

EXIT EXAM REQUIREMENTS AND
HIGH SCHOOL GRADUATION:
A TEXAS PERSPECTIVE

by

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Abstract

EXIT EXAM REQUIREMENTS AND
HIGH SCHOOL GRADUATION:
A TEXAS PERSPECTIVE

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The movement towards exit exams requirements prior to a student graduating from high school is one of the most prominent developments on the education policy landscape nationwide. Previous research on the impact of exit exams on students' graduation status has presented conflicting results. Some research finds that exit exams have no significant impact on a state's graduation rate, increase the likelihood of high school graduation, and that teachers and students have risen to the challenge of higher accountability. But much of the existing literature found evidence that exit exams were associated with increased dropout rates, decreased completion rates, increase enrollment in General Educational Development programs, and decrease the likelihood of graduating high school for low-performing and low-income students.

The relationship between students graduating from high school and the exit exam graduation requirement is uncertain and there is insufficient evidence

that affirms or refutes the impact of exit exams on high school graduation.

Without valid and reliable research, stakeholders such as legislative officials and school administrators will lack pertinent data to determine the effect of exit exams and its impact on high school graduation.

This study examined student level data collected from a Texas independent school district located in Tarrant County. The data included demographic such as gender, age, race, cumulative grade point average, Limited English Proficient status, Economically Disadvantaged status, At-Risk status, cumulative course credits, graduation year, and graduation status for every student enrolled in the twelfth grade during the 2003 – 2004 and 2004 – 2005 school years. A series of multinomial logistic regressions were used to draw conclusions from the data.

Findings revealed that a statistically significant relationship does not exist for students who did not graduate due to a failed exit exam when comparing students who took TAAS and the TAKS exit exams. The findings reveal that there is relationship between a students' age, cumulative grade point average, Limited English Proficient, at-risk, and economically disadvantage statuses and their graduation status. Finally, the results of the study revealed that cumulative grade point average is a strong predictor of graduation status; the higher the cumulative grade point average the more likely a student will graduate from high school.

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Chapter 1

Design of the Study

As a campus administrator who has served as an assistant principal at the high school, I have encountered many students who did not graduate from high school because they were unable to meet the exit exam graduation requirement. I vividly recall a student who did not receive his high school diploma. He had successfully accumulated the required number of course credits and had met the passing requirements for the English Language Arts, Science, and Social Studies Texas Assessment of Knowledge and Skills (TAKS) exams but did not meet the passing requirements for the Mathematics exit exam. He was provided tutoring and multiple opportunities to retake the exam, but after three unsuccessful attempts, he decided not to continue his pursuit of a high school diploma.

Background

The health of the American economy and the skill level of its workforce are often measured by high school graduation rates (Heckman & LaFontaine, 2007; Murnane, Willett, & Tyler, 2000). The National Center for Public Policy and Higher Education (2005) cautions, if the gap in educational achievement among white, Hispanic, and African-American students remain, “the proportion of workers with high school diplomas and college degrees will decrease and the personal income of Americans will decline over the next 15 years” (p.1). For many individuals, a high school diploma is an essential first step towards

establishing economic and social well-being (Swanson, 2004). Research shows the higher the level of education that an individual attains, the more likely the person will achieve a higher income, more stable employment, less dependency on public assistance, and be less likely to experience incarceration or criminal victimization (Greene & Forster, 2003; Papay, Murnane, & Willett, 2010; Swanson, 2004).

Unfortunately, high school graduation is not being attained by many individuals (Murnane, Willett, & Tyler, 2000; Swanson, 2004). Until the final decades of the 20th century, the United States had the best high school graduation rate in the world. By 2006 it had slipped to 18th out of 26 industrialized countries (Organisation for Economic Co-operation and Development, 2010). Using data from the U.S. Department of Education, Greene and Forster (2003) found that only 70% of all students in public high schools graduate. In other words, three out of every ten students in America's public schools still fail to finish high school with a diploma. That amounts to 1.3 million students lost from the 9 – 12 pipeline every year, the equivalent of 7,150 students everyday or approximately one student every 25 seconds (Swanson, 2009).

A further investigation of high school graduation rates based on race revealed only 51% of all black and 52% of all Hispanic students graduate, while the graduation rate for white students was 72%; for Asian students, 79%; and for American Indian students, 54% (Greene & Forester, 2003). In terms of regions of

the United States, 73% of students in the Northeast and 77% of the students in the Midwest graduate, this is higher than the national average, while 65% of students in the South and 69% of students in the West graduate from high school (Greene & Forster, 2003).

A more recent study by Stillwell and Sable (2013) revealed a slight increase in the high school graduation rate for 38 states. Across the United States, 78.2% of the public school students received a diploma during to 2009-2010 school year. The high school graduation rate ranged from 57.8% in Nevada to 91.4% in Vermont. The racial group with the highest graduation rate was Asian/Pacific Islander students with 93.5%. In decreasing order, the rates for all other students were 83% for white students, 71.4% for Hispanic students, 69.1% for American Indian students, and 66.1% for black students.

The Center of Educational Policy (2010) reported that in 2008, 23 states made it a requirement for students to pass a high school exit exam to graduate. By 2010, 25 states had implemented high school exit exams as a graduation requirement and three other states would implement exit exams as a graduation requirement by 2012. Of the 28 states that require exit exams, 57% are located in the South and West regions of the country. The growth in the number of states that require passage of exit exams resulted in the percentage of all public school students enrolled in states administering exit exams to increase to 74%. Furthermore, 83% of the nation's population of minority students, 78% of low-

income students, and 84% of English language learners were enrolled in public schools in states that administered exit exams during the 2009-2010 school year.

In the state of Florida, students are required to pass the Florida Comprehensive Assessment Test (FCAT) prior to receiving a high school diploma. Students who fail to pass the FCAT and do not receive an equivalent ACT or SAT score receive a certificate of completion instead of a diploma (Giambo, 2010). According to Giambo (2010), the Florida Department of Education reported a graduation rate for 2005 – 2006 school year of 71%, a decrease from the previous year, and a drop-out rate of 3.5%, an increase from the previous year.

The New York State Education Department (2004) reported exit exams have shown to be detrimental to high school graduation rates. In the city of New York, only 38% of all students graduate high school within four years, which causes the state's graduation rate to rank 45th in the nation. Hursh (2005, 2007) found that fewer students of color and students with disabilities in the state of New York were graduating from high school.

For students to acquire a high school diploma in the state of Texas, they must meet graduation requirements. The requirements include accumulating a precise number of academic credits in specific courses and successfully completing a high school exit examination in Math, Science, Reading, and Social Studies. Exit exams are standardized tests administered to students during their

sophomore or junior year to assess their level of proficiency according to state academic standards. If the exams are successfully completed and the student has met all other graduation requirements, the student will receive his/her high school diploma. But, if the student meets all the graduation requirements except for passing each exit exam, the student will not graduate from high school or receive a diploma. Due to the nature of the test and its direct impact on high school graduation, these exit examinations are considered high-stakes (Amrein & Berliner, 2002; Giambo, 2010).

In Texas, exit exams became high stakes in 1984, first affecting the high school graduating class of 1987 (Haney, 2000; Vasquez-Helig & Darling-Hammond, 2008; Warren & Jenkins, 2005). The Texas Educational Assessment of Minimum Skills (TEAMS) was the first exit exam implemented in the state. It evaluated the mastery of reading, writing, and mathematics skills and was administered during the students' 11th grade year. In 1990, the Texas Assessment of Academic Skills (TAAS) test replaced TEAMS and the high school graduating class of 1992 was the first who were required to pass the more challenging exit exam. TAAS shifted the focus of assessment from minimum skills to academic skills. Then in 2003 the Texas Assessment of Knowledge and Skills (TAKS) replaced the TAAS exam. TAKS was designed to be more comprehensive than its predecessors and aligned more with the state-mandated curriculum, the Texas Essential Knowledge and Skills (TEKS). The high school class of 2005 were the

first required to pass exit level tests in four content areas, English Language Arts, Mathematics, Science, and Social Studies, in order to graduate from a public high school in Texas (Texas Education Agency, 2010).

McNeil, Coppola, Radigan, and Heilig (2008) reported that each year Texas public high schools lose at least 135,000 youth prior to graduation, which causes its dropout rate to hover in the 2.8 - 3.2% range. Their study revealed that the graduation rate for white students was 75%, the percentage of black students who graduate is closer to 45%, while Hispanic students' graduation rate is slightly fewer than 50%. In the state's major urban districts, with the exception of El Paso, the graduation rate of all high school students is slightly fewer than 50% (Haney, 2000; Orfield, Losen, Wald, & Swanson, 2004). Hursh (2005, 2007) reported that standardized testing measures initiated by policy makers force students to drop out of high school, especially minority students, prior to graduating. In fact, exit exams may have a negative impact on certain student populations, such as low-performing students, students of color, or students from low-income families (Center of Educational Policy, 2010).

Statement of the Problem

Educational policy such as the Elementary and Secondary Education Act and its reauthorization in 2002, No Child Left Behind Act (NCLB), was signed into law to improve student achievement, including high school graduation rates (Leafloch, Taylor, & Thomsen, 2006). The enactment of NCLB required states to

develop an accountability system that measured the academic effectiveness of schools to ensure students are receiving a quality education (Linn, Baker, & Betebenner, 2002). Each state was required to develop curriculum and academic standards, and use standardized tests to assess whether students were achieving the standards. Some states implemented a high school exit exam graduation requirement to improve high school graduation rates and to further assess whether students were achieving academic success.

Despite these efforts, there is still a disproportionate gap in the graduation rate for certain student subgroups. Although the high school graduation rate during the 2009-2010 school year improved in some states from previous years, as reported by Stillwell and Sable (2013) for the National Center of Education Statistics, in the state of Texas, 95.9% of Asian/Pacific Islander students, 82.8% of white students, 77.4% of Hispanic students, and 69.4% of black students graduate high school within four years.

Expectancy theory (Miner, 2005; Beer & Cannon, 2004) and goal setting (Locke, 1968; Locke, Latham, Smith, & Wood, 1990) theory suggest that if students perceive with a high probability that a goal can be attained, their perceptions will lead to certain consequences or outcomes (Beer & Cannon, 2004; Miner, 2005). In this study, this framework would suggest then, that if high school graduation involves the goal of passing the exit exam graduation requirement and a student does not believe this goal is attainable, the exit

examination will negatively influence chances for graduation. The perception that this goal cannot be achieved can become an obstacle to graduation for students with low academic performance, minority students, special needs students, and students living in impoverished communities (Dee & Jacob, 2006; Jacob, 2001; Warren, Jenkins, & Kulick, 2006).

Purpose of the Study

The purpose of the study is to examine the impact of the exit exam graduation requirement on students' high school graduation status. The relationship between students graduating from high school and the exit exam graduation requirement is equally uncertain; there is insufficient evidence that affirms or refutes the impact of exit exams on high school graduation. Greene and Winters (2004, p. 1) reported that, "while the belief that high school exit exams cause graduation rates to decline is widespread, there is little empirical evidence supporting it." Jacob (2001, p. 117) suggested a preferable approach would be to "look within states to compare the achievement gains of cohorts attending high school before and after graduation test policy was implemented." Without valid and reliable research, stakeholders such as legislative officials and school administrators will lack pertinent data to determine the effect of exit exams and its impact on high school graduation.

Research Questions

To investigate the relationship between the exit exam graduation requirement and student graduation from high school, the following research questions will guide the study:

1. What are the characteristics of seniors entering grade 12 in 2003-2004 and 2004-2005 school years? –e.g., gender, age, race, Cumulative Grade Point Average (CGPA), Limited English Proficient (LEP), economically disadvantaged (ED), At-Risk (AR), cumulative course credits (CCC), graduation year (GY), and graduation status (GS).
2. Of these seniors, what is the profile of students who completed all requirements to graduate high school?
3. Of these seniors, what is the profile of students who did not complete all requirements to graduate?
4. Of these seniors, what are the differences in profiles among those who completed all requirements to graduate and those who did not?
5. How does each of the following variables predict high school graduation status for students entering grade 12 in the 2003-2004 and 2004-2005 school years: gender, age, race, CGPA, LEP, economically disadvantaged, and at-risk?
6. How useful are Expectancy Theory and Goal Setting Theory in understanding the phenomenon?

Conceptual Framework

Legislation geared towards reforming public education, specifically NCLB, resulted in the establishment in many states of an expectation and a goal that students would successfully demonstrate their mastery of learning objectives on an exit exam prior to graduating from high school. Given this reality, two theoretical frameworks appropriately frame this study. Expectancy theory and goal-setting theory suggest that teachers and students will be motivated to attain achievement goals to the extent that they perceive a high probability that their efforts will lead to students' reaching achievement goals (Beer & Cannon, 2004; Miner, 2005).

Expectancy Theory

Vroom (1964, p. 17) defined expectancy as, "a momentary belief concerning the likelihood that a particular act will precede a particular outcome." Expectancy theory proposes that a person will decide to perform in a certain way due to what they expect the result of that selected behavior will be (Vroom, 1964). It states that the tendency to perform in a particular manner is dependent on the expectation that the performance will produce a favorable and definite outcome (Miner, 2005). In the realm of educational reform, Expectancy Theory posits that teachers and students will respond favorably to incentive programs if three conditions are met: 1) they believe they can accomplish the goal, 2) they believe there is a clear connection between individual effort and receiving a reward, and

3) they value the reward enough to put forth the effort to achieve it (Beer & Cannon, 2004; Van Eerde & Thierry, 1996). Mohrman and Lawler (1996) and Tubbs (1986) suggest that incentives or rewards must be linked to these goals in order for students to demonstrate mastery of the learning objectives and to meet educational standards.

Goal Setting Theory

A goal is a level of performance that an individual is attempting to accomplish (Locke, 1968). Goal setting is essentially linked to task performance as well. The theory states that specific and challenging goals will contribute to increased and improved performance (Locke, Latham, Smith, & Wood, 1990). Locke and Bryan (1966) found that when an individual had specific goals or standards of performance to meet, the performance effects were more pronounced than when specific goals were lacking. Goal setting theory suggest that goals motivate individuals when they are specific, challenging, accepted as worthwhile, and achievable. It holds that once a task is accepted, the only logical thing to do is to work towards achieving the goal or until a decision is reached to abandon the goal (Locke, 1968).

Methodology

This research study explored the effect of the exit exam graduation requirement on students' high school graduation status. To graduate from high school a student must accumulate a minimum amount of course credits and pass

an exit exam in the mathematics, science, social studies, and English language arts. For many students these graduation requirements seem to be an obstacle. The study determined the effect of exit exams on students graduating from high school by collecting and analyzing data from an independent school district in Texas.

Study Site

The research study was conducted using student level data collected from an independent school district in Texas. This district was selected for this study due to its convenient location and the relationship I have with administrators who will need to approve the study (Gall, Gall, & Borg, 2007).

Participants

Students enrolled in a school district located in Tarrant County in North-Central Texas will be selected to participate in the study. The students enrolled in grade 12 during the 2003-2004 and 2004-2005 school years in a comprehensive high school within the selected school district.

Data

The data for this study was collected for all students enrolled in the twelfth grade in all comprehensive high schools in a Texas independent school district during the 2003-2004 and 2004-2005 school years. The requested data for each student will include the student's gender, race, age, cumulative grade point average (CGPA), Limited English Proficiency (LEP), Economically

Disadvantaged (ED) status, At-Risk (AR) status, cumulative course credits (CCC), Graduation Year (GY), and Graduation Status (GS).

Data Collection

Individual student data will be collected for the study from a North-Central Texas school district. I will first gain approval, from the University Institutional Review Board (IRB) at The University of Texas at Arlington, by submitting the IRB protocol. Once approved by the IRB, the research proposal will be submitted to the Testing and Accountability Department of the district to gain approval to use student data to conduct the study. Upon receiving approval from the IRB and the school district, the individual student data will be requested from the district's Testing and Accountability Department in a Microsoft Excel spreadsheet.

Data Analysis

The student level data collected from the independent school district will be sorted into a Microsoft Excel spreadsheet and imported into Statistical Package for the Social Sciences (SPSS) software for analysis. The data will be examined using various statistical procedures. Descriptive statistics will be used to describe and summarize the demographic information that was collected. Gall, Gall, and Borg (2007, p. 132) define descriptive statistics as “mathematical techniques for organizing and summarizing a set of numerical data.” The data will be graphed and displayed in tables to observe specific patterns and trends that emerge.

