

A STUDY OF EIGHTH GRADE STUDENTS' SELF-EFFICACY AS IT RELATES TO  
ACHIEVEMENT, GENDER, AND SOCIOECONOMIC STATUS

by

Cassandra Carlene Alldred

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University

April 2013

A STUDY OF EIGHTH GRADE STUDENTS' SELF-EFFICACY AS IT RELATES TO  
ACHIEVEMENT, GENDER, AND SOCIOECONOMIC STATUS

by

Casandra Carlene Alldred

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University, Lynchburg, VA

April 2013

APPROVED BY:

MARK A. ANGLE, Ed.D., Committee Chair

JOAN FITZPATRICK, Ph.D., Committee Member

LIBBY BICKNELL, Ed.D., Committee Member

SCOTT B. WATSON, Ph.D., Associate Dean, Advanced Programs

A STUDY OF EIGHTH GRADE STUDENTS' SELF-EFFICACY AS IT RELATES TO  
ACHIEVEMENT, GENDER, AND SOCIOECONOMIC STATUS

**ABSTRACT**

The purpose of this correlational and causal comparative research design was to discover the existing relationships between students' self-efficacy and three other variables: (a) achievement, (b) gender, and (c) socioeconomic status. Approximately 257 eighth grade students participated in the study. The study was conducted in a non-diverse public school located in the northeastern mountains of Georgia. Over 55% of the students receive free/reduced price lunches. The findings from this study contribute to the growing knowledge about how the factors of achievement, gender, and socioeconomic status (SES) are related to a student's self-efficacy. A correlational design was used to analyze the relationship between self-efficacy and student achievement, and a comparative design was used to analyze the relationship between SES and gender of the students, and how those variables affect student self-efficacy. All participants completed a 37-question survey, Children's Perceived Self-Efficacy Scale, which was used to measure the self-efficacy of students. Student achievement ability was measured with the Iowa Test of Basic Skills. Whether a student was eligible for free or reduced price lunches determined the SES of each student. The findings from this study can be used to help improve students' desire to learn by the development of programs within schools to address different areas of self-efficacy.

## **Table of Contents**

ABSTRACT.....	3
Dedication.....	7
Acknowledgements.....	8
List of Tables .....	9
List of Figures.....	10
List of Abbreviations .....	11
CHAPTER ONE: INTRODUCTION.....	12
General Background .....	14
Statement of the Problem.....	16
Purpose Statement.....	19
Research Questions and Hypotheses .....	19
Overview of the Methodology .....	21
Definitions.....	22
CHAPTER TWO: REVIEW OF THE LITERATURE.....	24
Historical Background .....	26
Theoretical Framework.....	27
Related Literature.....	35
Achievement Gap.....	36
The Transition Years.....	47
High-Stakes Testing and Accountability .....	49

Merit Pay.....	54
Summary.....	57
CHAPTER THREE: METHODOLOGY .....	58
Research Design.....	59
Research Questions and Hypotheses .....	60
The Variables and Participants .....	61
Setting.....	63
Instrumentation .....	64
Procedures.....	67
Sample Size Justification: A-Priori Power Analysis .....	70
Data Analyses .....	71
Summary.....	73
CHAPTER FOUR: RESULTS .....	75
Descriptive Statistics for Participant Demographics .....	75
Research Questions and Hypotheses .....	76
Summary.....	85
CHAPTER FIVE: SUMMARY AND DISCUSSION .....	87
Restatement of the Problem.....	88
Review of Methodology .....	90
Summary of Results.....	91
Discussion.....	93
Limitations .....	97
Implications.....	99

Recommendations for Future Research .....	102
Conclusion .....	105
REFERENCES .....	106
Appendix A: Dr. Bandura Approval E-mail .....	122
Appendix B: The Children’s Perceived Self-Efficacy scale: (Bandura, 1990a).....	123
Appendix C: IRB Approval letter .....	125
Appendix D: Script Read to the Students .....	127
Appendix E: Parent Cover Sheet Letter.....	129
Appendix F: Consent Form for the Guardian .....	130
Appendix G: Assent Form for the Participant .....	133
Appendix H: Sample of Spreadsheet Grid.....	135
Appendix I: Descriptive Statistics for Individual Self-Efficacy Items .....	136

## **Dedication**

I dedicate this dissertation to God, my husband and two daughters, and to all the students that I have taught and will teach in the future. I would also like to dedicate this dissertation to my parents who have always supported me in my endeavors.

## **Acknowledgements**

I would like to acknowledge several important people who have had a large part in my life while I journeyed through this process. My husband, Jamie, who has been on this long adventure from the moment we were married. It seems I have been in school the entire marriage. My girls, Savannah and Autumn: thank you for giving me the time to continue on this journey, and I hope I have instilled in you the love and desire to want to learn. Many sacrifices have been made in order to accomplish this great task. I would also like to thank my past school teachers who instilled the “love of learning” in me even though I had to repeat kindergarten because I “wasn’t developmentally ready” to move on. I started this journey with several good friends and without them, I am not sure I could have carried on this voyage. We each helped one another stay motivated and focused. I would also like to thank my chair, Dr. Mark Angle for being patient with me and giving me pointers. Both of my committee members, Dr. Fitzpatrick, for your expertise with editing, and Dr. Bicknell, for your willingness to help me bounce my ideas off in the middle of the night, thank you! Finally, I would also like to thank God who gave me the knowledge and willpower to seek answers.

## **List of Tables**

Table 1. Descriptive Statistics for Student Demographics .....	76
Table 2. Descriptive Statistics for Model 1.....	79
Table 3. Regression Coefficients for Model 1.....	79
Table 4. Mean and Standard Deviations for Research Question 2.....	82
Table 5. Test Statistics for Research Question 2.....	82
Table 6. Mean and Standard Deviations for Research Question 3.....	85
Table 7. Test Statistics for Research Question 3.....	85

## **List of Figures**

Figure 1. Residual Plot for Model 1.....	78
Figure 2. Scatterplot for Model 1.....	79
Figure 3. Distribution of Not Eligible for Free/Reduced Lunch Group.....	81
Figure 4. Distribution of Eligible for Free/Reduced Lunch Group.....	81
Figure 5. Distribution of Female Self-Efficacy.....	84
Figure 6. Distribution of Male Self-Efficacy.....	84

## **List of Abbreviations**

Adequately Yearly Progress (AYP)

Advanced Placement (AP)

Analysis of Variance (ANOVA)

Children's Perceived Self-Efficacy Scale (CPSE)

Georgia Department of Education (GDE)

Georgia Testing Identification (GTI)

Individual Education Plans (IEPs)

Institutional Review Board (IRB)

Iowa Test of Basic Skills (ITBS)

National Assessment of Education Progress (NAEP)

National Center of Educational Statistics (NCES)

No Child Left Behind Act of 2001 (NCLB)

Regional Educational Service Agency (RESA)

Response To Intervention (RTI)

Socioeconomic Status (SES)

Standardized Achievement Test (SAT)

Statistical Package for Social Sciences ®(SPSS)

U.S. Department of Health & Human Services (USDHHS)

## CHAPTER ONE: INTRODUCTION

To help students succeed and achieve in school, researchers constantly conduct research studies to add to the body of knowledge concerning experiences that affect learning. In order to keep up with the frequent changes in societies, new studies must be conducted. This researcher reviewed the background and the problem in regard to the lack of studies conducted with middle school students and concluded that there is a need for current studies to be conducted on the topic of self-efficacy. Also, the researcher presented the literature through a Christian worldview. Brummelen (2002) stated, “Worldview embrace[s] what we believe about the nature and purpose of reality, human beings, knowledge, and life in society” (p. 49). Often, the worldview “shape[s] how we view and conduct schooling” (p. 49). When God lives in the heart of His followers, He guides them into the image He has created. Christ lives in everything that is created on earth, according to the following scripture:

He is the image of the invisible God, the firstborn over all creation. For by him all things were created: things in heaven and on earth, visible and invisible, whether thrones or powers or rulers or authorities; all things were created by him and for him. He is before all things, and in him all things hold together.

(Colossians 1: 15-17, NASB)

Having God and Jesus in the heart of all endeavors helps to create an educational study that can become a proactive way to change the education system.

Because of the lack of studies conducted with middle school aged students, there is a need to determine if a relationship exists between self-efficacy and students’ academic achievement, gender, and their socioeconomic status (SES). Bandura (2011)

stated, “Self-efficacy beliefs influence how well people motivate themselves and persevere in the face of difficulties through the goals they set for themselves, their outcome expectations, and causal attributions for their successes and failures” (p. 13). A student’s sense of self-efficacy can be measured with the Children’s Perceived Self-Efficacy (CPSE; Bandura, 1990a) scale.

