of courses students are failing the year prior to attending HCCRCP the most to identify course specific areas of student needs.
- Study the distribution of subgroups throughout the population of students referred to HCCRCP as defined by the state in assessing AYP to assess the level of each subgroup attending the program.
- Study the population of HCCRCP to examine the number of students who had been previously retained and are attending the program to determine if previous retention is a factor in student recommendations to the program.
- Study the relationship between student mobility within the school system or outside the county in the year before and after attending HCCRCP to determine if mobility is a factor in student referral to the program.
- Study the relationship between student participation in the HCCRCP and student graduation status to determine if students remain on schedule to graduate after participation in the program.
- Compare the population of HCCRCP and the high school version of HCCRCP to determine the number of students who have required both interventions due to course failure.

Summary

This study was designed to examine through quantitative testing the difference between students' performance, discipline, and absenteeism in the year prior to and following their participation in the HCCRCP intervention. Chapter 1 contains an

introduction, the statement of the problem, eight research questions, the significance of the study, definitions of terms, limitations and delimitations of the study, and an overview of the study. Chapter 2 presents literature related to the areas of retention, effects of drop out, at-risk students, and interventions. Chapter 3 presents the study's design. In that chapter, the research questions were presented with the corresponding null hypotheses, the population was defined, instrumentation explained, and method of data analysis presented. Chapter 4 presents the finding data analysis as related to each null hypothesis. The chapter includes significance levels, tables, and figures to effectively address the research questions. Chapter 5 included an explanation of the study's findings, conclusions based upon those findings, and suggestions for future research.

The result of this study indicate there was a significant and positive difference in student math and reading/language art scores on state standardized tests in the year following attendance of HCCRP. Students' standardized test scores in math increased from $M=32.14$ in the year prior to $M= 37.63$ following attending HCCRP. Student reading/language arts scores increased from $M=25.81$ to $M=31$ following the intervention. There was significance in the number of students who attended the HCCRP who qualified for free lunch. Of the population, $P=68$ were identified as receiving free and reduced lunch. Students who participate in the HCCRP were found to have missed significantly more school than the acceptable test level of 10. The population mean of days missed exceeded the test level with $M=15.97$.

The study shows that there was no significant difference in student test scores the year before and after attending HCCRP on the science portion of the state standardized test. The test also showed that there was no significant difference between the population

of sixth, seventh, and eighth graders. Additionally, no significant difference was found in the number of discipline referrals when comparing the year prior to and after attending the HCCRP. Finally, there was no significant difference in the level of absenteeism in the year before and the year after students attend the HCCRP.

The HCCRP is an effective alternative to grade retention and increasing students' performance in math and reading/language arts on standardized tests. Hamblen County Schools would be advised to continue funding this program as a means of intervention for students at-risk of failure and eventual dropout. The benefits of this program could potentially reach more at-risk students with increased funding and referring students prior to grade retention. Teachers and administrators should continue to use this program as an alternative to grade level retention. The use of retention has shown to have lasting negative effects on student academic performance, discipline, and attendance and a strong correlation to dropout. The HCCRP places students back on track toward graduation without the negative effects of retention.

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APPENDICES

APPENDIX A

IRB Waiver



East Tennessee State University

Office for the Protection of Human Research Subjects • Box 70565 • Johnson City, Tennessee 37614-1707
Phone: (423) 439-6053 Fax: (423) 439-6060

May 20, 2013

James C. Sharp
4683 Stapleton Rd.

Dear Mr. Sharp,

Thank you for recently submitting information regarding your proposed project "Short Term Effects of Summer Credit Recovery on Middle Grade Students."

I have reviewed the information, which includes a completed Form 129.

The determination is that this proposed activity as described meets neither the FDA nor the DHHS definition of research involving human subjects. Therefore, it does not fall under the purview of the ETSU IRB.

IRB review and approval by East Tennessee State University is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities are human subject research in which the organization is engaged, please submit a new request to the IRB for a determination.

Thank you for your commitment to excellence.

Sincerely,
Chris Ayres
Chair, ETSU IRB



Accredited Since December 2005

APPENDIX B

Letter of Permission for Study

Letter of Permission

May 10, 2013

Dr. Dale Lynch
Director of schools for Hamblen County School System
210 East Morris Boulevard
Morristown, Tennessee 37813

Dear Dr. Lynch,

I am currently a student at East Tennessee State University, in the Educational Leadership and Policy Analysis doctoral program. I am interested at examining the short term affects of the Hamblen County Middle Grade Summer School on at-risk students' academic performance and behaviors in the immediate year after participation. I would like to request permission to obtain and analyze records of 100 students who have participated in the Hamblen County Summer School Program from 2009-2012. All identifiable student data will be coded to insure confidentiality.


I believe that the findings of this study will be beneficial to the programs future design and offer insight to the impact of summer interventions on at-risk students. The study will also provide an analysis of past student performance after participation in the Hamblen County Summer School Program. Such information would be useful in strengthening the Hamblen County Summer School Program's curriculum and assessing the programs ability to address the needs of students at risk of academic failure.

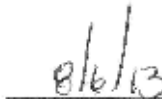
Sincerely,



James C. Sharp

Permission is granted to James C. Sharp to access and analyze 100 student records who participated in the Hamblen County Summer School Program from 2009 to 2012.


Signature


Date