Researcher

I never thought that I would pursue a career in education but after 15 years in the field, I could not imagine myself working in any other profession. My desire as an educator is to positively impact the lives of students by instilling in them the value and importance of education and to transform the educational system so that the emphasis is on students being college and career ready upon graduating from high school. I am a firm believer that a quality education will provide students with multiple career opportunities and a better life, but unfortunately I think the current state of the educational system is no longer focused on what benefits students due to the age of high-stakes testing and accountability.

As an educator, I have served students in various capacities over the years. I began my career as a middle school mathematics teacher and an athletics coach. I have also taught math and coached on the high school level. My experiences in the classroom motivated me to pursue a career as an administrator. I did not agree with some of the tactics employed by teachers and administrators to prepare students for state-mandated assessments. For instance, as a new teacher I did not understand why I was told to discontinue teaching the district's curriculum in order to teach test objectives to students. I believed if the curriculum was aligned with the assessment and I provided quality instructions to my students, then they would perform well on the state assessment. So after teaching and coaching for

five years I completed my certification in educational leadership and began my career as an administrator. I have been a junior high assistant principal, a high school assistant principal, and a private school principal. Currently, I am the principal of Workman Junior High School in Arlington Independent School District.

My experience as a campus administrator I have allowed me to observe the impact of high-stake examinations at all levels. Not only are exit exams obstacles for obtaining a high school diploma for some students, but state mandated assessments can also be a hindrance to elementary and middle school students as well. Students in grades 3, 5, and 8 are required to pass exams prior to being promoted to the next grade level. Students who are unsuccessful must attend summer school to prepare them to retake the exam. It is very difficult to explain to a parent that his/her child must attend summer school because he/she failed an exam, although the student received a passing grade in the class.

Students who are required to attend summer school are provided with an opportunity to retake the exam. If a student still does not pass the exam during summer school, then a Grade Placement Committee (GPC) is convened in August to determine if grade promotion or retention is in the best interest of the student. This can be a very anxious and fretful time period for students because they do not become aware of their grade placement status until the GPC makes a decision,

which causes students to endure the summer months without knowing whether they would be promoted or retained.

In my opinion, educational policies such as this are not considerate of the diverse needs of the students groups that are enrolled in public schools and often times I believe they are unfair to the students. Although I agree that accountability is necessary to ensure that students are provided a quality education in order to prepare them to pursue college and career options upon graduating high school, I believe there are other methods to evaluate student performance to ensure they are mastering state academic standards.

Summary

The research literature on the impact of the exit exam graduation requirement on high school graduation rate has revealed contradictory results across states that have implemented the requirement. The purpose of the study is to examine the effect of the exit exam graduation requirement on students' high school graduation status to determine if a relationship exists when controlling for a student's gender, race, high school attended, cumulative grade point average, Limited English Proficient status, economically disadvantaged status, and at-risk status. The study will also examine the difference in the high school graduation status of students the year prior to the implementation of the TAKS exit examination and the year of implementation of the TAKS exit examination based on the students' gender, race, high school attended, cumulative grade point

average, Limited English Proficiency, economically disadvantaged status, and at-risk status.

Reporting

The remaining chapters of this research study include a review of the literature, methodology, data analysis, and findings, conclusions, and implications. The literature review presents the current research on the effect of the exit exam graduation requirement on students' high school graduation status. It presents the problem of the study that naturally and logically flows out of the research literature reviewed. The review of the literature identifies a gap in the current research which supports the purpose of conducting the research study.

The methodology chapter of the study presents a detailed account of the procedures employed to conduct the research study. It includes the process for requesting approval from IRB and the independent school district. It provides a detailed description of the participants used to conduct the study. This chapter also describes the specific procedures used to collect and analyze the data.

The data analysis reviews the statistical procedures used to analyze the data in order to respond to the research questions. Tables and graphs are used to report the results of the data analysis. The results of the analysis presents whether a relationship exists between the exit exam graduation requirement and students' high school graduation status.

The final chapter presents the findings, conclusions, and implications of the research study. It provides responses to the research questions, conclusions derived from the findings, and the implications to theory, practice, and research. Recommendations for future research are presented.

Chapter 2

Review of the Literature

The movement towards exit exams requirements prior to a student graduating from high school is one of the most prominent developments on the education policy landscape nationwide during the last decade (NYSED, 2004). Previous research on the impact of exit exams on the graduation rate of high school students have resulted in conflicting results. Some research finds that exit exams have no significant impact on a state's graduation rate, increase the likelihood of high school graduation and that teachers and students have risen to the challenge of higher accountability (Greene & Winters, 2004). But much of the existing literature found evidence that exit exams were associated with increased dropout rates, decreased completion rates, increase enrollment in General Educational Development programs, and decrease the likelihood of graduating high school for low-performing and low-income students (Amerin & Berliner, 2002; McSpadden-McNeil, Coppola, Radigan, & Heilig, 2008).

This review of the literature explores the current emphasis on the exit examination graduation requirement which resulted from the No Child Left Behind Act. The review of literature will also examine the research supporting and challenging the use of exit examinations, and the history of standardized assessment in Texas.

No Child Left Behind Act

There has been a growing concern that the quality of public education was diminishing and that the high school diploma was losing its validity as a credential that certifies students' skills and abilities (Hall, Davis, Bolen, & Chia, 1999; Braun, Wang, Jenkins, & Weinbaum, 2006; Heckman & LaFontaine, 2007). American students were falling further behind their counterparts in other countries academically, they were inadequately prepared to pursue degrees of higher education, and the high school graduation rates were declining (Hall, Davis, Bolen, & Chia, 1999). The concern sparked a movement toward accountability and standards in secondary education across the United States.

To combat the issues that plague public education and to begin the process of reformation, the federal government passed into law acts that were devised to impact the educational system in order to improve student achievement. The Elementary and Secondary Education Act (ESEA) first enacted in 1965 and signed into law by President Lyndon B Johnson, emphasized equal access to education for all students and established high standards and accountability for states receiving federal funds. The purpose of the ESEA was to reduce the achievement gap between students by providing each child with fair and equal opportunities to receive an exceptional education (LeFloch, Taylor, & Thomsen, 2006). The ESEA was amended in 2002, under President George W. Bush, and was reauthorized as the "No Child Left Behind" Act (NCLB). When it became

law in 2002, it passed through the Senate and House with large majorities and has led to the largest intervention by the federal government into education in the history of the United States (Hursh, 2007).

The goal of NCLB was to close the achievement gap by requiring statewide accountability systems to measure the academic effectiveness of school districts and schools by utilizing disaggregated data collected from standardized examinations, grade promotion and high school graduation determined by criterion referenced high stake exams, and it mandated sever sanctions on districts and school who failed to meet Adequately Yearly Progress (AYP) (Hursh, 2005). With its creation, the current emphasis on exit examinations began.

Since the implementation of the NCLB Act, studies have been conducted to determine if the provisions outlined in the act have been advantageous to improving student achievement or if it has been detrimental to reforming public education (Hursh, 2005; McNeil, Coppola, Radigan, & Heilig, 2008). As a result of NCLB, school districts across the nation reported that its standards unfairly punish schools most likely to serve minority students or students living in poverty, standardized exams tend to be unreliable and invalid methods for assessing student achievement, it narrows the curriculum, and high school dropout rate has increased and the graduation rate has decreased (Hursh, 2005; Harris, Irons, & Crawford, 2006; Giambo, 2010).

A History of Exit Examinations

The transition to policies that ushered in high school exit examinations (HSEEs) in the United States was driven by the widespread sentiment that high school graduates frequently lacked basic academic skills and that low standards, watered-down curriculum, and social promotion are responsible for the lack of job skills and college readiness among high school graduates (Heckman & LaFontaine, 2007; Warren, Jenkins, & Kulick, 2006). Exit exams were first integrated into the educational landscape during the accountability reform movement and became relatively common after the publication of *A Nation at Risk* (National Commission of Excellence in Education 1983).

Minimum Competency Test

The use of exit exams as a high school graduation requirement has become increasingly wide spread over the last 20 years. The movement began in the 1970s as Minimum Competency Test (MCT), which were criterion-referenced exams that focused on basic reading and mathematical skills (Jacob, 2001). Although the exam requirements, in both content and level of difficulty, differed by states, they usually only assessed students' competency at the eighth or ninth grade level (Jacob, 2001; Warren, Jenkins, & Kulick, 2006). Currently, requirements have evolved to students taking more rigorous exams not only mathematics and reading, but also science and social studies in some states. These states standards regarding the passage of exit exams by high school students were the leading

cause for the movement towards standards-based reform, that continues to be adopted and refined by states today (Dee & Jacob, 2006).

The Exit Exam Movement

The Center on Education Policy (CEP) has been conducting research on state high school exit exams since 2002. Their annual reports focus on the impact of high school exit exams across the nation, as well as new development in high school exit exam policies. In a study conducted in 2010, the CEP surveyed the state department of education officials in states with current or planned exit exams. The CEP used the following criteria for identifying states with high school exit exams:

States that require students to pass, not just take, state exit exams to receive a high school diploma, even if the students have completed the necessary coursework with satisfactory grades. States in which the exit exams are a state mandate rather than a local option, in other words, states that require students in all school districts to pass exit exams, rather than allowing districts to decide for themselves whether to make the exams a condition of graduation. (2010, p. 3)

The survey was administered to chief state school officials in all 28 states that conduct exit exams and all 28 states participated in the study. To research states without exit exam policies, the CEP (2010) sent invitations to the chief state school officers in the 22 states, inviting these states to participate in the study.

Although ten of the states replied with only a brief, open-ended explanation of their state graduation and assessment policies, the CEP received feedback from state department of education personnel in 16 of the 22 states without exit exam policies. Figure 2-1 illustrates the states that have implemented exit exams as a graduation requirement.

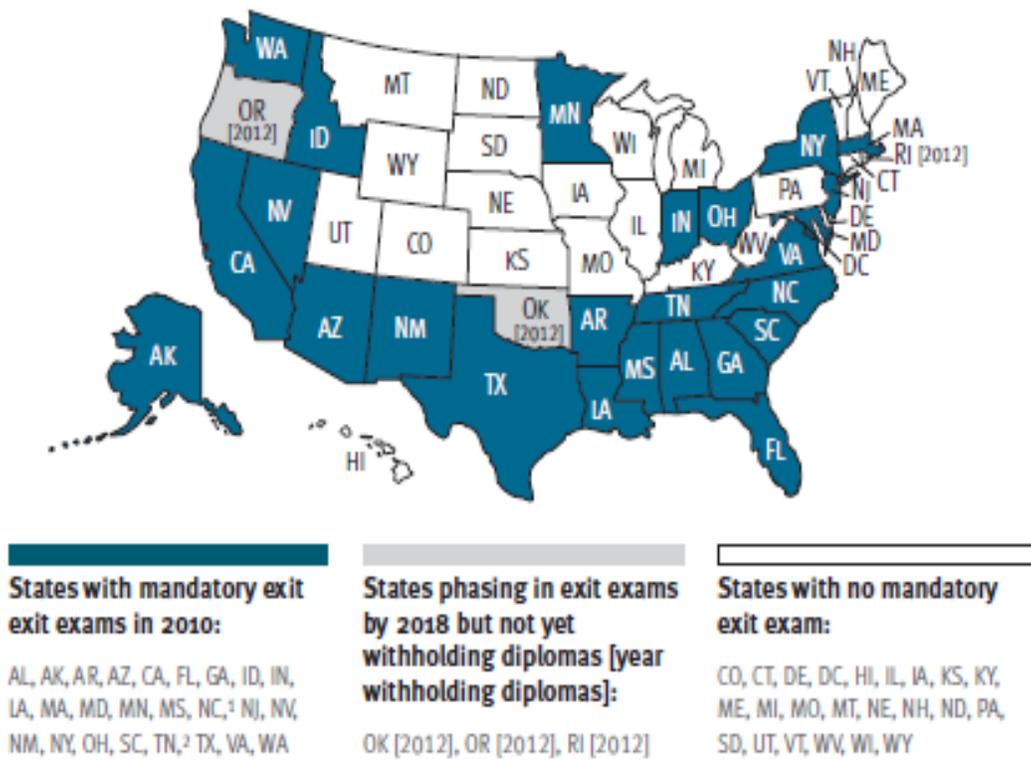


Figure 2-1 States Administering Exit Exams

The CEP (2010) also collected data for the study from state and federal policy documents and they reviewed relevant studies that were either published or produced within the past year on the impact of high school exit exams. They

tracked media coverage of exit exams and searched state and U.S. Department of Education web sites for exit exam developments and information.

The results of their study during the 2009-10 school year reveal (see Table 2-1)

states administering exit exams enrolled 74% of the nation’s students and 83% of the students of color. Additionally, 78% of the nation’s low-income students and 84% of the nation’s students who are English Language Learners (ELL) attended public high schools in states with high school exit exams. (2010, p. 14)

Table 2-1 Percentage of Public School Students Enrolled in States Administering Exit Exams in 2009 – 2010

	Enrollment of Students in Exit Exam States (28)	Percentage of Nation’s Students in Exit Exam States
All Students	36,461,607	74.01%
White	17,751,737	66.42%
Latino	9,070,274	86.74%
African American	6,541,841	79.25%
Asian/Pacific Islander	463,991	79.20%
All Students of Color	18,006,805	82.90%
Free/Reduced Lunch	16,684,805	77.60%
ELL	3,674,713	84.42%

Advocates of Exit Exams

Research has shown that students, teachers, schools, and districts experience many benefits due to the implementation of exit exams. Advocates of high school exit examinations have argued policies that promote the requirement of passing an exam prior to graduating high school motivate students to work harder and motivate teachers, schools, and school districts to identify and correct weaknesses in the public education system (Warren & Jenkins, 2005). It is believed that exit exams cause schools to implement strategies that align with literature on effective schools, such as clearly defined objectives, a common mission, continuous monitoring of student performance, and appropriate remediation. To this extent, exit exams focus all school stakeholders on a common goal to ensure all students master the basic skills to pass the exam, which will raise achievement levels (Dee & Jacob, 2006).

It is also reported that exit exams will allow teachers to identify student weaknesses, focus remediation efforts, and clarify school requirements for students, parents, and the public (Dee & Jacob, 2006; Ullicci & Spencer, 2009). They will improve student achievement by focusing campus and district goals and by providing students and teachers with a meaningful incentive (Ullicci & Spencer, 2009). Exit exams provide students with clear data about their own skills, it motivates students to work harder in school, sends clear messages to students about what to study, and help students align their efforts with rewards

(Stecher, Hamilton, & Klein, 2002). Proponents argue that the assessments will increase student achievement and school performance by providing students with an incentive to study and to put forth more effort academically when high school diplomas are withheld based on student performance on these exams (NYSED, 2004; Center of Educational Policy, 2010).

Supporters of high-stakes exams believe holding schools accountable for test scores is one of the best methods to ensure that all students receive a quality and equitable education (Lay & Stokes-Brown, 2009). The Center on Education Policy (2010, p. 21) argue that “exit exams encourage more rigorous curriculum standards and allow a high school diploma to hold more weight with colleges and employers.” Greene and Winters (2004) stated exit exams are necessary to assure that high school diplomas are meaningful and that they don’t lose their value as indicators of academic achievement. They also found that graduation rates in states that adopt exit exams may improve over time as the pressure becomes greater on schools to perform better on the test.

Opponents of Exit Exams

Critics of high school exit exam policies contend that they negatively impact student achievement, decrease the graduation rate, increase the dropout rate, adversely affect students of color, and are detrimental to developing higher-order critical thinking skills in students (Jacob, 2001; Nichols, 2003; Reardon, Arshan, Atteberry, & Kurlaender, 2010). Exit exams frustrate students and

discourage them from trying, they make students more competitive, and they cause students to devalue grades and assessments (Stecher, Hamilton, & Klein, 2002). It is reported that high-stakes exit exams fail to improve student learning and are discriminatory to racial and ethnic minorities.

The effects of exit exams have also been found to negatively impact what occurs within the classroom. The implementation of exams have resulted in a reduction of instructional time, limited students' instructional opportunities, a negative effect on teacher morale, and cause anxiety and undue pressure on students (Smith & Rottenberg, 1991; Valenzuela, 2000). Opponents of exit exams state that they narrow the scope of the curriculums, which reduces what should be taught and stifles instructional creativity by causing teachers to only teach to the test (Center on Education Policy, 2010; Jacob, 2001). Due to the fact that most of instructional focus is on exit exam preparation, very few opportunities are available for students to explore other concepts within the content areas that will develop critical thinking and problem solving skills (Reardon et al., 2010).