The high poverty rate, as well as the changes in gender roles, affects students in the public school systems, and it can have an effect on students’ self-efficacy (Jensen, 2009). General background information, including the laws that affect Georgia public schools and the funds that they receive, are explained. Accountability within the education system seems to be the cornerstone upon which most laws are created around education. Usually, accountability is determined and measured according to students’ achievement, that is, test scores. Higher self-efficacy has been linked to higher achievement (Buchanan & Selmon, 2008). Educators need to be aware of factors that are related to higher or lower self-efficacy among students. Brummelen (2002) stated, “To be effective, schools need to plan moral and value education comprehensively. Content alone has little long-lasting effect” (p. 60). Christians are called to “be kind and compassionate to one another, forgive each other; just as in Christ God forgave you (Ephesians 4:32, NASB). One must be compassionate in the comparison of students’ SES along with their gender and achievement scores.

Next, the purpose of the study is explained in detail as well as the research questions and hypotheses. Finally, a list of definitions, which are relevant to this study, are provided.

## **General Background**

School reforms come and go and are politically motivated, but a trend that seems to have stayed strong is to require that teachers be accountable for the education of *all* students. Lewis (2002) claimed, “Accountability ranks among the highest priorities of state officials, second only to school finance” (p. 70). The educational leaders in several counties in Georgia are leaning toward merit pay in which teachers will be compensated based on a predetermined measure of student achievement, instead of the current system in which pay is determined only by degrees held and years of teaching experience (Winters, 2009). As a result, teacher evaluations and the results from standardized tests have started to play a large role in the 26 Georgia school districts in 2012 (Stewart, 2011). In addition, the concept of merit pay is part of the national \$400 million Race to the Top federal grant (Stewart). If merit pay is initiated, as much as 50% of a teacher’s evaluation can be linked to student achievement. Also, closing the student achievement gap can be linked to 10% of a teacher’s pay (Stewart). The leaders in the Georgia State Department of Education applied for the Race to the Top grant and have reported their intentions to apply merit pay statewide to all teachers within five years. Because students must meet Adequately Yearly Progress (AYP) each year, merit pay adds another stress factor to the teachers. School districts can lose their accreditation if they do not meet AYP and can be taken over by the educators in the State Department of Education. Accreditation loss has already occurred in Tennessee, a neighboring state to Georgia. Recently, three schools in Memphis were taken over by the educators of the Tennessee State Department of Education, when 90% of the students in those schools did not meet AYP for five consecutive years (Sainz, 2012). Between merit pay and AYP set by the No

Child Left Behind Act (NCLB; 2002), administrators and teachers must make sure that each subgroup of students, along with the remaining population, is able to achieve and continue to grow.

The ability to work independently and manage one's self is crucial to success as an adult, and the self-efficacy skills taught at a young age can prepare students for future success. Schunk and Meece (2005) emphasized, "Self-efficacy is hypothesized to affect individuals' task choices, effort, persistence, and achievement" (p. 73). For this study, self-efficacy was measured by the use of the Children's Perceived Self-efficacy (CPSE, Bandura, 1990a) instrument. Three subscales from the instrument (i.e., 37 questions) are: (a) perceived academic self-efficacy, (b) self-regulatory self-efficacy, and (c) social self-efficacy. Perceived academic self-efficacy is a student's perceived capability to measure his or her mastery of academic subjects and learning as well as the ability to fulfill academic expectations (Carroll et al., 2009). Students' perception of their ability to resist peer pressure is termed perceived self-regulatory. The third subscale is social self-efficacy; this is the perceived capability to measure their own ability to develop peer relationships and leisure activities. This researcher examined the self-efficacy skills of eighth grade students in a rural middle school and attempted to determine whether a relationship exists between the presence of positive self-efficacy skills and student achievement, as measured by the Iowa Test of Basic Skills (ITBS; Hoover et al., 2003). Along with determination of the relationship of self-efficacy and achievement, the researcher also attempted to determine whether there was a relationship between gender and self-efficacy. Finally, the researcher attempted to determine whether there was a relationship between the SES of students and self-efficacy. In previous research

(Appelbaum, 1996; Bandura, 2011; Choi, Fuqua, & Griffen, 2001) on self-efficacy, there has been an emphasis on the personal nature of such skills and that a person's life experiences are critical to the development of these strategies and coping mechanisms in order to be a motivated, productive adult.

### **Statement of the Problem**

In order for students to attain an equal opportunity in education, many federal and state laws have been put in place. These laws require that *all* children have the opportunity to learn to the best of their ability, no matter their race, gender, disabilities, or SES. All children are to be provided with the same quality education. However, one must be aware of how the gender and SES of a student can effect that child's achievement in school (Evans & Rosenbaum, 2008). Whether a student lives in a low or high SES environment should not affect the student's education. "Defend the weak and the fatherless; uphold the cause of the poor and the oppressed" (Psalm 82:3, NASB). According to the requirements of the NCLB Act (2001), all students must learn the state mandated material, regardless of race, gender, or SES. For the school to receive federal funds, that particular school must maintain AYP. The staff of the Georgia Department of Education (GDE; 2012) maintained that "AYP is one of the cornerstones of the federal No Child Left Behind Act of 2001. It is a measure of year-to-year student achievement on statewide assessments" (para. 1). Students in the State of Georgia are required to take the annual standardized state generated test. Also, students must take a nationally norm-referenced test, according to Georgia law, O.C.G.A., Section 20-2-281 (GDE). The purpose of this test is to ensure that the students in Georgia achieve at the same levels as other students in the nation. The ITBS (Hoover et al., 2003) is a nationally norm-

referenced test, which is administered to third, fifth, and seventh grade students. Scores from the ITBS can be used to help identify potential gifted students, and these scores can be used to identify a lack of reading or mathematics skills where students might need additional instruction. Typically, this test is administered to third, fifth, and seventh grade students in the state of Georgia.

Test scores are helpful to measure the academic growth of students, but there are many factors that can affect student progress that cannot be controlled by the school or its teachers. The number of students who live in poverty continues to grow. In 2010, 15.1% of the United States population lived in poverty, in comparison to 14.3% in 2009 (Redd, Karver, Murphey, Moore, & Knewstub, 2011). A correlational relationship, between SES and low achievement, was found in several studies (Evan & Rosenbaum, 2008; Hsuch & Yoshikawa, 2007; Jensen, 2009). According to the authors of the American Psychological Association (APA, 2011), “Low SES and its correlates, such as lower education, poverty, and poor health, ultimately affect our society as a whole” (p. 1).

Typically, the Federal Title I program funds schools with low SES students, which is the single largest federal education program (McCullough, 2008). Under Title I, these schools receive extra funds to provide additional support and programs for both the students and their families (McCullough). Title I funds are used to help provide the kind of extra programs suggested in the Bible, “He raises the poor from the dust and lifts the needy from the ash heap; he seats them with princes and has them inherit a throne of honor” (1 Samuel 2:8, NASB). Along with the higher percentage of students who live in poverty, gender is related to student achievement (Duckworth & Seligman, 2006; Meece, Glienke, & Burg, 2006; Pajares, 2002).

Culture in the U.S. is rapidly changing and, recently, traditional gender roles have been greatly altered (Mundy, 2012). Girls seem to outperform males in almost every category associated with education throughout the industrialized world (Legewie & DiPrete, 2012). Also, girls graduate from high school with higher grade point averages (GPAs; Perkins, Kleiner, Roey, & Brown, 2004). This trend of females' ability to outperform males continues through college (Duckworth & Seligman, 2006). According to Mundy, "In dual-earner couples, woman contributed an average of 44% of family income in 2008--up from 39% in 1997" (p. 33). In addition, men contribute more to household tasks, such as: (a) clean the house, (b) cook food, and (c) take care of the children. In 1965, men spent only about 30 minutes a week cleaning. In 2010, men contributed an average of 2 hours a week cleaning the house (Mundy). Also, according to Mundy, in 2010, men cooked 2.7 hours a week and provided childcare 6.4 hours; whereas in 1965, men helped to prepare food only 0.9 hours a week and spent 2.6 hours a week in childcare.

Most children who live in poverty reside with a single parent where the mother is the primary caretaker (Redd et al., 2011). Of the babies born in the U.S. each year, 41% are born to single women. Of those babies born to single women, many are boys, and boys are overrepresented among special education students, dropouts, and those being retained a grade level (Legewie & DiPrete, 2012). According to Yancey (2008), "A role model is an individual who is perceived as exemplary or worthy of identification or imitation" (p. 272). Yancey maintained that a male who lives in lower SES may choose a role model from the media, such as a singer or an athlete, rather than a known individual.