The CEP (2010) concluded that exit exams may have a negative impact on certain student populations, such as low-performing students, students of color, or students from low-income families, however, determining the relationship between high school exit exams and high school completion rates is difficult to conclude due to the lack of consistent and reliable data as well as the number of societal factors that affect these rates. States have to provide reliable and

consistent longitudinal data so that researchers can identify how exit exams impact high school completion rates. The research on the impact of exit exams is extremely important because there are indicators that exit exams may have higher consequences for students of color and from low-income families.

Exit Exams and High School Graduation

Warren, Jenkins, and Kulick (2006) investigated the extent to which state-mandated high school exit exams are associated with public high school completion general educational development (GED) rates through a combination of multiple data sets. They used data collected from all 50 states and the District of Columbia for each graduating class from 1975 – 2002. The data included information pertaining to whether students were required to pass one or more exit exams as a prerequisite to graduate. The results of their study sharply contradict results of other studies about the association between exit exams and high school completion rates. They found that high school exit exams are associated with lower high school completion rates and higher rates of GED test taking, particularly for racial and ethnic minority and economically disadvantaged students, while other studies have found that there is no association between the two. They also found a significant negative relationship between exit exams and high school graduation rates. The negative association between state exit exam policies and high school graduation rates are more pronounced in states as poverty rates increase and as states' population of racial and ethnic minority student's

increase. Schools and states that adopt mandatory graduation tests serve more disadvantaged populations of students than states that have not adopted such policies. The states with exit exams have a higher population of students of low socioeconomic status, are more likely to be African American or Latino, come from single parent homes, and those in which English is not the dominant language.

Researchers maintain that raising the bar for graduation forces many students, minority students in particular, to drop out of high school (Warren & Edwards, 2005). Students who initially fail the exam may become discouraged and conclude that remaining in school is not worth the effort (Jacob, 2001). Jacob (2001) also revealed that dropout rates are somewhat higher in states with mandatory graduation test. On average, students in states that administer exit exams have a 10.1% chance of leaving high school prior to graduation in comparison with only 8.5% in non-test states. Dropout rates among lower achieving students in states that have implemented exit exams were slightly higher than states that have not. Although exit exams have no significant effect on the probability of dropping out for the average student, it did increase the dropout rate among the lowest achieving students (Jacob, 2001).

There is an overwhelming amount of literature that refutes that exit exams negative effects high school graduation rates. Papay, Murnane, and Willett (2010) conducted a study using student data from the Massachusetts Department of

Elementary and Secondary Education to examine whether failing an exit exam in the 10th grade affects the probability of students graduating from high school. Specifically, they wanted to determine if failing the exit exam as a 10th grader made a student less likely to graduate and more likely to drop out of high school the year after failing the exit exam. The state of Massachusetts began administering the Massachusetts Comprehensive Assessment System (MCAS) examination in mathematics and English language arts in 1998. The 10th grade class in 2003 were the first cohort that was required to pass the exams both exams in order to receive a high school diploma. The findings of their study revealed that failing the 10th grade English language arts examination does not reduce the probability of on-time graduation for low-income, urban students but for the five year graduation, the effect is statistically significant. Failing the exam reduces the probability of graduating in five years by two percentage points. Failing the 10th grade mathematics examination reduces the probability of graduating by eight percentage points for urban, low-income students and it increases the probability of them dropping out of school in the year following the test by four percentage points.

Reardon, Arshan, Atteberry, and Kurlaender (2010) conducted a study to estimate the effect of failing the California High school Exit Exam (CAHSEE) on students' academic achievement, subsequent course taking, persistence to 12th grade, and high school graduation. The California State Legislature, in March

1999, passed legislation that required the passage of the CAHSEE as a prerequisite for receiving a high school diploma. The CAHSEE assessed students' proficiency skills in mathematics and English language arts. Students first take the exam during the spring of 10th grade and are given five subsequent opportunities to retake the portions of the exam they failed during the 11th and 12th grades. They used longitudinal data from students who took the CASHEE for the first time in the 10th grade during 2004 – 2008 from four of the largest school districts in California to examine the effects of failing the CASHEE. After analyzing the data using a regression discontinuity design, the results of their study suggest that failing an exit exam in the 10th grade has little or no effect on students' persistence, achievement, or graduation (Reardon et al., 2010). They concluded that exit exam failure have little effect on subsequent educational outcomes because the passing standards on exams are set relatively low and will only impact low-achieving students, who typically have low graduation rates even if an exit exam was not a graduation requirement. Another explanation for why exit exam failure has no effect subsequent educational outcomes may be the threat of failing causes increased student motivation and efforts as well as intervention by school administrators to increase student's skills sufficiently to pass the exam (Reardon, et al., 2010).

Greene and Winters (2004) evaluated whether adopting a high school exit exam affected a state's graduation rate before and after the implementation of an

exit exam. They calculated the graduation rates for the 18 states that administered an exit exam from 1991 to 2001. They attempted to resolve the problem of unreliable graduation rates by using two distinct methods to calculate graduation rates, the Greene's method and the national graduation rate comparisons over time by the National Center of Education Statistics (NCES). The Greene's method "divides the number of high school diplomas awarded by a state in a given year by the estimated number of students who entered the ninth grade four years earlier, making adjustments for high school population changes in the ensuing four years" (2004, p. 4). The NCES method "divides the number of diplomas awarded by public schools in a given year by the number of 17-year-olds in the state population during that year according to the U.S. Census" (2004, p. 4). The graduation rates calculated using the NCES method are lower than the actual public school graduation rate because students attending private schools are excluded from the public school diploma counts but they are included in the population for 17 year-olds in the state. Greene and Winters (2004) analyzed the data using a fixed-effects regression model to examine whether adopting an exit exam has an effect on high school graduation rates. The results indicated that implementing a high school exit exam has no effect on a state's graduation rate. Their findings were statistically insignificant to conclude that high school exit exams have an effect on graduation rates, either positively or negatively. They concluded that the number of students who fail to graduate due to their inability to

pass an exit exam might be very small because the exams require very low levels of proficiency. Another reason exit exams may not effect states' graduation rates is because students are given several attempts to pass the exam prior to being denied a high school diploma. Although there were limits to their study, their findings add to the growing literature showing that no relationship exist between high school students having to pass an exit exam and high school graduation rates. However, Greene and Winters (2004) suggest additional research is necessary before concluding that their finding is definitive.

Warren and Jenkins (2005) conducted a study to determine whether state high school exit examinations were independently associated with students' decision to drop out of high school and with racial, ethnic, and socioeconomic inequalities in rates of school graduation. Their study was conducted in Texas and Florida because "these states have along, contentious, well-documented, and litigation-filled histories of high school exit examination practices" (2005, pg. 123). Data used for the study was collected from the October Current Population Surveys (CPS) conducted monthly by the Bureau of Labor Statistics to 50,000 nationally representative households. The primary intent if the CPS is to provide data on employment in the United States. It collects demographic data such as age, sex, race, marital status, Hispanic origin, educational attainment, and family structure. Their analysis proceeded in two parts, they estimated the correlation between state high school exit exam policies and the probability that students in

the high school classes of 1971 – 2000 stopped attending high school without obtaining a diploma or general equivalency diploma and the high school classes of 1991 – 2000 stopped attending school without obtaining a high school diploma.

Using nonlinear hierarchical modeling techniques, Warren and Jenkins (2005) evaluated the correlation between state high school exit exams and high school dropout and the extent to which this association is more or less pronounced for students from different racial, ethnic and socioeconomic backgrounds. Considering the graduating classes of 1971 – 2000, the results of the study found no evidence that state exit exams increase dropout rates or exacerbate racial, ethnic or socioeconomic inequalities in dropout rates. For the graduating classes of 1991 – 2000, the results again found no evidence that state high school exit exams increase dropout rates or exacerbate racial, ethnic, or socioeconomic inequalities in dropout rates even among the students who were the most at risk of dropping out of high school. Possible explanations as to why there was no evidence found to associate high school exit exams to increased dropout rates may be that students, teachers, and schools are rising to the challenge posed by these more-stringent graduation requirements; the sampling design of the CPS may have failed to find effects of state exit exams on dropout rates; whether the analyses adequately captured the timing of the consequences of exit exam policies for dropout; and local schools and districts may have muted the effect of exit exams on dropouts by exempting some students from taking the exit exams.

Although the study found no evidence of association between exit exams and high school dropout, Warren and Jenkins (2005) concluded that it would be premature to infer that the results of the study are evidence that high school exit exam polices are a way to improve student educational achievement.

Texas Assessments

The state of Texas has a long standing assessment history. It was one of the earlier states to develop a statewide testing system. In 1979 Texas Legislature instituted an assessment program that, through periodic changes in legislation and policy, has grown in size, scope, and rigor. The state decided that all public school students should take a standardized exam that would measure how well the students were learning the curriculum. This was the beginning of the accountability era. The reason the state decided to implement standardized exams was due to the complaints from many business leaders that students were graduating from high school without the basic skills to succeed in the work force (TEA, 2010). In 1980 the first standardized exam, the Texas Assessment of Basic Skills (TABS), was created and implemented. The TABS evaluated students' minimum skills in mathematics, reading, and writing for students in grades 3, 5, and 9 (Cruse & Twigg, 2000; TEA, 2010).

The Texas Legislature increased the rigor of the test in 1986 by implementing the Texas Educational Assessment of Minimum Skills (TEAMS) examinations. The emphasis of the exam changed from basic skills to minimum

skills that students were expected to possess prior to graduating from high school. The number of students required to take the exam expanded. Students in grades 1, 3, 5, 7, 9, and 11 were tested for these minimum skills. TEAMS was the first statewide exit examinations that required students to pass to be eligible to receive a high school diploma. The graduating class on 1987 was the first group of students affected by the exams (Cruse & Twigg, 2000; TEA, 2010).

In 1990, Texas implemented another criterion-referenced testing program, the Texas Assessment of Academic Skills (TAAS), which shifted the focus from minimum skills to academic skills. The exam was designed to assess students understanding of the newly developed state curriculum, the Essential Elements. The TAAS reading, writing, and mathematics exams were administered in the fall to students in grades 3, 5, 7, 9, and 11 (Cruse & Twigg, 2000). In 1994, the administration of the TAAS was shifted to the spring, and the grades and subjects assessed were reconfigured. Students in grades 3- 8 and grade 10 were administered the reading and mathematics exam; students in grades 4, 8, and 10 were administered the writing exam; and students in grade 8 were administered the science and social studies exam. Also in 1994, passing the exit level exam in reading, writing, and mathematics in grade 11 became a requirement for graduation (McNeil, Coppola, Radigan, 2008; TEA, 2010).

In 2001, after more than a decade of TAAS, the legislature decided to make the exams even more rigorous. The Texas Assessment of Knowledge and

Skills (TAKS) was implemented in 2003 to replace the TAAS. TAKS was designed to be more comprehensive than the TAAS and measure more of the state-mandated curriculum, the Texas Essential Knowledge and Skills (TEKS), at more grade levels than the TAAS. Exit level TAAS remained the graduation requirement for students who were in the ninth grade or above on January 1, 2001. Students who enrolled in the ninth grade after that date were required to pass the TAKS exit exams in English language arts, mathematics, science, and social studies in order to meet the graduation requirement (Cruse & Twigg, 2000, TEA, 2010).

In response to the passage of Senate Bill 1031 and House Bill 3, the State of Texas Assessments of Academic Readiness (STAAR) was implemented in 2011. The STAAR exam is a more unified, comprehensive assessment program that incorporates more rigorous college and career readiness standards. It is expected to be more intellectually demanding than any of the other standardized exams administered in the state (TEA, 2010). Its goal is to increase the rigor of the assessment so that students will have the academic knowledge and skills needed to meet the complex challenges of the 21st century. It will assess skills at a greater depth and higher level of cognitive complexity. Students in grades 3 – 8 will take varying configurations of the assessment based on grade level in reading, writing, mathematics, science, and social studies. High school students will be administered end-of-course assessments in each foundation content area:

English language arts, mathematics, science, and social studies. The implementation of the STAAR also brought about a change in the high school graduation requirement. Unlike the graduation requirement under TAKS, where students had to meet a minimum standard on the exit level exams in English language arts, mathematics, science, and social studies; the graduation requirement under STAAR requires students to achieve a cumulative score that is greater than or equal to the product of the number of EOC assessments taken and the scale score that indicates satisfactory performance for each assessment (TEA, 2010).

Summary

This chapter reviewed the past and present research surrounding the effect of the exit exam graduation requirement on students' high school graduation status and it exposes the lack of consensus among researchers on the effect of the high school exit examination graduation requirement. Exit exams have been a fixture in public education in states across the country for decades and the literature indicates that there is a long-standing debate over the benefits and harms of the exit exam high school graduation requirement. The literature reveals a contradiction in the research findings. Some studies reveal that exit exams have no effect on students' high school graduation status, while other studies assert that exit exams have a negative effect on students' high school graduation status. Supporters claim that exit exams bolster the value of a high school diploma, serve

as an incentive for students, and improve the quality of public education so that students will graduate from high school with college and career readiness skills. Critics contend that exit exams narrow the curriculum, have a negative effect on the educational attainment of for minority students living in impoverished areas, and decrease the high school graduation rate and increase the dropout rate.

Chapter 3

Methodology

Laws have been passed to improve student achievement, including high school graduation rates. Many states implemented graduation requirements, such as exit exams, to improve high school graduation rates. Despite these efforts, there is still a disproportionate gap in the graduation rate for certain student subgroups. The review of literature on the impact of the high school exit exam graduation requirement on students' graduation status is inconclusive (Green & Winters, 2004; Jacob, 2001). Some research studies have concluded that exit exams have no effect on high school graduation rates, while others have concluded that exit exams effect the graduation rate of minority students living in low-income or impoverished parts of the country (Warren & Jenkins, 2005; Dee & Jacobs, 2006; Nichols, 2003; Reardon et al., 2010; Center of Education Policy; 2010). The results of the studies reveal that there is a need for additional research on the topic. The purpose of the study is to examine the impact of the exit exam graduation requirement on students' high school graduation status. This chapter discusses the methodology used to conduct the research study including the research questions, research design, study site, data collection, and statistical analysis procedures.

Research Design

This quantitative study was conducted using a non-experimental, correlational design. The purpose of correlation research is to discover the direction and magnitude of the relationship between variables (Tabachnick & Fidell, 2007). Correlational research design is used for two major purposes: 1) to explore causal relationships between variables and 2) to predict scores on one variable from research participants' scores on other variables. Correlational research enables the researcher to analyze the relationships among a larger number of variables in a single study; it will allow the researcher to analyze how these variables, either singly or in combination, affect the pattern behavior; and it provides information concerning the degree of the relationship between the variables being studied (Gall, Gall, & Borg, 2007).

Study Site

The student data for this study was collected from an independent school district located in the metropolitan area of Dallas-Ft. Worth. The school district is one of the largest in the state with a current enrollment of more than 64,000 students. The district has a diverse student population. The ethnic distribution of students enrolled in the district is 23.3% African-American, 42.6% Hispanic, 25.1% White, 6.9% Asian/Pacific Islander, .4% American Indian, and 1.7% two or more races. Further review of the district's student demographic data reveal that 65.4% are classified as economically disadvantaged, 24.4% are Limited

English Proficient (LEP), and 56.3% are at-risk (Texas Education Agency, 2012).

The school district is comprised of six traditional comprehensive high schools.

Sample

The population for this study includes students enrolled in the twelfth grade during the 2003 – 2004 and 2004 – 2005 school years in Texas. This population was selected because the last administration of the TAAS exit examination occurred at the completion of the 2003 – 2004 school year and the TAKS exit examination was implemented for graduation requirement during the 2004- 2005 school year. Convenience sampling was the method used to select the district for the study. This method was chosen because the researcher works in the school district in which the data was collected and has a relationship with the administrator who will need to approve the data collection. The sample for this study included 7,449 total students; 3,654 students enrolled in the twelfth during the 2003 – 2004 school year and 3,795 students enrolled in the twelfth grade during the 2004 – 2005 school year.

Data Collection

The Form #1A: Proposal for Research Involving Human Subjects Application for Exempt Research and the Informal Consent Form was submitted to Institutional Review Board (IRB) for approval. The exemption form was submitted because the research study involved collecting and studying pre-existing data. After a review of the forms, the IRB replied that the study qualified

for the exemption under federal guidelines and it authorized the beginning of the research study.