Also, Washington (2009) observed that, “A missing father is a more reliable predictor of criminal behavior than race, environment or poverty” (para. 6).

### **Purpose Statement**

The purpose of this study was to determine whether there is a relationship between the self-efficacy scores of eighth grade students and three separate variables: (a) achievement, (b) gender, and (c) SES. With the economic recession and the change in major gender roles, there is a need for studies to be conducted to contribute to this field of research. The findings in the study may lead to more programs designed specifically in regard to gender or SES. The provision of Title I funds allows educators to create innovative programs to help these subgroups close the achievement gaps in the U.S. The results from this study can help educators to better utilize those funds to provide more appropriate services for their students.

### **Research Questions and Hypotheses**

If current researchers are able to show new findings about students’ self-efficacy and how this is related to a middle school student’s SES or gender, then new programs or ways of teaching could be designed specifically for these students. This researcher sought to investigate the fieldwork conducted with self-efficacy, especially with the middle school student. Because a high percentage of children live in poverty, approximately 45% (National Center for Children in Poverty, 2012), research should be conducted to determine how SES affects students’ self-efficacy and achievement.

In addition, studies should be conducted to examine whether gender plays an important part in self-efficacy and achievement. Gender roles are constantly changing in society, and this could also affect the students because of their changing family dynamics

(Mundy, 2010). The self-efficacy of students is built on modeling behaviors. Students in eighth grade were asked to participate in the study from one public school in the North Georgia Mountains. Students' self-efficacy scores were used to correlate the variables. The following research questions, null hypotheses, and alternative hypotheses were generated.

**Research Question 1.** Is there a relationship between student self-efficacy, as measured by the Children's Perceived Self-Efficacy survey and student achievement as measured by the Iowa Test of Basic Skills?

H<sub>0</sub>: There is no significant relationship with student self-efficacy as measured by the Children's Perceived Self-Efficacy survey and student achievement as measured by the Iowa Test of Basic Skills.

**Research Question 2.** Is there a difference between the SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) groups in regard to student self-efficacy as measured by the Children's Perceived Self-Efficacy survey?

H<sub>0</sub>: There will not be a significant difference between the SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) groups in regard to student self-efficacy as measured by the Children's Perceived Self-Efficacy survey.

**Research Question 3.** Is there a significant difference between females and males on student self-efficacy, as measure by the Children's Perceived Self-Efficacy survey?

H<sub>0</sub>: There will not be a significant difference between females and males on student self-efficacy, as measured by the Children's Perceived Self-Efficacy survey.

### **Overview of the Methodology**

The participants in this study consisted of a convenience sample of approximately 253 students in eighth grade from one middle school in the North Georgia Mountains. All students, including special education, gifted, and regular education students were asked to participate in the study. The only students who were excluded from the study were those in the self-contained special education classroom that are tested each year using an alternative assessment due to extremely low cognitive functioning. These students do not possess the self-efficacy skills assessed in the survey and, more than likely, they would not be able to participate in independent living in their adult lives. Also, the standardized tests are not appropriate for them and would be in violation of their Individual Education Plans (IEPs) that call for the alternative, portfolio assessment. Because their educational setting, curriculum, and testing program are so vastly different from the rest of the school population, it was necessary to exclude them from this study.

The school is located in the North Georgia Mountains in a rural community. The school is considered a Title I school due to the high number of students who receive free or reduced price lunches; approximately 55% of the students receive free or reduced price lunches. The student population is non-diverse, with 96% White/non-Hispanic, 2% Hispanic, 1% African American, and 1% Other.

A correlational and causal comparative research design was used in the study. Participants were administered the CPSE (Bandura, 1990a) survey during one of their

academic classes during the third quarter of the academic school year. Students took the ITBS during their seventh grade year. The self-efficacy scores, along with the ITBS scores, gender, and SES of the students were analyzed to determine if any relationships existed among the different variables in the study.

### **Definitions**

*Achievement Gap*: “refers to the disparity in academic performance between groups of students. The achievement gap shows up in grades, standardized-test scores, dropout rates, and college-completion rates, among other success measures” (Education Week, 2011, para. 1)

*Children’s Perceived Self-Efficacy Scale (CPSE)*: The CPSE scale was created by Bandura (1990a) and is used to measure seven different domains of self-efficacy, along with three subscales (Pastorelli, 2001).

*Iowa Basic Skills Test (ITBS)*: a national norm-referenced test. It is used to measure achievement. Students are compared to other students throughout the U.S., who took the test during the same time period (Hoover et al., 2003).

*Low-Socioeconomic status – Low-SES-Poverty*: according to the U.S. Census Bureau (2010), poverty is defined as an income less than the official poverty standard, this fluctuates yearly. For example in 2010, for a family of two, an annual income of \$14,570 would mean that family was living in poverty.

*No Child Left Behind Act of 2001 (NCLB)*: The purpose of this Act was to raise student achievement and close achievement gaps (Kennedy, 2010).

*Self-efficacy*: refers to an individual’s belief about his or her capability to accomplish specific task (Choi et al., 2001)

*Socioeconomic status (SES)*: measures such factors as education, salary, and residency (APA, 2011).

*Title I, part of the No Child Left Behind Act of 2001*: public schools receive federal funds if the school has a high percentage of children from low-income families. Title I is measured by the percentage of students who receive free or reduced priced lunches (McCullough, 2008).

## CHAPTER TWO: REVIEW OF THE LITERATURE

Throughout the history of the United States education primarily has been provided to the male members of the majority race, that is, White, middle, and upper high-class students (Chambers, 2009; Kennedy, 2010; Lleras & Rangel, 2009; Yeung & Conley, 2008). Across the U.S., there are large gaps in achievement between: (a) gender groups, (b) ethnic groups, and (c) students with varying levels of socioeconomic status (SES). Although those gaps continue to be addressed at the local, state, and federal level, school staff are mandated by law to close the gaps by the No Child Left Behind Act of 2001 (NCLB). The NCLB “redefines the responsibilities of teachers, as accountability systems place a great deal of pressure on them to implement well-articulated curriculum, instruction, and assessment systems that foster academic growth and development” (Santau, Maerten-Rivera, & Huggins, 2011, p. 771). In addition, varying levels of self-efficacy have been linked to differing levels of student motivation, which then have been linked to greater achievement. Usher and Pajares (2006) found that “students who believe they can succeed academically tend to show greater interest in academic work, set higher goals, put forth greater effort, and show more resilience when they encounter difficulties” (p. 126). Provided in this review of literature is the theoretical framework for the study, in which the history and numerous studies related to self-efficacy are presented. There is an emphasis on the three main sources of self-efficacy: (a) home, (b) peers, and (c) school (Schunk & Meece, 2005). The three main sources of self-efficacy are summarized, along with an explanation of the seven types of self-efficacy, which are: (a) academic, (b) self-regulated learning, (c) leisure activities, (d) extracurricular

activities, (e) peer pressure resistance, (f) social, and (g) self-assertive (Pastorelli et al., 2001).

There are gaps in the literature related to self-efficacy, which have emerged from the articles reviewed for this study. For example, there is little information on self-efficacy and achievement with middle school-aged students, as most of the studies were conducted with college-aged students. Also, gender has been a common issue in education throughout the years, but as society continues to change and girls become more equal with males in the work force and in school (Mundy, 2012), the gender gap may be decreased. Therefore, this researcher examined the role of gender for this review of literature. The last issue in studies that seems to overlap with studies on self-efficacy and student achievement is the SES of students.

The purpose of this review of literature is to provide knowledge on what self-efficacy is, and how it is supported and encouraged. Pajares (2002) observed that the presence of positive self-efficacy could have an impact on a person as a student and as a member of society. Pajares (2002) stated that, “academic self-efficacy beliefs influence their academic attainments and mediate the effect of skills or other self-beliefs on these attainments” (p. 116). In this review of literature, the author examined the current literature about: (a) self-efficacy, (b) achievement, (c) gender, and (d) the SES of students. The lack of studies conducted with middle school students and the lack of studies conducted in the last 5 years in regard to: (a) self-efficacy and gender, (b) achievement, and (c) SES status demonstrates the need for this study.

## **Historical Background**

Over the last three decades, Bandura's (1977) self-efficacy concept has been studied from many different perspectives. Self-efficacy is defined as the "conviction that one can successfully execute the behavior required to produce the outcomes" (p. 193). It is important to study how self-efficacy is related to the factors of: (a) achievement, (b) socioeconomic disadvantage, and (c) gender of students. In the NCLB Act of 2001 (2002), it is required that all students learn the required curriculum, no matter their race or SES. According to the authors and researchers from American Psychological Association (APA; 2012), SES is often "measured as a combination of income, education, and occupation" (para. 1). The perceptions of the factors gender and achievement have fluctuated throughout the years.

Through the last three decades, several large-scale studies have been conducted with the use of Bandura's (1990a) Children's Perceived Self-Efficacy (CPSE) survey. These studies have been conducted in several countries. In a recent study conducted in Australia, Carroll et al. (2009) assessed self-efficacy with use of the CPSE scale; the sample consisted of 935 students, who were 11-18 years old. All students were from ten schools with various economic backgrounds. The study was conducted to determine how self-efficacy, along with academic achievement, plays a role in the mediating effects of academic aspirations and delinquency. According to Carroll et al., "The research showed that academic self-efficacy has a strong, direct relationship with academic achievement" (p. 810).

In another cross-national study, in which the CPSE (Bandura, 1990a) scale was used, the sample consisted of 1,180 participants from the ages of 10-15 from Italy,

Hungary, and Poland. Pastorelli et al. (2001) “investigated the replicability of the factor structure of the Children’s Perceived Self-Efficacy Scales” (p. 87). They found that, in all three groups of participants from those countries, girls had a higher sense of efficacy to resist peer pressure and had a higher sense of efficacy for academic activities.

Self-efficacy, along with the results from the CPSE (Bandura, 1990a) scale, was used to determine if the family’s SES was linked to the child’s self-efficacy and achievement (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). Bandura et al. found that parents with high self-efficacy were positively linked to children with high self-efficacy for achievement. Also, Bandura et al. stated, “A major part of the influence of children’s perceived academic efficacy is mediated through its impact on achievement aspirations, prosocial peer relations, lowered vulnerability to depression, and adherence to moral self-sanctions” (p. 1217).

### **Theoretical Framework**

In social learning theory (SLT), there is emphasis on the need for the learner to observe and imitate the behaviors of others. Students need to see positive *cultural* behaviors being practiced and modeled (Miller, 2002). Miller stated, “The guiding belief of social learning theorist was that personality is learned” (p. 171). This idea, that personality is created through experiences, led to Bandura’s (n.d) social cognitive theory. According to Pajares (1997), social cognitive theory is based on the idea that “individuals possess a self-system that enables them to exercise a measure of control over their thoughts, feelings, motivation, and actions” (p. 2). Self-efficacy is a component of social cognitive theory. Pajares (1997) argued that, “because self-efficacy beliefs are concerned with individuals’ perceived capabilities to produce results and to attain designated types

of performances, they differ from related conceptions of personal competence that form the core constructs of other theories” (p. 3). Bandura (1990b) stated that “perceived self-efficacy is concerned with people’s beliefs that they can exert control over their motivation and behavior and over their social environment” (p. 9). According to Bandura (1994), the belief in personal efficacy not only affects life choices; also, it affects the ability to be resilient to adversity.

Gradually, children construct their self-knowledge about their own self-efficacy from four different types of situations (Miller, 2002). The most authentic situation is by the direct link between the students and their own success and failures in previous attempts. When students from disadvantaged SES enter school for the first time, they are already behind other students their age (Jensen, 2009). Miller suggested that one reason for this is that many of these students come from households where one or both parents must work to try to make ends meet. Living in poverty can be harmful to the cognitive development of young children due to the lack of stimulation and interaction during the critical developmental years (Evans & Rosenbaum, 2007). In studies conducted by Bradley and Corwyn (2002) and Evans (2004), it was found that students from low-income homes did not have access to the same level of stimulating material for cognitive growth in comparison to those children, who lived in a wealthier environment.

A second situation that leads to the development of higher self-efficacy is by “observing others fail or succeed on similar tasks” (Miller, 2002, p. 190). It is imperative that young students have positive role models from a young age until maturity. Many students who live in poverty do not have a male role model who lives at home. As reported by staff of the U.S. Census Bureau (2010), one of every four children live with

only one parent in the U.S., and over 85% of those single parents are single mothers. Single mother families have a higher poverty rate than any other type of family. The poverty rate for single mother families in 2010 was 42.2% in comparison to 15.1% for the whole population.

While home life is extremely important to adolescents, the majority of their time is spent in school for approximately 10 months of the year (Georgia Department of Education, 2012b). This makes the role of the teacher critical, and his or her actions can profoundly influence the students. In addition, there is an unequal ratio of middle school male teachers to female teachers in the schools in the U.S. According to staff of the U.S. Bureau of Labor (2010), females represent 81.7% of the teachers at the elementary and middle school level; there are only 18.3% males at these grade levels. As a result, the male student is not exposed to the same number of role models in school as the female student.

Many researchers, such as Schunk and Meece (2002) and Shiu, Kettler, and Johnsen (2009), have commented on the large role that peers play in identity formation and self-efficacy. Schunk and Meece (2005) stated, “The influence of peers is especially potent among adolescents because peers contribute significantly to their socialization and views of themselves” (p. 75). Bandura (1994) acknowledged that “seeing people similar to oneself manage task demand successfully” (p. 80) could lead to higher self-efficacy. Shiu et al. stated, “A sense of belonging, or how connected and accepted students feel in terms of relationships with peers and school personnel, plays a role in school engagement” (p. 58). Shiu et al. suggested that, usually, a sense of belonging is formed during the sensitive middle school years.

The middle school years are a time when students typically transition from a self-contained classroom with one teacher in elementary school to as many as six classrooms with six different teachers a day (Montgomery, 2012). Also, this is when students begin to go through puberty and their bodies begin to change. It is during the middle school years when students begin to separate from their family and rely on their peers for support. Middle school aged students are attentive to what others think about them, especially their peers. According to Holmes-Longergan (2006), “they are more aware of others’ thoughts and feeling” (p. 980). This awareness allows them to play a larger role in each other’s lives. Given the relationship between peer influence and self-efficacy, it is vital to help students find friends who are positive role models during their formative years.

### **Three main sources of self-efficacy.**

In a cross-national study conducted by Pastorelli et al. (2001), three main sources of self-efficacy were identified. The sample consisted of 1,180 children from three countries: (a) Italy, (b) Hungary, and (c) Poland. The children in the study ranged from 10-15 years. Pastorelli et al. stated, “Self-efficacy beliefs are the product of a complex process of self-persuasion that relies on the cognitive processing of diverse sources of efficacy information conveyed directly, vicariously, socially, and physiologically” (p. 88). The three main sources for self-efficacy are the child’s: (a) family, (b) peers, and (c) school. Self-efficacy is more complex than saying a student is able to achieve more and do better.

According to Pastorelli et al. (2001), the family is the first source of self-efficacy; this is where the child begins to model and learn from family experiences. Pastorelli et

al. (2001) stated it is how the parents communicate with the child that helps to create “the opportunity for efficacious actions and offer a variety of mastery experiences so that children readily acquire linguistic, social, and cognitive competencies” (p. 88). Usually, children who live in a socioeconomically disadvantaged household, do not have highly educated parents who help them learn. The highest percentage of people who live in poverty, have the lowest level of education (National Center for Educational Statistics (NCES, 2011). The highest percentage of young adults, 31%, who live in poverty had no high school diploma, followed by 24%, who live in poverty, and had only a high school diploma.

Since families are one of the main sources of self-efficacy many educators try to become surrogate parents, because of the lack of self-efficacy in low SES homes (Alger, 2007). In this way, public school administrators and teachers try to help children from low-income families obtain a *head start* at an early age. Staff of the Head Start national program stated that it “promotes school readiness by enhancing the social and cognitive development of children through the provision of educational, health, nutritional, social and other services to enrolled children and families” (U.S. Department of Health & Human Services [USDHHS]: Administration for Children & Families, 2011, para 1). In the year 2009, 36% of the children enrolled in the program were three years old, and 51% were four years old. The program was developed to “provide comprehensive child development services to economically disadvantaged children and families with a special focus on helping preschoolers develop the early reading and mathematics skills they need to be successful in school” (USDHHS, para. 3).

The second source of self-efficacy is through the child's peers, since the "peers become an important source of information concerning one's capabilities" (Pastorelli et al., 2001, p. 88). When students enter middle school, they begin to separate from their families and associate more with their peers. Teenage youth spend about 22 hours a week with their friends, that is, outside of the eight hours a day at school they spend with their peers (Holmes-Lonergan, 2006). Also, Holmes-Lonergan maintained that the intimacy that teenage youth develop with their friends is one of the major paths to identity. This peer connection to self-efficacy, which Pastorelli et al. found, supported Schunk and Meece's (2005) findings. That is, peer relationships are a strong determining factor in students' development of their own self-image or identity. It appears that the presence of positive interactions and healthy peer relationships help to foster stronger self-efficacy in individuals.