Once approval was granted by the IRB, a request for data was submitted to the independent school district. The request for student data was submitted to the Executive Director of Testing and Accountability via an email message. Included in the email was a brief summary of the study, a description of the data that was being requested to conduct the study, and the research proposal was attached. The message stated that the following demographic data was needed for student for every student enrolled in the 12th grade during the 2003-2004 and the 2004-2005 school years: gender, age, race, cumulative grade point average, LEP status, economically disadvantaged status, at-risk status, cumulative course credits, graduation exam, and graduation status.

The request was approved and an electronic copy of the data was received in an excel spreadsheet. The data for each student had already been converted into the appropriate code, as shown in Table 3-1 (see below), when it was received so that it could be uploaded into IBM Statistical Package for the Social Sciences (SPSS) Statistics 22 software for data analysis. The data for each student was reviewed to ensure that there was not any missing information. After a thorough review of the data, it was determined that information for one or more variables for a student was not included in the data. As suggested by Tabachnick and Fidell (2007), in the situation where there was missing data, the student was eliminated

from the dataset and not included in the study. For the 2003-2004 school year, data collected for 237 students was eliminated from the dataset due to missing data. Also, due to a small amount of students in the cohort, students who were American Indian/Alaskan were not included in the study. There were 13 students in the 2003 – 2004 Senior Cohort who were American Indian/Alaskan. These eliminations resulted in a data file of 3,654 students. For the 2004-2005 school year, data collected for 65 students was eliminated from the data set due to incomplete information. In addition, American Indian/Alaskan students were eliminated from the study due to a small amount of students in the cohort. There were 16 students in the 2004 – 2005 Senior Cohort. These eliminations resulted in a data file of 3,795 students. The data for 331 students was excluded from the research study. This reduced the total number of participants for the study to 7,449 students.

Table 3-1 Data Code

Variable	Code
Gender	1 = Male 2 = Female
Race	1 = Asian 2 = African-American 3 = Hispanic 4 = White

Table 3-1 continued

Variable	Code
Limited English Proficient (LEP)	1 = identified as LEP 2 = not identified as LEP
Economically Disadvantaged (ED)	1 = identified as ED 2 = not identified as ED
At-Risk (AR)	1 = identified as AR 2 = not identified as AR
Graduation Year (GY)	1 = TAAS in 2003-2004 2 = TAKS in 2004-2005
Graduation Status (GS)	1 = Graduated 2 = did not graduate due to exit exam 3 = did not graduate due to a lack of course credits

Variables

This section will define the independent and dependent variables used in the research study. An independent variable, also known as the predictor variable, has influence on, or predicts the dependent variable (Gall, Gall, & Borg, 2007). In this study, gender, age, race, cumulative grade point average, Limited English Proficient status, Economically Disadvantaged status, At-Risk status, cumulative course credit, and graduation year are the independent variables.

The dependent variable, also known as the response variable, is described as the outcome or response to the independent variable (Gall, Gall, & Borg, 2007). In this study, graduation status is the dependent variable. Table 3-2

provides a description of the data requested for each variable and its measurement.

Table 3-2 Variable Description

Variable	Description	Measure
Gender	Student sex	Nominal scale
Age	Student age	It is a numerical value that measures the length of life from birth in years. Age is measured as an ordinal scale.
Race	Student race/ethnicity	Nominal scale
Cumulative Grade Point Average (CGPA)	It is an average of the grades a student receives in all courses taken during a specific grading period. It is a numerical value that correlates to a letter grade, usually ranging on a scale from 0 to 4.0.	CGPA is a measure of academic achievement computed by dividing the total number of grade points received by the total number of courses successfully completed. CGPA is measured as an ordinal scale.
Limited English Proficient (LEP)	A student whose primary language is other than English and whose English language skills are such that the student has difficulty performing ordinary class work in English.	Nominal scale
Economically Disadvantaged (ED)	A student is considered economically disadvantaged if the student receives free or reduced lunch.	Nominal scale

Table 3-2 continued

Variable	Description	Measure
At-Risk (AR)	Refers to a student who is “At-Risk” of not completing school due to various factors such as: low test scores, failing grades, poor attendance, discipline issue, home structure, socioeconomic status, etc.	Nominal scale
Cumulative Course Credits	A unit that gives weighting to the value, level or time requirements of an academic course taken. A student could earn one credit for a course that lasts all year, or a half credit for a course that last a semester. Cumulative course credits refer to the total number of course credits a student attained for grades 9 – 12.	Usually measured in semester hours. It is a numerical value for courses successfully completed. The credits are applied against the total number required for graduation. The required number of course credits for classification in the twelfth grade is 18. The required number of course credits to graduate high school during the 2003-2004 and 2004-2005 school years were 24. Cumulative course credit is measured as an ordinal scale.
Graduation Year	Denotes the year in which a student was enrolled in the twelfth grade. It determines the type of exit exam a student was required to successfully complete to graduate, TAAS or TAKS.	Graduation year is measured as a nominal scale.

Table 3-2 continued

Variable	Description	Measure
Graduation Status	The outcome a student achieves for completing the requirements to graduate from high school. Measures whether a student met the minimum state requirements to graduate from high school.	Measures whether a student met the minimum state requirements to graduate from high school. Nominal scale. 0 = Graduate 1 = Did not Graduate-did not pass Exit Exam but had required 24 course credits 2 = Did not Graduate-did not have 24 cumulative course credits but passed Exit Exam

Data Analysis

In a quantitative research study, there are two types of statistical analysis: descriptive statistics and inferential statistics (Creswell, 2008). Gall, Gall, and Borg (2007) defined descriptive statistics as “mathematical techniques for organizing, summarizing, and displaying a set of numerical data” (p. 638). Descriptive statistics, such as frequency counts, percentages, and measure of central tendency, are used to describe the basic features of the data in a study. They provide simple summaries about the data (Gall, Gall, & Borg, 2007). Frequency counts are measurements of the number of times a variable is observed during an event and the measure of central tendency, mean, median, or mode, is a

single numerical value that is representative of an entire set of scores (Gall, Gall, & Borg, 2007).

Inferential statistics are systems of mathematical procedures that can be used to draw conclusions from a dataset. Inferential statistics are used to infer from the sample data what might occur in the population or make judgments of the probability that an observed difference between groups is a statistically significant or not (Gall, Gall, & Borg, 2007). For this study, the statistical analysis of the data was conducted using IBM Statistical Package for the Social Sciences (SPSS) Statistics 22 software.

Descriptive statistics were conducted for students enrolled in the twelfth grade during the 2003 – 2004 and the 2004 – 2005 school years to determine the characteristics of the students. The descriptive statistics provided frequency counts, percentages, and the mean for the student data collected on the independent variables used in the research study. This analysis was also conducted on the data for both school years to determine the profile characteristics of the entire dataset.

The data for 2003 -2004 and the 2004 - 2005 school years were combined to determine the profile of students who completed all the requirements to graduate high school. Frequency counts and descriptive statistics were conducted to determine the profile of these students. This analysis provided the counts and percentages of students who graduated according the independent variables:

gender, age, race, cumulative grade point average, Limited English Proficiency, economically disadvantaged, at-risk, cumulative course credits, at-risk, graduation year, and graduation status.

To determine the profile of the students who did not complete all requirements to graduate high school, the data for both school years were combined. In SPSS, the cases for the students who did not graduate because they did not have the appropriate amount of course credits and students who had the appropriate amount of course credits but did not graduate due to their inability to successfully complete the exit exam graduation requirement were selected. Once again, frequency counts and descriptive statistics were conducted. This analysis provided the counts and percentages of students who did not graduate according to each independent variable. After both profiles were compiled, a statistical comparison of the two was conducted to determine the differences in the profiles among students who completed all requirements to graduate high school and the profile among students who did not complete all requirements to graduate high school.

A multinomial logistic regression was conducted to determine how well the independent variables predicted graduation status for the 2003 – 2004 Senior Cohort, the 2004 – 2005 Senior Cohort, and the 2003 – 2005 Combined Senior Cohorts. A multinomial logistic regression is used to predict the probability of categorical membership on a dependent variable based on multiple independent

variables (Tabachnick & Fidell, 2007). It also allows for more than two categories of the dependent or outcome variable (Starkweather & Moske, 2011). The odds ratio, (OR), was used to determine how well an independent variable predict the outcome. Variables which increase the value of the OR greater than 1.0 reveal that the outcome is more likely to occur, variables that do not have an effect on the outcome will have an OR of 1.0, and variables that have an OR value less than 1 reveal that the outcome is likely to occur (Starkweather & Moske, 2011). An alpha level of .05 was used to determine if the independent variables predicted graduation status. Table 3-3 presents the research questions that will guide the study and the methodology used to answer each research question. SPSS will be used to analyze the data.

Table 3-3 Research Questions and Methodology

Research Questions	Methodology
1. What are the characteristics of seniors entering grade 12 in the 2003-2004 and 2004-2005 school years? -e.g., gender, age, race, cumulative GPA, LEP, economically disadvantage, at-risk, cumulative course credits, graduation year, and graduation status.	Descriptive statistical analysis will be used to organize, summarize and display the characteristics of the participants of the study.

Table 3-3 continued

Research Questions	Methodology
2. Of these seniors, what is the profile of students who completed all requirements to graduate high school?	Descriptive statistical analysis will be used to organize, summarize and display the profile of students who completed all requirements to graduate high school except successful completion of the exit exam.
3. Of these seniors, what is the profile of students who did not complete all requirements to graduate?	Descriptive statistical analysis will be used to organize, summarize and display the profile of students who completed all requirements to graduate high school except successful completion of the exit exam.
4. Of these seniors, what are the differences in profiles among those who completed all requirements to graduate and those who did not?	A comparison of the profiles for students who completed all requirements to graduate and students who completed all requirements except for successful completion of the exit exam will be conducted to determine the differences in the two profiles.
5. How does each of the following variables predict high school graduation status for students entering grade 12 in the 2003-2004 and 2004-2005 school years: gender, age, race, CGPA, LEP, economically disadvantaged, and at-risk?	Then multinomial logistic regressions will be conducted to determine how well the variables will predict graduation status for the 2003-2004 senior cohorts, the 2004-2005 senior cohorts combined and individually.
6. How useful are Expectancy Theory and Goal Setting Theory in understanding the phenomenon?	This research question will be answered by using additional research literature that relates Expectancy Theory and Goal Setting theory to graduation and reflection upon study findings.

Summary

This chapter presented the methodology for this quantitative research study. The major components of the study were presented and discussed in detail. It specifically describes the population, data collection, and data analysis. The population used for the study consists of students' demographic and academic data for 3,654 students enrolled in the twelfth grade during the 2003 – 2004 school year and 3,795 students enrolled in the twelfth grade during the 2004 – 2005 school year.

The data was collected from a Texas independent school district located in Tarrant County. A request for data was submitted to the district after IRB approval was granted. The data included the gender, age, race, cumulative grade point average, Limited English Proficient status, Economically Disadvantaged status, At-Risk status, cumulative course credits, graduation year, and graduation status for every student.

Finally, descriptive and inferential statistical methods were used to analyze the data. The descriptive statistics described the basic features of the data and provided a summary. The descriptive statistics used for the data analysis were frequency counts, percentages, and the means of the data. A multinomial logistic regression was executed to examine how well the independent variables predicted graduation status.

Chapter 4

Data Analysis

This study was designed to examine the impact of the exit exam graduation requirement on students' high school graduation status by determining how variables such as gender, age, race, cumulative grade point average, Limited English Proficient, economically disadvantaged, at-risk, and graduation year predict student graduation status. To determine the impact of exit exams on graduation status, a non-experimental research study was designed and executed. This chapter presents the results of the data analyses conducted in this study. The analyses of the data will be presented by the research questions.

The descriptive statistical analyses of the participants are presented. The chapter concludes with a presentation of the results of the multinomial logistic regressions and a summary. An alpha level of .05 was used to determine significance for all inferential statistical analyses.

Research Questions

Research Question 1: Student information collected for this study was disaggregated by gender, race, age, Limited English Proficiency, economically disadvantaged, at-risk, and graduation status for each cohort independently and both cohorts combined. The 2003 – 2004 Senior Cohort includes 3,654 participants. The group is half male and half female and almost half are White. A majority of the participants were not Limited English Proficient (82.5%) or

economically disadvantaged (69.9%), but they were at-risk (61.6%). A review to the total number of graduates for the 2003 – 2004 cohort reveal 85.2% (N = 3114) graduated from high school. Table 4-1 presents a comprehensive descriptive analysis of the demographic data for the 2003 – 2004 Senior Cohort.

The minimum values, maximum values, mean, and standard deviations were calculated for the 2003 – 2004 Senior Cohort data. The results, presented in Table 4-2, reveal that ages of the students ranged from 15 to 22 years old (mean 17.86, standard deviation .693). Cumulative Grade Point Average ranged from 1.0 to 4.0 (mean of 2.96, standard deviation of .623). Cumulative Course Credits ranged from 18.5 to 38.5 (mean of 27.09, standard deviation of 2.872).

For the 2004 – 2005 Senior Cohort, data was collected for 3,795 total participants, with slightly more females than males overall. The racial diversity of the participants was 43.6% White, 26.4% Hispanic, 19.3% African-American, and 10.7% Asian. A review of the remaining demographic variables reveals that 82% not were Limited English Proficient, economically disadvantaged (73.6%), or at-risk (57.5%). A review to the total number of graduates for the 2004-2005 cohort reveal 83.8% (N = 3192) graduated from high school. Table 4-3 illustrates the complete statistical analysis of the demographic data for the 2004 – 2005 Senior Cohort.

Table 4-1 2003 – 2004 Senior Cohort Demographics

Category	Frequency	Percent
Gender		
Male	1797	49.2
Female	1857	50.8
Race		
Asian	381	10.4
African-American	704	19.3
Hispanic	849	23.2
White	1720	47.1
Limited English Proficient		
LEP	641	17.5
Not LEP	3013	82.5
Econ. Disad.		
Econ. Disad.	1100	30.1
Not Econ. Disad.	2554	69.6
At-Risk		
At-Risk	2234	61.1
Not At-Risk	1420	38.9

Table 4-1 continued

Category	Frequency	Percent
Grad. Status		
Graduated	3114	85.2
DNG-Failed Exam	205	5.6
DNG-Lack Credits	335	9.2

Table 4-2 2003 – 2004 Senior Cohort Descriptive Statistics

Category	Min.	Max.	Mean	SD
Age	15.0	22.0	17.86	.693
CGPA	1.0	4.0	2.96	.623
Credits	18.5	38.5	27.09	2.872

Table 4-3 2004 – 2005 Senior Cohort Demographics

Category	Frequency	Percent
Gender		
Male	1813	47.8
Female	1982	52.2
Race		
Asian	405	10.7

Table 4-3 continued

Category	Frequency	Percent
African-American	732	19.3
Hispanic	1002	26.4
White	1656	43.6
Limited English Proficient		
LEP	684	18.0
Not LEP	3111	82.0
Econ. Disad.		
Econ. Disad.	1002	26.4
Not Econ. Disad.	2793	73.6
At-Risk		
At-Risk	1611	42.5
Not At-Risk	2184	57.5
Grad. Status		
Graduated	3177	83.7
DNG-Failed Exam	198	5.2
DNG-Lack Credits	420	11.1

The minimum values, maximum values, mean, and standard deviations were calculated for the 2004 – 2005 Senior Cohort data. The results, presented in

Table 4-4, reveal that the ages of the students ranged from 16 to 26 years old (mean of 17.87, standard deviation of .690). Cumulative Grade Point Averages range from 1.06 to 4.00 (mean of 2.971, standard deviation of .626). Cumulative Course Credits ranged from 18 to 36 (mean of 27.03, standard deviation of 2.940).

Table 4-4 2004 – 2005 Senior Cohort Descriptive Statistics

Category	Min.	Max.	Mean	SD
Age	16.0	26.0	17.87	.690
CGPA	1.06	4.0	2.97	.626
Credits	18.0	36.0	27.03	2.940

To conduct an analysis across both cohorts, the data for 2003 – 2004 and 2004 – 2005 Senior Cohorts were combined. Table 4-5 reveal the demographics of the 2003 – 2005 Combined Senior Cohorts and Table 4-6 reveal the descriptive statistics.