The third source of efficacy is created from the school environment (Pastorelli et al., 2001). It is at school where students spend at least seven hours of their lives daily and, in most states, a minimum of 180 school days a year is mandated (Kingsbury, 2008). Children's self-images are strongly affected by the way the teacher evaluates their performances in school. Pastorelli et al. observed that "Teachers serve as important contributors to the formation of a child's intellectual efficacy" (p. 88). It is critical that teachers understand the lifelong effect they can have, when they help their students to develop self-efficacy skills that can translate into future success.

Knowing that students' self-efficacy comes from three main sources and that teachers can be directly involved in all three sources, it is vital that teachers understand the power of self-efficacy on students (Siegle & McCoach, 2007). By fostering the skills

that lead to greater self-efficacy teachers can help their students develop a work ethic and internal drive for success that can lead to future success.

### **Scales of self-efficacy.**

Different scales are used to assess self-efficacy. Rosen, Glennie, Dalton, Lennon, and Bozick (2010) stated, “When efficacy beliefs are globally assessed or do not correspond with the criterion tasks with which they are compared, their predictive value is diminished or can even be nullified” (p. 115). When the self-efficacy assessments are developed to measure specific criterion task, predictions are enhanced (Pajares, 1996). Bandura (1990a) developed the CPSE scale to measure the different domains of self-efficacy, which are relevant to children’s lives during preadolescence. The CPSE can be used to measure seven domains of self-efficacy (Pastorelli et al., 2001). The first one that affects students’ school academics is self-efficacy for academic achievement. This is used to measure students’ beliefs about mastery of different subject matters. A student might have a higher self-efficacy score in mathematics than in reading. The second type of self-efficacy is self-regulated learning, which is used to measure whether the student feels the academic environment is conducive to learning. The third self-efficacy is for leisure and extracurricular activities; this is used to measure their belief that they can try out for recreational and student group activities. The fourth self-efficacy domain is self-regulatory efficacy; this efficacy is related to students’ ability to resist peer pressure, which is linked to high-risk activities. The fifth self-efficacy domain, social self-efficacy, refers to students’ beliefs in their ability to initiate and maintain social relationships. The sixth, self-assertive efficacy is used to measure the students’ self-perceived capability to voice their opinion and stand up for themselves. Also, the self-assertive domain is used

to measure their belief about their ability to refuse unreasonable requests. Finally, the seventh, perceived self-efficacy, is used to measure the students' beliefs in their capability to fulfill the expectations from their parents, teachers, and peers.

Self-efficacy can be defined in multiple ways, and when self-efficacy is discussed, it is necessary to determine what is being studied. By not using an all-purpose, more general, self-efficacy scale, there are several benefits. Bandura (2011) stated,

Self-efficacy assessments are tailored to spheres of functioning and the realities people have to manage are the informative guides these assessments provide for programs of change. Such measures identify areas of secure and vulnerable self-efficacy that need to be rectified if changes are to be achieved and maintained. (p. 35)

In the study of self-efficacy, it is important to narrow the focus to truly understand the results from the study.

#### **Christian worldview.**

Along with Bandura's (1994) social-learning theory and self-efficacy theory, a Christian worldview is used throughout this dissertation. A Christian worldview includes the notion that God exists and is actively involved in our daily lives. In the passage from Colossians 1:17, it states, "He is before all things, and in him all things hold together" (NASB). A worldview helps to describe reality (Koltko-Rivera, 2004). According to Koltko-Rivera, "A worldview is the interpretive lens one uses to understand reality and one's existence within it" (p. 4). God created all of earth, including man and woman. He put them in charge, unlike the other animals on earth (Genesis 1-3, NASB). Teachers must use their knowledge and power wisely. As stated in Ecclesiastes,

Not only was the Teacher wise, but also he imparted knowledge to the people. He pondered and searched out and set many proverbs. The teacher searched to find just the right words, and what he wrote was upright and true. . . . Fear God and keep his commandments, for this is the whole duty of man. (Ecclesiastes 12: 9-13, NASB)

Educators have an important and powerful job, and one must be aware of this power.

Throughout the dissertation, the theoretical lens used by this researcher was Bandura's (1990a) self-efficacy and a Christian worldview. Self-efficacy is malleable throughout an individual's life, and it can be increased and decreased based on the role models and experiences at home and at school to which students are exposed (Pastorelli et al., 2001). Teachers must love and teach all children equally, no matter their gender, academic ability, or SES status. "Love your neighbor as yourself" (Matthew 22:39, NASB)

### **Related Literature**

This researcher examined the topic of achievement gaps and how these achievement gaps can be associated with: (a) race/ethnicity, (b) SES, and (c) gender. The relationship between achievement and self-efficacy was explored. Also, self-efficacy, as it is linked with achievement gaps, SES, and gender, was examined to determine the gaps in literature and the need for new studies. The transition years, those of middle school students, are explained, along with the history and research on high-stakes testing and accountability. Finally, merit pay is examined and how it might affect Georgia teachers and students.

## **Achievement Gap**

Since the establishment of public education in the U.S., there has always seemed to be academic achievement gaps among the citizens. According to Wan (2010), the term “achievement gap refers to the disparity of academic performance between advantaged and disadvantaged groups of students” (p. 19). During slavery, Blacks were not allowed to learn how to read or write, and if they were caught, the penalty could be death (Chambers. 2009). In the early 19th Century, Mann of Massachusetts and Barnard of Connecticut advocated for the free education for all children (Watson, 2012). By 1852, the first compulsory school laws were passed in Massachusetts, and by 1918, all children in the U.S. were required to attend school through elementary level (Watson). Two landmark Supreme Court rulings *Plessy v. Ferguson* (1896) court case allowed African Americans to attend segregated schools, which were usually resource-poor schools (Chambers). In 1954, the decision from *Brown v. Board of Education* court case required the public schools to desegregate so that all students had an equal opportunity to learn. The findings from the Chambers and Taliaferro and DeCuir-Gunby (2008) studies showed that there are lower percentages of African or Hispanic American students in Advanced Placement (AP) classes. Legally, desegregation may have occurred in 1954, but according to Chambers, “Black and White students may have attended the same ‘desegregated’ schools, but rarely did they share the same classrooms, a condition that continues in many schools with both Black and White students” (p. 420).

With the current compulsory attendance laws, more students are required to attend school, and school staff is held accountable for student attendance (NCLB, 2002). No longer is the requirement that all students attend school only through the elementary

years; currently, in 21 states and the District of Columbia, the minimum age has been raised to 18 before a student can drop out of school (Lewin, 2012). President Obama in his 2008 State of the Union address called for all the states to raise the minimum drop out age to 18, in order to help close the achievement gap among the races and gender.

With the NCLB Act (2002), if a school does not achieve Adequately Yearly Progress (AYP) for three consecutive years, parents have a choice to transfer their child to a higher performing school. This is another attempt to close the achievement gap (NCLB). The school choice option was designed for students who were assigned to a low-performing school, yet they could choose to attend a high-performing school. In some districts, usually urban districts, there is not a high-performing school that a student can choose to attend; either all schools are low performing, or there is only one school at a given level (Lewis, 2004). Lewis reported between the school years 2002-2003 and 2003-2004, of approximately 1.2 million students who attended low-performing schools, only about 18,000 transferred to another school. While this school choice option is available for students in low-performing schools it is not usually utilized, which further points to the lack of family value for education as an issue for these students. If a school is not performing to the standards set by the state, the parents can place their children in a different school, but according to Lewis's study, this transition does not occur. This lack of school and family value for education with lower SES students is an important issue.

Achievement disparities continue to exist in the U.S. educational system into the 21st Century. Specifically, achievement gaps among ethnic groups still exist today, Lleras and Rangel (2009) stated, "Despite numerous efforts to reduce educational inequality in the United States, substantial racial gaps and achievement and attainment

remain” (p. 279). The education system is a key topic in each presidential election. With reports, such as the *Colman Report* (1966), which made public the differences between Black and White students’ access to education, and *A Nation at Risk* (1983, both cited in Borman & Dowling, 2010), which raised a series of concerns and issues about the public education system, public awareness increased and numerous laws and acts were implemented with each subsequent President. Each President seemed to use education as a platform in the candidacy race and put his own spin on the evolution of public education. In April 26, 1983, President Ronald Reagan introduced the national report, *A Nation at Risk*, which the members of a blue ribbon commission took two years to produce (Toppo, 2008). According to Toppo, this publication “kick started decades of tough talk about public schools and reforms” (para. 3). *The Goals 2000: Educate America Act* (P.L. 103-227), produced by the U.S. Congress in the 1990s, was signed into law almost a decade later by President William J. Clinton in 1994. According to Horton (2004), “Goals 2000 aimed to establish academic standards, to measure student progress, and to devise programs to ensure that student performance met standards. . . by 2000” (p. 17). President George W. Bush initiated the No Child Left Behind Act of 2001, which required all students to be at grade level with mathematics and reading by 2014 (NCLB, 2002). Currently, in President Obama’s Race to the Top program, there is further emphasis on the need to close the achievement gap for all groups of students (Lee, 2010).

There are achievement gaps among gender, race/ethnicity, and SES (Wan, 2010). Achievement gaps may appear in the form of: (a) grade point averages, (b) drop out rates, (c) standardized test scores, (d) enrollment in honors and AP programs, as well as (e) admission to college and college completion rates. There is evidence that these gaps

may occur even before the child begins kindergarten, and they continue to grow as the child persists through the school system (Jencks & Phillips, 1998; Lee & Burkam, 2002; Yeung & Conley, 2008).

Chambers (2009) argued that the term, achievement gap, is the wrong term to explain the differences between the different factors of: (a) race/ethnicity, (b) SES, and (c) gender. The definition for achievement (Meriam-Webster, n.d.) is that it is a result gained by great endeavors or a heroic deed. Chambers implied that, if the definition of achievement is applied to achievement gap, then this implies that Anglo American students are more special and are superior to African and Hispanic students; that is, Anglo students “achieve at a higher level by virtue of heroic effort” (p. 418). This could also be applied to the higher SES of students, since they, as a whole, achieve higher than lower SES students (Evans & Rosenbaum, 2008). With this use of the definition of achievement gap, it is inferred that the gap is due to the lack of effort of the student, while the responsibility of educators and politicians are avoided. Chambers argued that a better term is *receivment gap*, since this term “focuses attention on educational inputs-- what the students receive on their educational journey, instead of the outputs --their performance on a test” (p. 418). Throughout this review of literature, the term, achievement gap, was used to define the observed gap in academic performances among different groups of students (Chambers).

#### **Gaps among race/ethnicity.**

Wan (2010) stated that data from the Nation’s Report Card (2007, as cited in Wan) “show[ed] that achievement disparities are still real and deeply entrenched in the U.S. schools” (p. 19). Anglo students tend to outscore African and Hispanic American

students from eighth grade, according to the National Mathematics Report Card (2007, as cited in Wan); there is more than a 30 point gap between Anglo and African American students and a 25 point gap between Anglo and Hispanic American students (Wan). In Hedges and Nowell's (1998) research and analyses, they found that the academic gap between African and Anglo Americans, during the 1960s, 1970s and 1980s, had narrowed, but the rate of decrease had slowed since 1988. African American students were no longer segregated into separate schools, and the attention was focused more on the provision of equal education. Campbell, Harnbo, and Mazzeo (1999) found that, from the early 1990s, the gap began to widen again. Test results from the National Assessment of Educational Progress (2008, as cited in Yeung & Conley, 2008), conducted since the 1970s, demonstrated a sizeable lag in the achievement of African American students in comparison to Anglo students. Although the academic scores of African Americans have been compared to Anglo students, and their achievement gaps have been studied in detail over the past 60 years.

It is necessary that administrators, teachers, and other educational staff members meet the needs of minority students; according to Reems, Ryan, and Espinoza, (2011), "Americans' faith in the ability of public school to confront the disadvantages faced by poor and minority students to somehow 'level the playing field' for all" (p. 1) may not be realistic. The Hispanic American population continues to grow in the U.S. The estimated Hispanic American population in the U.S. has surpassed 45 million, according to the May 2008 report by the U.S Census Bureau (as cited in Alarcon, 2010). The Hispanic American population is the largest minority group, and this group continues to grow. There is a fairly recent trend occurring in the schools, that is, the Spanish heritage

language student population is growing in the U.S. school systems. These students have a higher risk of dropping out of school. According to the U.S. Department of Education, National Center for Education Statistics (2011), in 2009, approximately 17.6% of Hispanic American students dropped out of school, followed by African at 9.3% and Anglo students at 5.2%. Since the enactment of the NCLB Act of 2001, this number has declined steadily. For example, in 2000, the drop out rate for Hispanic American students was at 27.8% (U.S. Department of Education, National Center for Education Statistics). However, even with improvements in dropout rates, there is still a large achievement gap among the subgroups based on race. Studies, like those conducted by Lopez (2100) and Shiu et al. (2009), have shown that in comparison to their peers, Heritage Spanish language learners require different programs to attain their education. Valdes (2000) defined a Heritage learner as “a student who is raised in a home where a non-English language is spoken, who speaks or merely understands the heritage language and who is to some degree bilingual in English and the heritage language” (p. 1).

Currently, in the U.S. public schools, students sit in class with 460 different native languages, the teachers must be able to reach these students, even those who do not speak English (McElroy, 2005), and the Hispanic American population makes up the largest portion of different native languages (e.g., Spanish, Cherokee, Eskimo, Navajo, and Japanese). Educators in the U.S. must adapt to this growing population in order to help Heritage learners succeed in the school system, especially since most Heritage learners are American children. Teachers must be aware of the needs of a multicultural classroom, since “More Hispanic kindergartners in 2007 were U.S.-born than foreign-born, assuring them of citizenship” (Yen, 2009, p. 1). Buffenbarger (2011) emphasized

that teachers and administrators must try to help students achieve at an equal rate as mandated in NCLB Act (2002, as cited in Buffenbarger).

**Gaps in socioeconomic status.**

In the U.S., 24% of the population represents children and of those children, 34% live in poverty; this latter group has a large impact on the educational system (Addy & Wight, 2012). Therefore, teachers must be aware of how the different SES of students affects both students and teachers. Teachers with a Christian worldview might use the Bible verse, “Do not pervert justice; do not show partiality to the poor or favoritism to the great, but judge your neighbor fairly” (Leviticus 19:15, NASB), to help guide them to be fair Christian leaders. The authors of the APA (2012) acknowledged that, “Low SES and its correlates, such as lower education, poverty, and poor health, ultimately affect our society as a whole” (para. 2). Also, Morgan, Farkas, Hillemeier, and Macuzuga (2009) found that children from low SES households and communities developed skills at a slower rate than children from higher SES groups. Saudino (2005) suggested this slower development rate was 30-50% genetics, but the environment can have a 50-70% effect on the child. This may be due to the fact that families from low SES communities are less likely to have the time to provide academic resources and support to their children.

Jensen (2009) stated,

Low SES children are often left home to fend for themselves and their younger siblings while caregivers work long hours; compared with their well-off peers, they spend less time playing outdoors and more time watching television and are less likely to participate in after-school activities. (p. 79)

Aikens and Barbarin (2008) correlated children's initial reading competencies with the home literacy environment, which included the number of books owned and parents' distress. In Coley's (2002) nationwide study of U.S. kindergarten children, only 36% of parents from the lowest income bracket read to their children on a daily basis, compared with 62% parents from the highest income bracket who read to their children on a daily basis. Parents from the lowest SES bracket: (a) may not have the time to read, (b) may not be able to read, or (c) it may not be a priority. That is why it is the teachers' responsibility to help close the achievement gap in regard to SES.

When students enter school, it is not too late to have a positive effect on their behavior and achievement. Jensen (2009) suggested that the social relationship web between peers, teachers, coaches, and family members have a much greater influence on student behavior than previously assumed. All three sources of self-efficacy (i.e., family, peers, and school) can have an impact on a student. Self-efficacy is malleable; for instance, Yancey (2010) stated,

The feedback that people receive about their performance affects their understanding of ability. When people are told that they did not perform as well as others, their self-efficacy drops, but when people are told their performance improved, their self-efficacy increases. (p. 1714)

It is likely that students from a low SES environment have lower achievement than their peers (Aikens & Barbarin, 2008). Beginning in elementary school, Aikens and Barbarin found that these students exhibit delayed letter recognition and phonological awareness, which led to being at risk for reading difficulties. By the time these students from low SES enter high school, the achievement gap continues to increase. Students,

who come to school from a low SES environment, enter high school 3.3 grade levels behind those students from higher SES groups. Also, these students graduate high school at 4.3 grade levels behind those of higher SES groups (Palardy, 2008).