Research *Question 2*: An analysis was conducted on the data to determine the profile of students that graduated from high school for the 2003 – 2005 Combined Senior Cohorts. The total number of graduates for both senior cohorts combined was 6,291. By gender, 47.8% were male and 52.2% were female. A majority of the graduates were White (47.9%), not Limited English Proficient (83.9%), not economically disadvantaged (74.3%), and at-risk (53.4%). There

was almost an equal distribution of students who successfully completed either the TAAS or TAKS exit exam graduation requirement. Table 4-7 presents the complete statistical analysis of the high school graduates for the 2003 – 2005 Combined Senior Cohorts.

The minimum values, maximum values, mean, and standard deviations for the 2003 – 2005 Combined Senior Cohorts were calculated. Table 4-8 presents that the ages of the students ranged from 15 to 22 years old (mean of 17.85, standard deviation of .640). The cumulative grade point averages for the students ranged from 1.4 to 4.0 (mean cumulative grade point average 3.07, the standard deviation of .555). The cumulative course credits ranged from 24 to 38.5 (mean of 27.77, standard deviation of 2.413).

Table 4-5 2003 – 2005 Combined Senior Cohorts Demographics

Category	Frequency	Percent
Gender		
Male	3610	48.5
Female	3839	51.5
Race		
Asian	786	10.6
African-American	1436	19.3
Hispanic	1851	24.8
White	3376	45.3
Limited English Proficient		
LEP	1325	17.8
Not LEP	6124	82.2
Econ. Disad.		
Econ. Disad.	2102	28.2
Not Econ. Disad.	5347	71.8
At-Risk		
At-Risk	3845	51.6
Not At-Risk	3604	48.4

Table 4-5 continued

Category	Frequency	Percent
Grad. Year		
03-04 TAAS	3654	49.1
04-05 TAKS	3795	51.9
Grad. Status		
Graduated	6291	84.5
DNG-Failed Exam	403	5.4
DNG-Lack Credits	755	10.1

Table 4-6 2003 – 2005 Combined Senior Cohorts Descriptive Statistics

Category	Min.	Max.	Mean	SD
Age	15.0	26.0	17.87	.692
CGPA	1.0	4.0	2.96	.625
Credits	18.0	38.5	27.06	2.907

Table 4-7 Combined Senior Cohorts Graduate Demographics

Category	Frequency	Percent
Gender		
Male	3007	47.8
Female	3284	52.2
Race		
Asian	687	10.9
African-American	1198	19.0
Hispanic	1395	22.2
White	3011	47.9
Limited English Proficient		
LEP	1010	16.1
Not LEP	5281	83.9
Econ. Disad.		
Econ.Disad.	1616	25.7
Not Econ. Disad.	4675	74.3
At-Risk		
At-Risk	2933	46.6
Not At-Risk	3358	53.4

Table 4-7 continued

Category	Frequency	Percent
Grad. Year		
03-04 TAAS	3114	49.5
04-05 TAKS	3177	50.5

Table 4-8

Combined Senior Cohorts Graduate Descriptive Statistics

Category	Min.	Max.	Mean	SD
Age	15.0	22.0	17.85	.640
CGPA	1.4	4.0	3.07	.555
Credits	24.0	38.5	27.77	2.413

Research Question 3: An analysis was conducted on the data to determine the profile of students that did not graduate from high school for the 2003 – 2005 Combined Senior Cohorts. The total number of non-graduates for both senior cohorts was 1158. By gender, 52.1% were male and 47.9% were female. The racial diversity of the non-graduates was 39.4% Hispanic, 31.5% White, 20.5% African-American, and 8.5% Asian. A review of the remaining demographic variables reveals that 72.8% were not Limited English Proficient, 58% were not economically disadvantaged, and 78.8% were At-Risk. Of the students who did

not graduate from high school, 46.7% were administered the TAAS exit exams and 53.4% were administered the TAKS exit exam. Also, 65.2% did not graduate due to the lack of required course credits and 34.8% did not graduate high school due to unsuccessfully completed the exit exam graduation requirement. Table 4-9 presents the complete descriptive statistical analysis of the high school non-graduates for the 2003 – 2005 Combined Senior Cohorts.

Table 4-9 Combined Senior Cohorts Non-Graduate Demographics

Category	Frequency	Percent
Gender		
Male	603	52.1
Female	555	47.9
Race		
Asian	99	8.5
African-American	238	20.6
White	365	31.5
Hispanic	456	39.4
Limited English Proficient		
LEP	315	27.2
Not LEP	843	72.8
Econ. Disad.		
Econ.Disad.	486	42.0
Not Econ. Disad.	672	58.0
At-Risk		
At-Risk	912	78.8
Not At-Risk	246	21.2

Table 4-9 continued

Category	Frequency	Percent
Grad. Year		
03-04 TAAS	540	46.6
04-05 TAKS	618	53.4
Grad. Status		
DNG-Failed Exam	403	34.8
DNG-Lack Credits	755	65.2

The minimum values, maximum values, the mean, and standard deviations of the data for the students who did not graduate from the Combined Senior Cohorts were calculated. Table 4-10 presents that the ages of the students ranged from 16 to 26 years old (mean of 17.94, standard deviation of .923). The cumulative grade point averages for the non-graduates ranged from 1.0 to 4.0 (mean of 2.37, standard deviation of .644). The cumulative course credits ranged from 18 to 32 (mean of 23.19, standard deviation of 2.234).

Table 4-10 Combined Senior Cohorts Non-Graduate Descriptive Statistics

Category	Min.	Max.	Mean	SD
Age	16.0	26.0	17.94	.923
CGPA	1.0	4.0	2.37	.644
Credits	18.0	32.0	23.19	2.234

Research Question 4: In SPSS, the cases were selected for students who graduated from high school and descriptive statistics were conducted to analyze the data. The statistical analysis provided percentages and frequency counts of the student demographics. The results reveal that 52.2% of the graduates were female, White students were the highest racial group at 47.9%, 83.9% percent were not Limited English Proficient, 74.3% were not economically disadvantaged, 53.4% were not at-risk, and the graduates were almost equally distributed across the graduation years.

Next, the cases were selected for students who did not graduate from high school due to a failed exit exam and due to a lack of credits. Descriptive statistics were conducted to analyze the data. The statistical analysis provided percentages and frequency counts of the student demographics. The results reveal that 52.1% of the non-graduates were male, Hispanic students were the highest racial group at 39.4%, 72.8% were not Limited English Proficient, 58% were not economically disadvantaged, 78.8% were at-risk, and more than half of the non-graduates

occurred during the 2004 – 2005 school year. Table 4-11 reveal the complete analysis of graduates and non-graduates, along with the frequency counts and percentages for the population.

Table 4-11 Graduates and Non-Graduates Comparison

Category	Graduates % (N)	Non-Graduates % (N)	Population % (N)
Gender			
Male	47.8 (3007)	52.1 (605)	48.5 (3610)
Female	52.2 (3284)	47.9 (556)	51.5 (3839)
Race			
Asian	10.9 (687)	8.5 (99)	10.6 (786)
African-American	19.0 (1198)	20.6 (238)	19.3 (1436)
White	47.9 (3011)	31.5 (365)	45.1 (3376)
Hispanic	22.2 (2395)	39.4 (456)	24.8 (1851)
Limited English			
Proficient			
LEP	16.1 (1010)	27.2 (315)	17.8 (1325)
Not LEP	83.9 (5281)	72.8 (843)	82.2 (6124)
Econ. Disad.			
Econ. Disad.	25.7 (1616)	42.0 (486)	28.2 (2102)
Not Econ. Disad.	74.3 (4675)	58.0 (672)	71.8 (5347)
At-Risk			
At-Risk	46.6 (2933)	78.8 (912)	51.6 (3845)

Table 4-11 continued

Category	Graduates	Non-Graduates	Population
	% (N)	% (N)	% (N)
Not At-Risk	53.4 (3358)	21.2 (246)	48.4 (3604)
Graduation Year			
03-04 TAAS	49.5 (3114)	46.6 (540)	49.1 (3654)
04-05 TAKS	50.5 (3177)	53.4 (618)	50.9 (3795)

Research Question 5: A multinomial logistic regression was executed to determine how well the independent variables(gender, race, age, cumulative grade point average, Limited English Proficient, economically disadvantaged, at-risk, and graduation year) predicted the dependent variable (graduation status). A multinomial logistic regression is used when the dependent variable has more than two outcomes (Starkweather & Moske, 2011). The dependent variable for the study is graduation status and it has three outcomes: graduated high school, non-graduate due to a failed exit exam, and non-graduate due to the lack of course credits. Each set of data was statistically analyzed using the procedure to produce Likelihood Ratio Tests and Parameter Estimates. The Likelihood Ratio Tests evaluates the overall relationship of individual independent variables and the dependent variable and indicate the contribution of each independent variable to the outcome. The Parameter Estimates focus on contrasting the categories of each

independent variable with respect to possible outcomes, or finding whether increasing the value of a continuous variable makes an outcome more likely to occur. Findings will be discussed in terms of odds ratios (OR) which appear in the Parameter Estimates tables as $\text{Exp}(B)$. For the purpose of this analysis, the reference category in the outcome is the 'graduate' status and the 2 other possible outcomes are 'do not graduate because of exit exam' and 'do not graduate because of a lack of credits'. The multinomial regression model provides odd ratios for all predictors for each of the 2 possible outcomes with its reference category. An odds ratio greater than 1 for a category of a predictor indicates that, compared to the reference category of that predictor, it is more likely to not graduate (for one reason or the other) rather than graduate. Conversely, an odds ratio less than 1 indicates that, compared to the reference category of that predictor, it is less likely to not graduate (for one reason or the other) rather than graduate (Starkweather & Moske, 2011).

For the 2003 – 2004 Senior Cohort, the Likelihood Ratio Tests shows that the independent variables age, cumulative grade point average, race, at-risk, and economically disadvantaged are all statistically significant contributors to explaining the differences in graduation statuses because their $p < .05$. The variables gender and Limited English Proficient are not statistically significant contributors to explaining the differences in graduation statuses because their $p > .05$ (see Table 4-12).

Table 4-12 2003 – 2004 Senior Cohort Likelihood Ratio Tests

Effect	Chi-Square	df	Sig
Age	18.934	0	.000
CGPA	491.282	2	.000
Gender	.597	2	.742
Race	17.209	6	.009
LEP	2.523	2	.283
AR	8.252	2	.016
ED	15.944	2	.000

To determine variables that are statistically significant in explaining the differences between graduation status and how well the variables predict graduation status, the Parameter Estimates was reviewed (see Table 4-13). The results presented in the Parameter Estimates for the 2003 – 2004 Senior Cohort reveal that race (Asian) and cumulative grade point are statistically significant in differences in graduation status for students who did not graduate due to a failed exit exam rather than graduate. Age, cumulative grade point average, race (African-American), at-risk, and economically disadvantaged are statistically significant in explaining differences in graduation status for students who did not graduate due to a lack of credits rather than graduate.

The analysis reveal that Asian (OR=1.891) students, when compared to White students, are significantly more likely not to graduate due to a failed exit exam rather than graduate. It also reveals that as a student's cumulative grade point average (OR=.205) increases, the student is significantly less likely not to graduate due to a failed exit exam rather than graduate.

The Parameter Estimates also reveal that age, cumulative grade point average, race (African-American), at-risk, and economically disadvantaged status have a statistically significant relationship to distinguishing students who did not graduate due to a lack of course credits from students who graduated. As the age (OR=.677) of a student increases, the student is significantly less likely not to graduate due to a lack of credits rather than graduate. Also, as the cumulative grade point average (OR=.077) of the student increases, the student is significantly less likely not to graduate due to a lack of credits rather than graduate. African-American (OR=.569) students, when compared to Whites, are significantly less likely not to graduate due to a lack of credits rather than graduate. At-risk (OR=.606) students, when compared to students who are not at-risk, are significantly less likely not to graduate due to a lack of credits rather than graduate. Economically disadvantaged (OR=1.809) students, when compared to students who are not economically disadvantaged, are significantly more likely not to graduate due to a lack of credits rather than graduate.

For the 2004 – 2005 Senior Cohort, the Likelihood Ratio Tests shows that the independent variables age, cumulative grade point average, gender, Limited English Proficient, at-risk, and economically disadvantaged are all significant contributors to explaining the differences in graduation statuses because their $p < .05$. The variable race is not a statistically significant contributor to explaining the differences in graduation statuses because its $p > .05$ (see Table 4-14).

To determine the variables that are statistically significant in explaining the difference between graduation statuses and how well the variables predict graduation status, the Parameter Estimates was reviewed (see Table 4-15). The results reveal that age, cumulative grade point average, Limited English Proficient, at-risk, and economically disadvantaged are statistically significant in explaining the differences in graduation status for students who did not graduate due to a failed exit exam rather than graduate. Age, cumulative grade point average, gender (Male), race (African-American), and at-risk are statistically significant in explaining the differences in graduation status for students who did not graduate due to a lack of credits rather than graduate.

Table 4-13 2003 – 2004 Senior Cohort Parameter Estimates

Grad Status	Sig.	Exp(B)
DNG-Failed Exam		
Age	.417	.921
CGPA	.000	.205
[Gender=1]	.472	.896
[Race=1]	.021	1.891
[Race=2]	.355	.813
[Race=3]	.667	1.100
[LEP=1]	.147	1.345
[AR=1]	.982	1.005
[ED=1]	.239	1.228
DNG-Lack Credits		
Age	.000	.677
CGPA	.000	.077
[Gender=1]	.694	.950
[Race=1]	.716	.900
[Race=2]	.002	.569
[Race=3]	.082	.724
[LEP=1]	.722	.935

Table 4-13 continued

Grad Status	Sig.	Exp(B)
DNG-Lack Credits		
[AR=1]	.004	.606
[ED=1]	.000	1.809

Table 4-14 2004 – 2005 Senior Cohort Likelihood Ratio Tests

Effect	Chi-Square	df	Sig.
Age	16.377	2	.000
CGPA	398.875	2	.000
Gender	20.547	2	.000
LEP	16.407	2	.000
AR	46.518	2	.000
ED	13.275	2	.001

The analysis show that as the age (OR=.758) of a student increase, the student is significantly less likely not to graduate due to a failed exit exam rather than graduate. The same is true for cumulative grade point average (OR=.188). As the cumulative grade point average increase, the student is significantly less likely not to graduate due to a failed exit exam rather than graduate. When compared to students who are not Limited English Proficient, students who are LEP

(OR=2.218) are significantly more likely not to graduate due to a failed exit exam rather than graduate. At-risk students (OR=1.882), when compared to students who are not at-risk, are significantly more likely not to graduate due to a failed exit exam rather than graduate. Economically disadvantaged students (OR=1.847), when compared to students who are not economically disadvantaged, are significantly more likely not to graduate due to a failed exit exam rather than graduate.

The Parameter Estimates also reveal that age, cumulative grade point average, gender (Male), race (African-American), and at-risk are statistically significant in explaining the difference in graduation status for students who did not graduate due to a lack of credits rather than graduate. As the age (OR=.749) of students increase, the student is significantly less likely not to graduate due to a lack of credits rather than graduate. For cumulative grade point average (OR=.128), a student is significantly less likely not to graduate due to a lack of credits rather than graduate as the cumulative grade point average increases. Males (OR=.586), when compared to females, are significantly less likely not to graduate due to a lack of credits rather than graduate. African-American (OR=.708) students, when compared to Whites, are significantly less likely not to graduate due to a lack of credits rather than graduate. At-risk students (OR=2.431), are significantly more likely not to graduate due to a lack of credits rather than graduate.

For the 2003 – 2005 Combined Senior Cohorts, the Likelihood Ratio Tests shows that the independent variables age, cumulative grade point average, gender, race, Limited English Proficient, at-risk, economically disadvantaged, and graduation year are all significant contributors to explaining the differences in graduation statuses because their $p < .05$ (see Table 4-16).

To determine the variables that are statistically significant in explaining the difference between graduation statuses and how well the variables predict graduation status, the Parameter Estimates was reviewed (see Table 4-17). The results reveal that age, cumulative grade point average, Limited English Proficient, at-risk, and economically disadvantaged are statistically significant in explaining the differences in graduation status for students who did not graduate due to a failed exit exam rather than graduate. Age, cumulative grade point average, gender (Male), race (African-American), at-risk, and graduation year are statistically significant in explaining the differences in graduation status for students who did not graduate due to a lack of credits rather than graduate.

Table 4-15 2004 – 2005 Senior Cohort Parameter Estimates

Grad Status	Sig.	Exp(B)
DNG-Failed Exam		
Age	.009	.758
CGPA	.000	.188
[Gender=1]	.101	.769
[Race=1]	.697	1.145
[Race=2]	.939	1.019
[Race=3]	.189	1.370
[LEP=1]	.000	2.218
[AR=1]	.001	1.882
[ED=1]	.000	1.847
DNG-Lack Credits		
Age	.000	.749
CGPA	.000	.128
[Gender=1]	.000	.586
[Race=1]	.136	1.443
[Race=2]	.040	.708
[Race=3]	.441	.878
[LEP=1]	.127	1.290

Table 4-15 continued

Grad Status	Sig.	Exp(B)
[AR=1]	.000	2.431
[ED=1]	.243	1.169

The analysis show that as the age (OR=.835) of a student increase, the student is significantly less likely not to graduate due to a failed exit exam rather than graduate. The same is true for cumulative grade point average (OR=.204). As the cumulative grade point average increase, the student is significantly less likely not to graduate due to a failed exit exam rather than graduate. When compared to students who are not Limited English Proficient, student who are LEP (OR=1.699) are significantly more likely not to graduate due to a failed exit exam rather than graduate. At-risk students (OR=1.456), when compared to students who are not at-risk, are significantly more likely not to graduate due to a failed exit exam rather than graduate. Economically disadvantaged students (OR=1.473), when compared to students who are not economically disadvantaged, are significantly more likely not to graduate due to a failed exit exam rather than graduate.

The Parameter Estimates also reveal that age, cumulative grade point average, gender (Male), race (African-American), at-risk, economically disadvantaged, and graduation year are statistically significant in explaining the

difference in graduation status for students who did not graduate due to a lack of credits rather than graduate. As the age (OR=.726) of students increase, the student is significantly less likely not to graduate due to a lack of credits rather than graduate. For cumulative grade point average (OR=.106), a student is significantly less likely not to graduate due to a lack of credits rather than graduate as the cumulative grade point average increases. Males (OR=.713), as compared to females, are significantly less likely not to graduate due to a lack of credits rather than graduate. African-American (OR=.651) students, when compared to Whites, are significantly less likely not to graduate due to a lack of credits rather than graduate. At-risk students (OR=1.445), as compared to not at-risk students, are significantly more likely not to graduate due to a lack of credits rather than graduate. Economically disadvantaged students, as compared to students who are not economically disadvantaged are significantly more likely not to graduate due to a lack of credits rather than graduate. Students who were enrolled in the 2003 – 2004 Senior Cohort, when compared to students enrolled in the 2004 – 2005 Senior Cohort, are significantly less likely not to graduate due to a lack of credits rather than graduate.

Table 4-16

2003 – 2005 Combined Senior Cohorts Likelihood Ratio Tests

Effect	Chi-Square	df	Sig.
Age	30.708	2	.000
CGPA	875.153	2	.000
Gender	16.030	2	.000
Race	22.343	6	.001
LEP	14.087	2	.000
AR	16.618	2	.000
ED	18.148	2	.000
GY	16.644	2	.000

Table 4-17

2003 – 2005 Combined Senior Cohorts Parameter Estimates

Grad Status	Sig.	Exp(B)
DNG-Failed Exam		
Age	.013	.835
CGPA	.000	.204
[Gender=1]	.095	.832
[Race=1]	.052	1.521
[Race=2]	.508	.897
[Race=3]	.189	1.234
[LEP=1]	.000	1.699
[AR=1]	.008	1.456
[ED=1]	.001	1.473
[SY=1]	.499	.929
DNG-Lack Credits		
Age	.000	.726
CGPA	.000	.106
[Gender=1]	.000	.713
[Race=1]	.288	1.216
[Race=2]	.000	.651

Table 4-17 continued

Grad Status	Sig.	Exp(B)
[Race=3]	.089	.811
[LEP=1]	.317	1.131
[AR=1]	.001	1.445
[ED=1]	.001	1.395
[GY=1]	.000	.701

Research Questions 6: To determine the usefulness of Expectancy Theory and Goal Setting Theory in understanding the impact of exit exam graduation requirement on students' graduation status, additional research of the literature was conducted to investigate if other studies had identified a connection between the theories and the phenomenon being researched. This study did not collect data from students enrolled in the senior cohorts during the 2003 – 2004 and 2004 - 2005 school years regarding their expectation to graduate or goals established to ensure graduation from high school would occur. An analysis of the findings is discussed in the next chapter.

Summary

This chapter presented information regarding the data collected and the statistical analyses that were conducted for the 2003 – 2004 Senior Cohort, the 2004 – 2005 Senior Cohort, and the 2003 – 2005 Combined Senior Cohorts. The

first section presented the frequency counts and percentages, as well as the minimum values, maximum values, mean, median, and standard deviation for age, cumulative grade point average, gender, race, at-risk, economically disadvantaged, cumulative course credits, graduation year, and graduation status. Finally, a series of multinomial logistic regressions were conducted to determine the independent variables that were statistically significant to the dependent variable and how well the significant variables predicted the outcome. For the 2003 – 2004 Senior Cohort, the independent variables age, cumulative grade point average, race, at-risk, and economically disadvantaged were all significant contributors to explaining differences in graduation statuses. For the 2004 – 2005 Senior Cohort the independent variables age cumulative grade point average, gender, Limited English Proficiency, at-risk, and economically disadvantaged were all significant contributors to explaining differences in graduation statuses. For the 2003 – 2005 Combined Senior Cohorts the independent variables age, cumulative grade point average, gender, race, Limited English Proficiency, at-risk, economically disadvantaged, and graduation year were all significant contributors to explaining differences in graduation statuses. The following chapter presents a summary of the study, implications of the study, conclusions and the significance of the study.

Chapter 5

Summary of the Study, Implications, Conclusions, Study Significance

In this chapter a brief summary of the study, conclusions, and implications are presented. The summary includes the purpose of the study, the findings, and a review of the statistical analysis of the data. The implications for research, theory and practice are presented next. Conclusions address the research questions of the study. Finally, recommendations for future research for the study are addressed.

Summary of the Study

The purpose of the study was to examine the impact of the exit exam graduation requirement on students' high school graduation status. As an outcome of the Elementary and Secondary Education Act, and its reauthorization in 2002 as the No Child Left Behind Act, states were required to develop an accountability system that measured the academic effectiveness of schools to ensure students are receiving a quality education (Linn, Baker, & Betebenner, 2002). Some states implemented high school graduation exit examinations which required students to successfully complete the exams prior to graduating from high school. Despite these efforts, there continues to be a concern with high school graduation and the impact of exit exams. The relationship between students graduating from high school and the exit exam graduation requirement is equally uncertain. There was insufficient evidence that affirms or refutes the impact of exit exams on high school graduation. Without valid and reliable

research, stakeholders such as legislative officials and school administrators lack pertinent data to determine the effect of exit exams and its impact on high school graduation.

The data for the study was collected from an independent school district in Texas. It included the demographic data for the graduating senior cohorts for the 2003 – 2004 school year and the 2004 – 2005 school year. These school years were chosen because a transition occurred with the state’s testing. During the 2003 – 2004 school year, students were administered the Texas Assessment of Academic Skills. The 2004 – 2005 school year ushered in the Texas Assessment of Knowledge and Skills, a more rigorous examination. For the 2003 – 2004 school year, data was collected for 3,654 students. For the 2004 – 2005 school year, data was collected for 3,795 students.

Data Needs

Given the purpose of the study was to examine the impact of the exit exam graduation requirement on students’ high school graduation status, the data required to conduct the study included demographic data and students’ graduation status during school years in which a transition occurred in the State’s graduation exams. The data included the age, race, gender, cumulative grade point average, cumulative course credits, Limited English Proficiency, at-risk status, economically disadvantage status, graduation year, and graduation status for

students enrolled in their senior year of high school during the 2003 – 2004 and 2004 – 2005 school years.

Data Sources

The source of the data was students enrolled in the twelfth grade during the 2003 – 2004 and the 2004 – 2005 school years in a Texas school district. These years were selected because the last administration of the TAAS exit examination occurred during 2003 – 2004 school year and the TAKS exit examination was implemented for graduation requirement during the 2004- 2005 school year. Convenience sampling was the method used to select the sample for the study. This method was chosen because the researcher works in the school district in which the data was collected and has a relationship with the administrator who approved the use of the data. The sample for this study included 7,449 total students; 3,654 students enrolled in the twelfth during the 2003 – 2004 school year and 3,795 students enrolled in the twelfth grade during the 2004 – 2005 school year.

Data Collection

After IRB approval was granted, a request for data was submitted to the independent school district. The request for student data was submitted to the Executive Director of Testing and Accountability via an email message. Included in the email was a brief summary of the study, a description of the data that was being requested to conduct the study, and the research proposal. The message

stated that the following demographic data was needed for every student enrolled in the twelfth grade during the 2003-2004 and the 2004-2005 school years: gender, age, race, cumulative grade point average, Limited English Proficiency, economically disadvantaged status, at-risk status, cumulative course credits, graduation exam, and graduation status.

The request was approved and an electronic copy of the data was received in an excel spreadsheet. The data for each student had already been converted into the appropriate code, when it was received so that it could be uploaded into IBM Statistical Package for the Social Sciences (SPSS) Statistics 22 software for data analysis.

Data Analysis

Descriptive statistics, such as frequency counts, percentages, and measure of central tendency, were used to describe the basic features of the data in a study. A series of multinomial logistic regression were conducted to determine if the independent variables were statistically significant in explaining the differences in graduation statuses and how well they predicted the outcome for the 2003-2004 senior cohort, the 2004 2005 senior cohort, and the combined senior cohorts.

Findings

To investigate the relationship between the exit exam graduation requirement and student graduation status from high school, the research questions were examined. The findings are presented by research questions.

Research Question 1. The characteristics of the Senior Cohort for the 2003 – 2004 school year was almost evenly distributed for gender; there were 60 more females (N=1,857) in the cohort than there were males (N=1,797). White students (N = 1,720) comprised the largest racial group followed by Hispanic (N=849), African-American (N=704), and Asian (N=381) students. The age of the students ranged from 15 to 22 years old and the average age was 18 years old. The cumulative grade point average ranged from 1.02 – 4.0, with the average being 2.97. The cumulative course credits ranged from 18.5 – 38.5 and the average was 27 credits. Although a majority of the students in the cohort were not Limited English Proficient (N=3,013) or economically disadvantaged (N=2,554), most of them were at-risk (N = 2,234). All of the students were required to take the TAAS exit exams. For graduation status, 3,114 students graduated from high school, while 540 students did not graduate. Of those that did not graduate, 335 students did not have the required number of course credits and 205 failed to meet the exit exam graduation requirement.

For the 2004 – 2005 Senior Cohort, there were 169 more females (N=1,982) in the cohort than there were males (N=1,813). White students (N=1,656) comprised the largest racial group followed by Hispanic (N = 1,002), African-American (N=732), and Asian (N=405) students. The age of the students ranged from 16 to 26 years old and the average age was 18 years old. The cumulative grade point average ranged from 1.06 – 4.0 and the average was 2.97.

The cumulative course credits ranged from 18 – 36 and the average was 27 credits. A majority of the students in the cohort were not Limited English Proficient (N=3,111), economically disadvantaged (N=2,793), or at-risk (N=2,184). All of the students were required to take the TAKS exit exams. For graduation status, 3,177 students graduated from high school, while 618 students did not graduate. Of those that did not graduate, 420 students did not have the required amount of course credits and 198 failed to meet the exit exam graduation requirement.

Finally, for the 2003 – 2005 Combined Senior Cohorts, there were 229 more females (N=3,839) than there were males (N=3,610). White students (N=3,376) comprised the largest racial group followed by Hispanic (N=1,851), African-American (N=1,436), and Asian (N=786) students. The age of the students ranged from 15 to 26 years old, with the average age being 18 years old. The cumulative course credits ranged from 1.0 – 4.0, with the average CGPA being 2.96. The cumulative course credits ranged from 18 – 38.5 and the average amount of credits was 27. The majority of the students were not Limited English Proficient (N=6,124) or economically disadvantaged (N = 5,347). The students who were at-risk (N=3,845) were slightly more than the students who were not at-risk (N = 3,604). There were more students who were required to take the TAKS exit exams (N=3,795) than there were students who were required to take the TAAS exit exams (N=3,654). For graduation status, 6,291 students graduated

from high school, while 1,158 students did not graduate. Of those that did not graduate, 755 students did not have the required amount of course credits and 403 failed to meet the exit exam graduation requirement.

Research Question 2. The data for the combined cohorts was analyzed to determine the profile of the students who completed all the requirements to graduate from high school. There were 6,291 total graduates. White students (47.9%) and females (52.2%) had the highest percentage of graduates. The age of the graduates ranged from 15 – 22 years old, with the average age being 18 years old. The students had an average cumulative grade point average of 3.074. The cumulative course credits ranged from 24 – 38.5. The average amount of course credits was approximately 28. A majority of the graduates were not Limited English Proficient (83.9%) or economically disadvantaged (74.3%). The at-risk status of the graduates was almost equivalent. At-risk students accounted for 46.6% of the graduates while not at-risk students were 53.4%. Finally, there was almost an equal distribution of graduates according to the graduation year, 49.5% during the 2003 – 2004 school year and 50.5% during the 2004 – 2005 school year.

Research Question 3. The data for the combined cohorts were analyzed to determine the profile of the student who did not complete all the requirements to graduate from high school. There were 1,158 students who did not graduate. Hispanic students (39.4%) and males (52.1%) had the highest percentage of non-

graduates. The age of the non-graduates ranged from 16 – 26 years old, with the average age being 18 years old. The students had an average cumulative grade point average of 2.37. The cumulative course credits ranged from 18 – 32. The average amount of course credits was approximately 23. A majority of the non-graduates were not Limited English Proficient (72.8%) or economically disadvantaged (58%). At-risk students accounted for 78.8% of the non-graduates while not at-risk students were 21.2%. A review of the graduation status for non-graduates, 34.8% did not graduate because of a failed exit exam and 65.2% did not graduate because of a lack of course credits. Finally, a slightly higher percentage (53.4%) of students did not graduate during the 2004 – 2005 school year than the 2003 – 2004 school year (46.6%).

Research Question 4. The data analysis, which consisted of frequency counts and percentages, for graduates and non-graduates were compared to the data analysis of population to identify the differences in the profiles. Comparison of the data for the graduates and the population reveal that the percentages were closely equivalent for the variables. Female students represented 51.55 of the population and 52.2% of the graduates. A comparison by race reveals that the percentages for graduates for African-American and Asian students are identical to their percentages of the population. For White and Hispanic students the percentages are slightly different. White students represent 45.1% of the population but they were 47.9% of the graduates; while Hispanic students

represent 24.8% of the population but only 22.2% of the graduates. The graduate percentages for students who were not Limited English Proficient (+1.7%), not economically disadvantaged (+2.5%), or not at-risk (+5%) were higher than their percentages of the population. Conversely, the graduate percentages for students who were Limited English Proficient, economically disadvantaged, or at-risk were slightly lower than their percentages of the population. The percentages for the graduation years for the graduates were equivalent to those of the population.

When comparing the percentages of non-graduates to the percentages of the population, female students represent a lower percentage while males represent a higher percentage. A review of the data according to race reveal that the percentages of Asian (-2.1%) and White (-13.6%) students who did not graduate is lower than their percentages of the population, while that of African-American (+1.3%) and Hispanic (+14.6) is greater than their percentages of the population. The differences in percentages for Limited English Proficient (+9.4%), economically disadvantaged (+13.8), and at-risk (+27.6%) students reveal that they represent a higher percentage of the non-graduates than they are of the population. Finally, when comparing the graduation years, the percentage of non-graduates during the 2004 – 2005 school year was higher than the percentage of the population for the same school year.

Research Question 5. To determine how well gender, race, age, cumulative grade point average, Limited English Proficient, economically

disadvantage, and at risk status predicted graduation status, multinomial logistic regressions were conducted on the 2003 – 2004 Senior Cohort and the 2004 – 2005 Senior Cohort. For the 2003 – 2005 Combined Senior Cohorts, graduation year was included in the data analysis as a predictor variable. The results of the data analysis reveal that the statistical significance of the independent variables and the dependent variable varied based upon the data.