Not only do students from low SES families perform lower than their higher SES peers, their high school graduation rate is lower than those students with higher SES. The high school dropout rate among low-income families in 2007 was 16.7% compared to the dropout rate of 3.2% of high-income families (National Center for Education Statistics, 2008). Carnevale and Rose (2004) found that only 3% of college students at highly ranked colleges in the U.S. were from the lowest income quartile, whereas almost 75% of the students were from the top income quartile. Many students who come from low SES and are able to graduate high school and go to college, reported feeling that they did not belong in school and were more likely to drop out of college before graduation (Langhout, Drake, & Rosselli, 2009). Only 6% from the lowest income quartile were able to graduate from college. The achievement gaps for SES, when measured by dropout rate and college participation rate, are notable. Perhaps more information on self-efficacy can provide insight to better educate these students and help them begin to compete with their counterparts from homes with higher income levels.

#### **Gaps among gender.**

Throughout the last decade girls have, in general, received better school grades in all major subjects than did boys, and this trend continues through college (Duckworth & Seligman, 2006; Kuhn & Holling, 2007; Pomerantz, Altermatt, & Saxon, 2002). This means that girls graduate from high school with overall higher GPA than males (Duckworth & Seligman). Most teachers would hope that the school grades would reflect

how well the students know and understand the content being taught. However, according to Duckworth and Seligman, “girls do not have higher IQs, and they score lower on some (but not all) standardized tests, including the SAT, ACT, and AP exams” (p. 198). However, girls outperform boys at all grade levels on the National Assessment of Educational Progress (NAEP; 2004, as cited in Meece, Glienke, & Burg, 2006) evaluation. According to the National Center of Educational Statistics (NCES; 2004), more high school girls are enrolled in advanced science and mathematics classes, but they are less likely to report that they like these courses than their male counterparts

The findings from cross-sectional and longitudinal research have indicated that many children experience declines in their competency beliefs throughout their schooling (Allan et al., 1997; Wigfield & Eccles, 2000). Competency beliefs are similar to self-efficacy, and according to Meece et al. (2006), “competency beliefs are defined as estimations of one’s ability to perform or to succeed at an activity” (p. 356). The rate of change in one’s self-belief differs by both gender and academic domain. For example, both boys and girls start elementary school with self-perceptions of equal ability in language arts, but by the end of elementary school, the boys’ perceptions rapidly declined.

Gender differences, for achievement, dropout rate, and retention, can be linked to age and grade level (Meece et al., 2006). It would be helpful to have more information about gender differences in relation to self-efficacy skills in order to determine whether there is a way to tailor instruction to better suit the needs of learners of a specific gender during a specific age group, such as the middle school years.

#### **Achievement and academic self-efficacy.**

The concept of self-efficacy was introduced over 30 years ago (Bandura, 1977), and it has received much attention from educational researchers. Researchers (Bong & Skaalvik, 2003; Pajares, 1996; Pintrich & Schunk, 2002) showed how self-efficacy beliefs are vital mediators of many types of achievement related behaviors: (a) effort and task persistence, (b) self-regulatory strategies, and (c) course enrollment. Bandura (1993) described how the presence of high academic self-efficacy in an individual allowed for several key ideas:

1. views problems as challenges, not threats;
2. commits to academic goals;
3. views failure as a result of low effort put forth, not due to some extraneous factor; and
4. has the ability and desire to increase his or her efforts in case of failure in order to achieve goals.

Students who possess these views and skills are more likely to attain better success in school and beyond.

Both academic achievement and cognitive ability are linked to higher self-efficacy scores, according to previous studies. In a meta-analysis conducted by Multon, Brown, and Lent (1991), the authors summarized research from 1977-1988. Multon et al. examined two relationships: (a) self-efficacy and academic performance and (b) self-efficacy and persistence in academics. The meta-analysis included 36 studies for academic performance and 18 studies for academic persistence. Of the 36 studies in the meta-analysis, the stronger findings were for the experimental studies, which involved interventions ( $r = .58$ ) in comparison to the correlational studies ( $r = .32$ ). Relationships

were stronger for high school or college-aged students ( $r = .41, .35$ , respectively) than for elementary students ( $r = .21$ ). Rosen et al. (2010) suggested this might be because older students have more experience observing their own performances and have a better ability to reflect on their experiences.

Rosen et al. (2010) stated, “More recent research on self-efficacy and academic achievement has often examined one or more mediational questions” (p. 107). Several studies have been conducted to measure different aspects of self-efficacy. Rosen et al. cited Pastorelli (1996) and credited his classic study as one that “remains the most comprehensive account of the myriad ways in which academic self-efficacy works in concert with non-cognitive components to affect achievement” (p. 108). Pastorelli’s work, which included a 37-item self-efficacy, yielded scores on three types of self-efficacy: (a) academic, (b) social, and (c) self-regulatory. The findings included relationships among 13 variables along with the three types of self-efficacy.

Rosen et al. (2010) stated, “self-efficacy is critical for assessing the nature of the relationships between interventions in the environment, other non-cognitive (especially motivational) factors, and academic outcomes” (p. 109). According to Buchanan and Selmon (2008), “Academic achievement is a result of self-efficacy, but also has a positive influence on one’s self-efficacy” (p. 823). The literature strongly supports the idea that academic achievement and self-efficacy can be dependent on each other.

### **The Transition Years**

When students enter middle school, they are considered to be in the transition years. It is usually during the middle school years that students begin to transition into young adults, as they transition from elementary school to a middle or high school.

According to Frey, Ruchkin, Martin, and Schwab-Stone (2009), “adolescence is characterized by often-conflicting desires for autonomy and independence coupled with the need for support” (p. 2). It is during the adolescent time frame when students: (a) experience increased parent conflicts, (b) are often moody, and (c) tend to engage in risk-taking behaviors.

Typically, middle school students transition from a one-teacher classroom for all subjects in elementary school, to several classrooms with a different teacher for each subject. When students transition to a departmental program, it poses several challenges to them. Cauley and Jovanovich (2006) stated, “When adolescents move into middle school or high school, the anxiety is complicated further by other normative changes such as puberty, social and emotional development, the growing importance of peer relationships, and the development of higher order cognitive skills” (p. 15). Often, students who experience high stress with frequent changes have decreased academic motivation.

As students transition through puberty, many hormonal and physical changes occur. Males and females tend to go through puberty at different rates. Females experience puberty changes 18 months earlier than males (Cauley & Jovanovich, 2006). Not only do females mature at an earlier rate than males, “students of the same chronological age are at different points physically and socially, complicating social interactions in the middle grades” (Cauley & Jovanovich, p. 16). According to Cauley and Jovanovich, it is also during the middle school timeframe there is a “decline in many students’ intrinsic motivation and academic self-concept, interest in school, and grades” (p. 16). Middle school aged students seem to have a decline in self-perception and self-

esteem associated with the transition from elementary school to middle school (Alspaugh, 2001).

### **High-Stakes Testing and Accountability**

The use of high stakes tests have become the norm in public education today, and it is not a passing fad, as some thought (Huber & Moore, 2000). According to Au (2008), “High-stakes, standardized testing has become the central tool for educational reform and regulation in many industrialized nations in the world, and it has been implemented with particular intensity in the United States” (p. 639). The Bush administration passed the NCLB Act in 2001, which required all states to create and use state mandated tests in order to receive federal funds (Baker & Johnston, 2010). The purpose of this law is to monitor the educational progress and to identify those children who fall behind their peers, so those who do not perform according to the norm can receive extra help (McCabe, 2003). In essence, the purpose of NCLB is to hold teachers and administration accountable for students’ success, or lack thereof, within the school. The term, accountable, “suggests there is an expectation that when a person, organization, or entity is accountable, they can be expected or required to render an account of their actions or inactions” (Wiliam, 2010, p. 108).

Assessment leads to accountability, and Wiliam (2010) stated, “Assessment is a key process in education. It is only through assessment that we find out whether instruction has had its intended effect, because even the best-designed instruction cannot be guaranteed to be effective” (p. 107). Since the passage of the NCLB Act (2002), the use of standardized tests and accountability has continued to be strong areas of interest in the educational arena. President Obama and the U.S. Secretary of Education, Arne

Duncan, announced to the states that there are \$4.35 billion dollars set aside for a Race to Top competition with a total of \$10 billion set aside for educational reforms (U.S. Department of Education, 2009). In this competition, four critical areas are to be reformed.

Adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace; recruiting, developing, rewarding, and retaining effective teachers and principals; building data systems that measure students success and inform teachers and principals how they can improve their practices; and, turning around our lowest-performing schools. (U.S. Department of Education, 2009, para. 4)

The first area in the reform is that of benchmark standards and assessments. Since these assessments are used to determine the success of the students, teachers, and administrators, these tests are considered high-stake tests. Standardized test scores can determine whether students are promoted to the next grade level or graduate from high school, and sometimes teachers' salaries and promotions are tied to these high-stakes tests (Au, 2008). McCabe (2003) demonstrated that neither retention nor social promotion has a noteworthy impact on student achievement. Yet, these tests still can be used to retain a student from a grade or prevent a student from graduating high school.