For the 2003 – 2004 Senior Cohort, the independent variables age, cumulative grade point average, race, at-risk, and economically disadvantaged were all significant contributors to explaining differences in graduation statuses. The independent variables cumulative grade point average and race were statistically significant when comparing the differences in graduation statuses for students who did not graduate due to a failed exit exam rather than graduate. The independent variables age, cumulative grade point average, race, at-risk, and economically disadvantaged were statistically significant when comparing the difference in graduation statuses for students who did not graduate due to a lack of course credits rather than graduate. The data analyses reveal that as the cumulative grade point average for students increase, they are less likely not to graduate rather than graduate. The findings for race contradict what is typically known about the differences groups. When compared to White students, Asian students are statistically more likely not to graduate due to a failed exit exam rather than graduate. When compared to White students, African-American

students are less likely not to graduate due to a lack of credits rather than graduate. At-risk students, when compared to not at-risk are significantly less likely not to graduate due to a lack of credits rather than graduate. This finding also contradicts what is typically known regarding the graduation status for at-risk and non at-risk students. Finally, economically disadvantaged students, when compared to non-economically disadvantaged students, are significantly more likely not to graduate due to a lack of credits than graduate.

For the 2004 – 2005 Senior Cohort the independent variables age, cumulative grade point average, gender, Limited English Proficient, at-risk, and economically disadvantaged were all statistically significant in explaining the differences in graduation status. The variables age, cumulative grade point average, Limited English Proficient, at-risk, and economically disadvantaged were statistically significant in explain the difference between students who did not graduate due to a failed exit exam rather than graduate. The variables age, cumulative grade point average, males, African-American students, and at-risk were statistically significant in explaining the difference between students who did not graduate due to a lack of credits rather than graduate. As the age and cumulative grade point average of students increase, they are less likely not to graduate rather than graduate. Limited English Proficient students, when compared to non-Limited English Proficient students, are more likely not to graduate because of a failed exam rather than graduate. At-risk students, when

compared to students who are not at-risk, are more likely not to graduate rather than graduate. Economically disadvantaged students, when compared to non-economically disadvantaged students, are more likely not to graduate due to because of a failed exit exam rather than graduate. Males, when compared to females, are less likely not to graduate because of a lack of credits than graduate. Finally, African-American students, compared to Whites, are less likely not to graduate due to a lack of credits rather than graduate.

For the 2003 – 2005 Combined Senior Cohorts the independent variables age, cumulative grade point average, gender, race, Limited English Proficient, at-risk, economically disadvantaged, and graduation year were all significant contributors to explaining differences in graduation statuses. The independent variables age, cumulative grade point average, Limited English Proficient, at-risk, and economically disadvantaged were statistically significant when comparing the differences in graduation statuses for students who did not graduate due to a failed exit exam rather than graduate. The independent variables age, cumulative grade point average, males, African-Americans, at-risk, economically disadvantaged, and graduation year were statistically significant when comparing the differences in graduation statuses for students who did not graduate due to a lack of credits rather than graduate. As the age and cumulative grade point average of a student increase, they are less likely not to graduate rather than graduate. Limited English Proficient students, compared to non-Limited English Proficient students, are

more likely not to graduate because of a failed exit exam rather than graduate. At-risk and economically disadvantaged students, when compared to their counterparts, are more likely not to graduate rather than graduate. Males, compared to females, are less likely not to graduate due to a lack of credits rather than graduate. African-American students, compared to Whites, are less likely not to graduate due a lack of credits rather than graduate. Finally, students in the 2003 – 2004 Senior Cohort, when compared to students to in the 2004 – 2005 Senior Cohort, are less likely not to graduate because of a lack of credits rather than graduate.

Research Question 6. The researcher's intent in this study was to refute the premise of Expectancy Theory and Goal Setting Theory by concluding that exit exams were barriers to students obtaining a high school diploma. Although students expect to graduate from high school, establish graduation as a goal, and begin to work towards meeting the expectation and achieving the goal, the exit exam would hinder their progress. Despite their expectation and goal of graduating, students would eventually discontinue the pursuit of a high school diploma because their efforts did not produce the expected outcome.

Expectancy theory proposes that a person will decide to perform in a certain way due to what they expect the result of that selected behavior will be (Vroom, 1964). It states that the tendency to perform in a particular manner is dependent on the expectation that the performance will produce a favorable and

definite outcome (Miner, 2005). In the realm of educational reform, Expectancy Theory posits that teachers and students will respond favorably to incentive programs if three conditions are met: 1) they believe they can accomplish the goal, 2) they believe there is a clear connection between individual effort and receiving a reward, and 3) they value the reward enough to put forth the effort to achieve it (Beer & Cannon, 2004; Van Eerde & Thierry, 1996).

Goal setting is essentially linked to task performance as well. The theory states that specific and challenging goals will contribute to increased and improved performance (Locke, Latham, Smith, & Wood, 1990). Locke and Bryan (1966) found that when an individual had specific goals or standards of performance to meet, the performance effects were more pronounced than when specific goals were lacking. Goal setting theory suggest that goals motivate individuals when they are specific, challenging, accepted as worthwhile, and achievable. It holds that once a task is accepted, the only logical thing to do is to work towards achieving the goal or until a decision is reached to abandon the goal (Locke, 1968).

Educational research on expectancy theory and goal setting theory suggest that student motivation and self regulation can improve when students pursue goals that are specific, proximal, moderately difficult, and when they receive feedback on their progress (Bandura & Schunk, 1981; Locke & Latham, 1990, 2002; Schunk, 1991; and Zimmerman, 2000). Just because a student expects to

graduate from high school and establishes it as a goal does not guarantee that the student will graduate. Unfortunately, in this study, I cannot know the intentions of the students. However, the usefulness of expectancy theory and goal setting theory in understanding the phenomenon was not established.

Conclusions

The findings from this study affirm the academic disparity that is prevalent among students of different demographic backgrounds. In terms of graduation status, the findings show that although African-American and Hispanic students represent a smaller percentage of the student population, they represent a much greater percentage of students who do not graduate high school. More efforts are required to assist minority students close the graduation gap that exist.

When reviewing the data analysis for the 2003 – 2004 Senior Cohort, the 2004 – 2005 Senior Cohort, and the 2003 – 2005 Combined Senior Cohorts, cumulative grade point average was consistently shown to impact students' graduation status. This means that as students demonstrate mastery of content in their courses, they have a higher probability of graduating high school. With this being the case, more support is needed to assist students develop the skills that are required to master the content.

In regards to exit exams, the results suggest that students who took the TAAS exit exam, when compared to students who took the TAKS exit exam, was not statistically significant in explaining the differences in students who did not

graduate due to a failed exit exam rather than graduate. It did reveal that students who took the TAAS, compared to students who took the TAKS, were significantly less likely not to graduate due to a lack of credits rather than graduate.

The variables age, cumulative grade point average, Limited English Proficient, at-risk and economically disadvantaged statuses were consistently found to have a relationship with graduation status. Cumulative grade point average is the greatest predictor of high school graduation status. Educators must be aware of the impact that these variables have on student achievement and graduation status so that specific strategies and interventions can be designed and implemented that help improve student performance. The results confirm research that is currently known about student achievement and graduation status for students who are economically disadvantaged, at-risk, and have Limited English Proficiency. Students who are economically disadvantaged, at-risk, and are Limited English Proficient achieve at lower levels than students who are not and are more likely not to graduate due to a failed exit exam and due to a lack of credits.

Limitations

The limitations of the study that potentially impact or influence the interpretation of the results of the study are the research design and the type of data collected to conduct the research. This study is a correlation research design

and not an experimental design. A correlation design determines whether a relationship between variables exists and not the causes of a phenomenon. In a correlation research study, the results do not provide a decisive reason for why the relationship between the variables occurs (Tabachnick & Fidell, 2007; Gall, Gall, & Borg, 2007).

The data collected to conduct the study was preexisting administrative data. A limitation for using administrative data is the fact that the researcher has no control over the quality or validity of the data. Depending on how the data was recorded and extracted from various databases, there could potentially be inaccuracies in the data that could impact the results of the study. There is also the possibility that the data has missing or incomplete records (Lavallée, 2000). A limitation with the data collected for this study is the fact that it is not the most current data, which means that the results may not be applicable.

Implications

This section presents implications of this research study. It first addresses the potential implications for theory and then the potential implications for practice and research.

Implications for Theory

The results of the study did not contradict the beliefs of expectancy theory and goal setting theory as expected because there was not research to substantiate a relationship existed between the theories and students' graduation status.

Expectancy Theory and Goal Setting Theory suggest that students will be motivated to attain achievement goals to the extent that they perceive a high probability that their efforts will lead to achievement of the goals. It also suggests that teachers and students will place a value on the outcomes if they perceive a high probability that the goal will be attained (Miner, 2005; Beer & Cannon, 2004). As stated in the findings, merely expecting to graduate and establishing high school graduation as a goal does not guarantee that a student will achieve the goal. Additional educational research on the implications of expectancy theory and goal setting theory should explore the possibility that students may need to be taught how to set goals that are specific, proximal, and moderately difficult. Proximal, short-term goals lead to higher motivation directed toward goal attainment than do long-term goals. Most students have a short time frame of reference and are not fully developmentally capable of representing long-term outcomes (Bandura, 1986). Graduating high school is a long-term goal and most students are not able to fully comprehend the magnitude of the efforts required to complete the task. Developing proximal goals for students will allow them to develop a sense of accomplishment by achieving short term goals that will help them accomplish the goal of graduating. Accomplishing the proximal goals will increase student motivation and self-efficacy which will lead them to attain a high school diploma.

Implications for Practice

The results of the study have direct implications for educators. As suggested in the findings, a significant relationship does not exist in explaining the differences in graduation status when comparing the TAAS and the TAAKS. As stated in the findings, African-American and Hispanic students continue to achieve academic success at lower levels than their counterparts. Educators and legislators must explore all factors that have a negative impact on the academic achievement of minority students to develop and implement strategies that will help these students realize high school graduation at comparable levels.

Implications for Research

This study adds to the current knowledge regarding the impact of exit exam graduation requirement on students' graduation status. There is currently conflicting research on the impact of exit exams on student achievement and high school graduation. The findings of the study revealed that exit exams are not statistically significant in explaining the differences in graduation statuses. These results should inform future research on student achievement, educational accountability, and standardized assessments.

Significance of the Study

The results of this research study will inform theory, practice, and research. The outcomes produced evidence to add to the conversation regarding the impact of the exit exam graduation requirement on students' high school

graduation status. The research expands the body of literature regarding the effects of exit exams on students' graduation status which could bring about change in the development and implementation of educational policies and practices.

Recommendations for Future Research

The researcher makes the following recommendations for further study, based on the results of this study:

1. Expand the research to other school districts within the state of Texas, as well as, schools in other states that administer exit examinations as a graduation requirement to determine if exit exams impact students' high school graduation status.
2. Conduct the study using graduation data for students who are required to meet the recently implemented State of Texas Assessment of Academic Readiness (STAAR) exit exam requirement and graduation data from the Texas Assessment of Knowledge and Skills (TAKS) to determine if exit exams are statistically significant in explaining the differences in graduation statuses.
3. Additional research is required to identify alternative assessment methods that accurately measure student academic performance and to ensure students are receiving a quality education. These methods should examine

a broad perspective of student performance in order to precisely evaluate student achievement.

4. Identify strategies that will decrease the disparity in the academic achievement of students based on gender, race, economically disadvantaged, at-risk, and Limited English proficient statuses.
5. Research the impact of educational accountability systems and standardized examinations on student achievement.

Summary

The impact of exit exams on high school graduation has revealed contradictory results across states that require students to successfully complete content specific exams prior to attaining a high school diploma. The evidence that affirms or refutes the impact of exit exams on high school graduation appears to be insufficient in determining if a relationship exists between exit exams and high school graduation. The purpose of the study was to provide a perspective of the high school exit exam graduation requirement and students' graduation status in Texas. It examined the impact of the exit exam graduation requirement on students' high school graduation status. The study also examined the impact of other variables on high school graduation status such as age, gender, race, cumulative grade point average, Limited English Proficient, economically disadvantaged, at-risk, and graduation year.

The findings of the study show that the profile of a student who graduated was an 18 year old, White female who had a cumulative grade point average of 3.07 and had accumulated 28 course credits. The student was not categorized as Limited English Proficient, economically disadvantaged, or at-risk and the student successfully completed either the TAAS or TAKS exit exam graduation requirement. The profile of the non-graduate was an 18 year old, Hispanic male who had a cumulative grade point average of 2.36 and had accumulated 23 course credits. The student was not labeled Limited English Proficient or economically disadvantaged, but the student was considered at-risk. The student was unable to successfully complete the TAKS exit exam graduation requirement. Based on the findings, it was concluded that minority students continue to lag behind students of other races in attaining a high school diploma. More efforts are required to help students consistently demonstrate mastery of the content at high levels.

The findings for the 2003 – 2005 Combined Senior Cohorts suggest that exit exams are not statistically significant in explaining the differences in graduations status for students who did not graduate due to a failed exit exam when compared to students who did graduate. The variables age, gender, race, cumulative grade point average, Limited English Proficiency, economically disadvantaged, and at-risk were statistically significant in explaining the differences in graduation status. This would suggest that statistically significant relationship exists between the independent variables and the dependent variable.

The findings also show that cumulative grade point average is the greatest predictor of graduating high school. Students with a higher grade point average had a greater probability of graduating high school when compared to students who did not graduate. For the 2003 – 2004 Senior Cohort, economically disadvantaged was a good predictor of graduating high school and for the 2004 – 2005 Senior Cohort, at-risk status was a strong predictor of graduating high school.

Appendix A

University of Texas at Arlington IRB Form #1A

**THE UNIVERSITY OF TEXAS AT ARLINGTON
 INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF
 HUMAN SUBJECTS
 IRB FORM #1A:
 PROPOSAL FOR RESEARCH INVOLVING HUMAN SUBJECTS
 APPLICATION FOR EXEMPT RESEARCH**

Faculty, staff, students, or employees who propose to engage in any research, demonstration, development, or other activity involving the use of human subjects must have review of that activity by the Institutional Review Board for the Protection of Human Subjects (IRB), prior to initiation of that project. Applications for exemption must be reviewed and documented as exempt by the IRB. The IRB is responsible for safeguarding the rights and welfare of subjects who participate in the activity. If you require further assistance in completing this form or need additional information, please contact Research Administration at 817-272-3723 or regulatoryservices@uta.edu.

*This version of Form #1A is intended to be used in conjunction with a submission to the IRB via the electronic protocol submission system:
<https://www.uta.edu/ra/real/loginscreen.php?view=50>.*

SECTION A: GENERAL INFORMATION

- 1. Please list any NON-UTA Protocol Personnel that could not be entered via the electronic submission face page.**

Name:	Affiliation:	Participant Status (Co-Investigator, Collaborator, etc.):

- 2. Expected Start Date:** *(You are not authorized to begin any research involving human subjects until the IRB has reviewed and approved the research protocol.)* September 23, 2013
- 3. Expected Completion Date:** September 23, 2014

SECTION B: FUNDING *(If this research is not supported by funding, please*

skip to section C.)

4. Source: **FEDERAL** (Specify Agency: _____)
 INDUSTRY SPONSORED (Specify Agency: _____)
 Departmental **State** (Specify Agency: _____)
 Other:
Funded Grant/Contract Number:
 Check here if grant is pending (Date of Grant
Submission: _____)

SECTION C: EXEMPTION STATUS OF THE RESEARCH PROTOCOL

Human subject research qualifying as exempt must correspond with one or more of the exempt categories mandated by the human subject research federal regulations, Title 45 CFR Part 46.101. This section is intended to determine if your research project can appropriately be designated as exempt.

Special Note Regarding Prisoners as Subjects

Human subject research involving prisoners as subjects is not eligible for exemption. Instead, please complete IRB Form #1 (Application for Non-Exempt Research) and IRB Form #2C (Application for Prisoner). A Prisoner is defined as any individual involuntarily confined or detained in a penal institution. The term is intended to encompass individuals sentenced to such an institution under a criminal or civil statute, individuals detained in other facilities by virtue of statutes or commitment procedures which provide alternatives to criminal prosecution or incarceration in a penal institution, and individuals detained pending arraignment, trial, or sentencing.

Instructions

Please check the box of one or more of the categories below that apply to your research, then in Section D, provide specific details describing your research project in relation to the exemption category. If none of the exemption categories listed below apply to your research, please submit IRB Form #1 instead for non-exempt human subject research.

- A.** Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- B.** Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or

observation of public behavior, **unless**: information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; **and** (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation. *(Research must meet both conditions i and ii to be disqualified from this exemption.)*

Special Note Regarding Children as Subjects

*If your research project includes children, ages 0-17, then exemption B only applies if, in addition to the conditions above, your research involves **ONLY** educational tests or public behavior when the investigator(s) do not participate in the activities being observed. The exemption for surveys or interviews does not apply to children as subjects.*

- C. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph B of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; **or** (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
- X D. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, *if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.*
- E. Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine:
(i) *Public* benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.
- F. Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

SECTION D: RESEARCH PROCEDURES AND SUBJECT SELECTION

5. Does your research involve mentally incapacitated subjects?

Yes No

If yes, please also complete and submit IRB Form #2A.

6. Does your research involve pregnant women, human fetuses, neonates of uncertain viability, or nonviable neonates?

Yes No

If yes, please also complete and submit IRB Form #2B.

7. Does your research involve children, ages 0-17?

Yes No

If yes, please also complete and submit IRB Form #2D.

8. Please describe your research procedures in layman's terms.

Specifically, describe how your research meets one or more of the exemption categories chosen above. The research study meets the exemption because it will consist of collecting and analyzing existing administrative data. The data will be collected for all students enrolled in grade 12 in all comprehensive high schools in one Texas school district during the 2003-2004 and 2004-2005 school years. The requested data for each student will include each student's: gender, race, age, cumulative grade point average (CGPA), Limited English Proficient (LEP) status, Economically Disadvantaged (ED) status, At-Risk (AR) status, cumulative course credits (CCC), Graduation Year, and Graduation Status. Data that could potentially link the participants to the information provided, such as name or identification number, will not be requested.

9. How many subjects will be enrolled in this research project? Data will be collected for approximately 6,286 total participants. The number of students enrolled in the twelfth grade during the 2003-2004 school year was approximately 3,139 and the number of students enrolled in the twelfth grade during the 2004-2005 school year was approximately 3,147.

10. Please describe how and where subjects will be recruited. The recruitment of subjects will not be required for this research study.

11. Please describe your process/procedures for obtaining informed consent, if applicable. Informed consent will not be required for collecting existing data.

Appendix B

University of Texas at Arlington IRB Approval



Office of Research Administration
Regulatory Services
817-272-3723
regulatoryservices@uta.edu
<http://www.uta.edu/research/administration>

**Institutional Review Board
Notification of Exemption**

September 13, 2013

Kelvin Stroy
Dr. Adrienne Hyle
Educational Leadership & Policy Studies

Protocol Number: 2014-0006

Protocol Title: *Exit Exam Requirement and High School Graduation: A Texas Perspective*

EXEMPTION DETERMINATION

The UT Arlington Institutional Review Board (IRB) Chair, or designee, has reviewed the above referenced study and found that it qualified for exemption under the federal guidelines for the protection of human subjects as referenced at Title 45CFR Part 46.101(b)(4).

- (4). Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

You are therefore authorized to begin the research as of September 11, 2013.

Pursuant to Title 45 CFR 46.103(b)(4)(iii), investigators are required to, “promptly report to the IRB any proposed changes in the research activity, and to ensure that such changes in approved research, during the period for which IRB approval has already been given, are **not initiated without prior IRB review and approval** except when necessary to eliminate apparent immediate hazards to the subject.” Please be advised that as the principal investigator, you are required to report local adverse (unanticipated) events to the Office of Research Administration; Regulatory Services within 24 hours of the occurrence or upon acknowledgement of the occurrence. All investigators and key personnel identified in the protocol must have documented Human Subject Protection (HSP) Training on file with this office. Completion certificates are valid for 2 years from completion date.

The UT Arlington Office of Research Administration; Regulatory Services appreciates your continuing commitment to the protection of human subjects in research. Should you have questions, or need to report completion of study procedures, please contact Robin Dickey at 817-272-9329 or robind@uta.edu. You may also contact Regulatory Services at 817-272-3723 or regulatoryservices@uta.edu.

References

- Amrein, A. L., & Berliner, D. C. (2002). High-stakes testing, uncertainty, and student learning. *Education Policy Analysis Archives*, 10(18), Retrieved from <http://epaa.asu.edu/epaa/v10n18/>.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psychology*, 41, 586-598.
- Beer, M., & Cannon, M. D. (2004). Promise and peril in implementing pay-for-performance. *Human Resources Management*, 43(1), 3–48.
- Braun, H. I., Wang, A., Jenkins, F., & Weinbaum, E. (2006). The black-white achievement gap: Do state policies matter? *Educational Policy Analysis Archives*, 14(8), Retrieved from <http://epaa.asu.edu/epaa/v14n8/>.
- Campbell, D. T. & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Reprinted from *Handbook of Research and Teaching*. Boston, MA: Houghton Mifflin Company.
- Center on Education Policy (2010). *State high school tests: Exit exams and other assessments*. Washington, DC: Author.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage

- Dee, T. S., & Jacob, B. A. (2006). *Do high school exit exams influence educational attainment or labor or labor market performance?* (Working Paper 12199). Retrieved from National Bureau of Economic Research website: <http://www.nber.org/papers/w12199>.
- Fuhrman, S. H. (1999). *The new accountability*. Philadelphia, PA: University of Pennsylvania, Consortium for Policy Research in Education. (CPRE Policy Brief Series RB-27).
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction*. Boston, MA: Pearson Education, Inc.
- Giambo, D. A. (2010). High-stakes testing, high school graduation and limited English proficient students: A case study. *American Secondary Education*, 38(2), 44-56.
- Greene, J. P., & Winters, M. A. (2004). *Pushed out or pulled up? Exit exams and dropout rates in public high schools* (Vol. 5). CCI Center for Civic Innovation at the Manhattan Institute for Policy Research. Retrieved from: http://www.manhattan-institute.org/pdf/ewp_05.pdf.
- Greene, J. P., & Forster, G. (2003). *Public high school graduation and college readiness rates in the United States* (Vol. 3). CCI Center for Civic Innovation at the Manhattan Institute for Policy Research. Retrieved from: http://www.manhattaninstitute.org/pdf/ewp_03.pdf.

- Hall, C. W., Davis, N. B., Bolen, L. M., & Chia, R. (1999). Gender and racial differences in mathematical performance. *The Journal of Social Psychology, 139*(60), 677-689.
- Haney, W. (2000). The myth of the Texas miracle in education. *Education Policy Analysis Archives, 8*(41). Retrieved from <http://epaa.asu.edu/epaa/v8n41>.
- Harris, S., Irons, E. J., & Crawford, C. (2006). Texas superintendents' rating of standards, assessments, accountability programs. *Planning and Changing, 37*(3&4), 190-204.
- Heckman, J. J., & LaFontaine, P. A. (2007). *The American high school graduate rate: Trends and levels* (Working Paper 13670). Retrieved from National Bureau of Economic Research website: <http://www.nber.org/papers/w13670>.
- Hursh, D. (2005). The growth of high-stakes testing in the USA: Accountability, markets and the decline in educational equality. *British Educational Research Journal, 31*(5), 605-622.
- Hursh, D. (2007). Exacerbating inequality: The failed promise of the no child left behind act. *Race Race and Education, 10*(3), 295-308.
- Jacob, B. A. (2001). Getting tough? The impact of high school graduation exams. *Educational Evaluation and Policy Analysis, 23*(2), 99-121.
- Lavallée, P. (2000, June). Combining survey and administrative data: Discussion paper. ICES-II, Proceedings of the Second international Conference on

- Establishment Surveys, Survey Methods for Business, Farms, and Institutions. Buffalo, New York. Retrieved from <http://www.amstat.org/meetings/ices/2000/proceedings/INTRO.pdf>
- Lay, J. C. & Stokes-Brown, A. K. (2009). Put to the test: Understanding differences in support for high-stakes testing. *American Politics Research*, 37(3), 429 – 448. doi: 10.1177/1532673X08320843.
- LeFloch, K. C., Taylor, J. E., & Thomsen, K. (2006). Implications of NCLB accountability for comprehensive school reform. *Journal of Education for Students Placed At Risk*, 11(3&4), 353 – 366.
- Linn, R. L., Baker, E. L., & Betebenner, D. W. (2002). Accountability systems: Implications of requirements of the No Child Left Behind Act of 2001. *Educational Researcher*, 31(6), 3 – 16.
- Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior and Human Performance*, 3, 157 – 189.
- Locke, E. A. & Bryan, J. F. (1966). Cognitive aspects of psychomotor performance: The effects of performance goals on level of performance. *Journal of Applied Psychology*, 50, 286 – 291.
- Locke, E. A., Latham, G. P., Smith, K. J., & Wood, R. E. (1990). *A theory of goal setting and task performance*. New Jersey: Prentice Hall.

- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, *57*, 705-717.
- McNeil, L. M., Coppola, E., Radigan, J., & Heilig, J. V. (2008). Avoidable losses: high-stake accountability and the dropout crisis. *Educational Policy Analysis Archives*, *16*(3). Retrieved from <http://epaa.asu.edu/epaa/v16n3/>.
- McSpadden-McNeil, L., Coppola, E., Radigan, J., & Vasquez-Heilig, J. (2008). Avoidable Losses: high-stakes accountability and the dropout crisis. *Education Policy Analysis Archives*, *16*(3). Retrieved February 28, 2011 from <http://epaa.asu.edu/epaa/v16n3/>.
- Miner, J. B. (2005). *Organizational behavior I: Essential theories of motivation and leadership*. New York: M. E. Sharpe, Inc.
- Mohrman, S. A., & Lawler, E. E., III. (1996). Motivation for school reform. In S. H. Fuhrman & J. O'Day (Eds.), *Rewards and reform: Creating educational incentives that work* (pp. 115–143). San Francisco: Jossey-Bass.
- Murnane, R., Willett, J., & Tyler, J. (2000). Who benefits from obtaining a ged? Evidence from high school and beyond. *The Review of Economics and Statistics*, *82*(1), 23 – 37.
- National Center for Public Policy and Higher Education. (2005). *Policy alert: Income of U.S. workforce is predicted to decline if education doesn't*

improve. Retrieved from:

www.highereducation.org/reports/pa_decline/pa_decline.pdf.

National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: U.S. Department of Education.

New York State Education Department. (2004). *The impact of high-stakes exams on students and teachers: A policy brief*. Retrieved from:

<http://www.oms.nysed.gov/faru/TheImpactofHighStakesExamsfiles/TheImpactofHigh-StakesExams.pdf>

Nichols, J. D. (2003). Prediction indicators for students failing the state of Indiana high school graduation exam. *Preventing School Failure, 47*(3), 112-120.

Orfield, G., Losen, J., Wald, C., & Swanson, B. (2004). *Losing our future: How minority youth are being left behind by the graduation rate crisis*.

Cambridge, MA: The Civil Rights Project. Retrieved from

<http://www.civilrightsproject.harvard.edu/research/dropouts/dropouts04.php>.

Organisation for Economic Co-operation and Development. (2010). *Education at a glance 2010: OECD indicators*. Paris: Author.

Papay, J. P., Murnane, R. J., & Willett, J. B. (2010). The consequences of high school exit examinations for low-performing urban students: Evidence

from Massachusetts. *Educational Evaluation and Policy Analysis*, 32(1), 5-23. doi:10.3102/0162373709352530

Reardon, S. F., Arshan, N., Atteberry, A., & Kurlaender, M. (2010). Effects of failing a high school exit exam on course taking, achievement, persistence, and graduation. *Educational Evaluation and Policy Analysis*, 32(4), 498-520. doi:10.3102/0162373710382655

Schunk, D. H. (1991). Goal setting and self-evaluation: A social cognitive perspective on self-regulation. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (Vol. 7, p. 85-113). Greenwich, CT: JAI Press.

Smith, M. L., & Rottenberg, C. (1991). Unintended consequences of external testing in elementary schools. *Educational Measurement: Issues and Practice*, 10, 7 – 11.

Starkweather, J., & Moske, A. K. (2011). Multinomial logistic regression.

Retrieved from:

http://www.unt.edu/rss/class/Jon/Benchmarks/MLR_JDS_Aug2011.pdf

Stillwell, R., & Sable, J. (2013). *Public school graduates and dropouts from the common core of data: School year 2009-2010*. Retrieved from National

Center of Education Statistics website:

<http://nces.ed.gov/pubs2013/2013309.pdf>.

- Swanson, C. (2004). *Who graduates? Who doesn't? A statistical portrait of public high school graduation, class of 2001*. Retrieved from The Urban Institute Education Policy Center website:
<http://www.urban.org/url.cfm?ID=410934>.
- Swanson, C. (2009). Gauging graduation, pinpointing progress. *Education Week*. Retrieved from
www.edweek.org/ew/articles/2009/06/11/34progress.h28.html?intc=ml.
- Tabachnick, B. G. & Fidell, L. S. (2007). *Using multivariate statistics: 5th Ed.* Boston, MA: Pearson Education, Inc.
- Texas Education Agency. (2004). *2003 – 2004 Academic Excellence Indicator System Arlington ISD*. Retrieved from
<http://ritter.tea.state.tx.us/cgi/sas/broker>.
- Texas Education Agency. (2005). *2004 – 2005 Academic Excellence Indicator System Arlington ISD*. Retrieved from
<http://ritter.tea.state.tx.us/cgi/sas/broker>
- Texas Education Agency. (2010). *Student Enrollment Report*. Retrieved from
<http://ritter.tea.state.tx.us/cgi/sas/broker>.
- Texas Education Agency, (2010). *Technical Digest for the Academic Year 2008 – 2009*. Retrieved from:
http://www.tea.state.tx.us/index3.aspx?id=2147484418&menu_id=793.

- Texas Education Agency. (2011). *Update to annual dropout, completion, and graduation rate reporting*. Retrieved from:
http://www/tea.state.tx.us/acctres/DropComp_Present_Tac_Dec_5_2011.pdf.
- Tubbs, M. E. (1986). Goal setting: A meta-analytic examination of the empirical evidence. *Journal of Applied Psychology, 71*(3), 474–483.
- United States Census Bureau. (2010). *United States Census 2010*. Retrieved from
<http://quickfacts.census.gov/qfd/states/48000.html>.
- Ullicci, K., & Spencer, J. (2009). Unraveling the myths of accountability: A case study of the California high school exit exam. *Urban Review, 41*, 161-173.
doi: 10.1007/s11256-008-0105-y.
- Valenzuela, A. (2000). The significance of the TAAS test for Mexican immigrant and Mexican American adolescents: A case study. *Hispanic Journal of behavioral Sciences, 22*, 524 – 539.
- Van Eerde, W., & Thierry, H. (1996). Vroom's expectancy models and work-related criteria: A meta-analysis. *Journal of Applied Psychology, 81*(5), 575–586.
- Vasquez-Helig, J., & Darling-Hammond, L. (2008). Accountability Texas-style: The progress and learning of urban minority students in a high-stakes testing context. *Educational Evaluation and Policy Analysis, 30*(2), 75-110. doi:10.3102/0162373708317689.

- Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.
- Warren, J. R., Jenkins, K. N., & Kulick, R. B. (2006). High school exit examinations and state-level completion and GED rates, 1975 through 2002. *Educational Evaluation and Policy Analysis, 28*(2), 131 – 152. doi: 10.3012/01623737028002131.
- Warren, J. R. & Edwards, M. R. (2005). High school exit examinations and high school completion: Evidence from the early 1990s. *Educational Evaluation and Policy Analysis, 27*(1), 53-74. doi: 10.3102/01623737027001053.
- Warren, R. W., & Jenkins, K. N. (2005). High school exit exams and high school dropout in Texas and Florida, 1971 – 2000. *Sociology of Education, 78*, 122 – 143. doi:10. 1177/003804070507800202.
- Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13-39). San Diego: Academic Press.

Biographical Information

Kelvin Stroy, Sr. has worked in public and private education for 16 years. He graduated from Louisiana Tech University in 1997 with a Bachelor of Arts degree in Sociology. In 1999, he completed a Master of Education degree in Secondary Mathematics. He has served as a teacher, coach, assistant principal, and principal. After teaching secondary mathematics and serving as a campus administrator, he began the journey of pursuing his PhD. Kelvin completed his PhD in K-16 Educational Leadership and Policy Studied from the University of Texas at Arlington in 2014. He is currently a junior high principal in a North Texas school district. His research interests include the underrepresentation of minority students in STEM programs and the mathematical achievement of African-American males. He plans to pursue leadership opportunities in K-16 educational institutions and will conduct research that will improve student achievement.