Amrein and Berliner (2002) reported that scores from high-stake tests have been correlated to show an increase in the number of students who drop out of high school. Studies (Madaus & Clarke, 2001; Nicholos, & Berliner, 2007) that have been conducted in both the U.S. and the United Kingdom, have shown that, in general, the scores from high-stakes testing, standardized tests have disproportionately affected low-income and

non-white students. After analysis of the data from the National Assessment of Education Progress (NAEP; 1996, as cited in Horn, 2003), Horn found that the increased use of high-stakes test scores are not linked to increased learning.

Not only do high-stake tests affect students, these tests also affect teachers' content area in three ways (Au, 2008). The curriculum, which is taught to students, may be changed as a result of standardized testing. Teachers may teach only the content that is being tested and neglect to teach those areas of content that are not being tested. Au stated, "In the United States this has meant that non-tested subjects such as art, science, and social studies are pushed out of the curriculum at both the classroom and school levels" (p. 640). In addition, the use of standardized tests has changed the form of the content being taught, which resulted in classroom content being presented as isolated facts and fragmented. No longer do teachers have the time or freedom to conduct in-depth class discussions. Finally, according to Au (2007), the use of high-stake testing has been found to change teachers' pedagogy. Many teachers have become more teacher-centered and lecture more than they might choose to do, because of the increased pressure for their students to do well on the high-stake tests (Au, 2007).

The use of standardized testing is one of the methods, which are used to measure accountability (Franco, 2010). In regard to public education, accountability refers "to systems or programs that provide summary information about school outcome measures to the general public as well as to schools" (Franco, p. 9). Hunt, Carper, Lasley, and Raisch (2010) reported that this era of accountability began in the late 1980s, and the demands from the public to create accountability systems have continued to increase throughout the decades.

It has been suggested that the quality of education is not only important to parents and taxpayers, but to society as a whole, and Wiliam (2010) found in several studies

(Carneiro, Crawford, & Goodman, 2007; Levin, Belfield, Muennig, & Rouse, 2007) that

When education fails, the social and financial costs are borne by the whole of society. Even retired people who can earn too little to pay tax will bear the costs of failure in the education system, through increased crime and lower levels of engagement in citizenship and other form of “pro-social” behavior. (p. 108)

According to Wiliam, one of the major issues with use of the current testing is that the stakes are higher for the teachers than the students.

One of the largest testing scandals that occurred in the U.S. took place in Georgia. According to Koebler (2011), “For ten years, hundreds of Atlanta public school teachers and principals changed answers on state tests in one of the largest cheating scandals in U.S. history” (para. 1). Teachers felt the pressure that was placed on their students to succeed, and some went to extreme measures to guarantee that their students did succeed. As of July 2011, Georgia state investigators found that cheating occurred at 44 public schools in Atlanta, which implicated almost 180 employees, and 38 of those involved principals in a standardized test cheating scandal (Sarrio, 2012). This competition and demand was foreseen even in 1886, when Emerson E. White wrote in his *Elements of Pedagogy*,

They have perverted the best efforts of teachers, and narrowed and grooved their instruction; they have occasioned and made well-nigh imperative the use of mechanical and rote methods of teaching; they have occasioned cramming and the most vicious habits of study; they have caused much of the overpressure charged

upon schools, some of which is real; they have tempted both teachers and pupils to dishonesty; and last but not least, they have permitted a mechanical method of school supervision. (pp. 199-200)

Samuels (2011) described a survey conducted by faculty at Arizona State University. In this survey, 3,000 teachers responded. The researchers found that 10% of the teachers “reported they knew colleagues who had engaged in the most egregious forms of cheating, such as changing answers sheets or somehow preventing low-performing students from taking the test” (para. 7).

It has been shown for many years that, when any test is designed for the use of public policy, the performance, as measured by the test, improves over time. This effect is called Campbell’s Law (1976, as cited in William, 2010). Also, Campbell stated:

Achievement tests may well be valuable indicators of general school achievement under conditions of normal teaching aimed at general competence. But when test scores become the goal of the teaching process, they both lose their value as indicators of educational status and distort the educational process in undesirable ways. (pp. 56-57)

Amrein and Berliner (2002) examined 18 states, in which a high-stakes testing program was introduced. They found that the state test scores continued to increase with each year the test was used, but there was no evidence of any increase in the College Board SAT and AP test scores. Also, Amrein and Berliner found that the introduction of the high-stakes tests included, in some cases: (a) inappropriate test practices, (b) increased dropout rates, (c) cheating, and (d) a decrease in teacher morale.

## **Merit Pay**

In some states and counties, the effort to achieve accountability has led to merit pay. Merit pay seems to be a solution that is introduced every 20-30 years (Provenzo, 2010). In a merit pay system, educators' salary or salary bonuses are tied to student learning, which is usually measured by a test (Ramirez, 2011). Provenzo stated, "researchers have repeatedly demonstrated that merit pay programs do not provide effective incentives for teachers" (p. 556). The failure of merit pay programs for teachers was documented in Great Britain during the 1880s, and more recently, in the U.S. during the 1920s, 1960s and yet again in the 1980s (Provenzo). Four presidential contenders during the 2008 campaign used the idea of merit pay as a way to improve the educational system. Senators Barack Obama, Hillary Rodham Clinton, John McCain, and Governor Mike Huckabee all expressed support for one another in this area of merit pay as an approach to reform teacher education.

Elliott (2009) reported that President Barack Obama introduced his education reform and stated:

Despite resources that are unmatched anywhere in the world, we have let our grades slip, our schools crumble, our teacher quality fall short, and other nations outpace us. The relative decline of American education is untenable for our economy, unsustainable for our democracy, and unacceptable for our children.

We cannot afford to let it continue. What is at stake is nothing less than the American dream. (para. 2)

President Obama (The White House, 2012) announced in September 2011 that his administration would provide relief from the No Child Left Behind Act to those states

willing to apply for the waiver. By May 2012, 18 states had been granted waivers, “in exchange for this flexibility, these states have agreed to raise standards, improve accountability, and undertake essential reforms to improve teacher effectiveness” (para. 2). In addition, the members of Congress passed the American Recovery and Reinvestment Act of 2009, which provided \$4 billion dollars of grant monies to administrators of schools who apply for the grants (Georgia Department of Education, 2012). Georgia was awarded \$400 million dollars to implement its Race to the Top plan. The administrators at Department of Education of Georgia described the vision of their plan:

To equip all Georgia students, through effective teachers and leaders and through creating the right conditions in Georgia’s schools and classrooms, with the knowledge skills to empower them to 1) graduate from high school, 2) be successful in college and/ or professional careers, and 3) be competitive with their peers throughout the United States and the world. (para. 3)

This vision helped the educators of the state of Georgia to receive monies from the grant. Part of the plan includes merit pay; teachers from 26 Georgia school districts will be paid based on how well their students do on standardized tests (Stewart, 2011). However, only up to 50% of students’ achievement on standardized testing will be tied to the teacher’s salary, and another 10% will be linked to reduction in the achievement gap.

Proponents of merit pay argue that the career ladder scale, which is commonly used in the public education system, “promotes mediocrity by rewarding poor performers while failing to recognize outstanding achievement on the job” (Ramirez, 2011, p. 56). With the career ladder system that is commonly used in most states today, teachers

receive raises based on years in-service or level of education, but none of the raises are based on how well students achieve in class. Some people in the corporate world may see why merit pay should be tied to the raises teachers receive. In the corporate world, a lawyer may receive bonuses based on how much money he earned for the firm, and a professional baseball player may earn more money than his teammates based on how well he performed the previous season. According to Ramirez, there are several reasons why pay for performance does not work in the field of education. First of all, teachers cannot control who is assigned to their classes, so each class may have its own challenges. Secondly, as Ramirez stated, “Merit pay introduces competition among staff members and destroys the sense of community so important to adults and students” (p. 57). Finally, public education must function within constrained budgets, and “merit pay programs are typically not funded in a way that can provide or sustain substantial financial awards” (p. 57).

The extrinsic rewards that seem to motivate people in the corporate world are not the same for teachers. Provenzo (2010) described the study conducted for the Institute of Education, in regard to the implementation of state funded merit programs for teachers in Florida during the mid 1980s. It was found that only 14.2% of the surveyed teachers reported that salary was a motivating strategy for them. Similarly, 20 years earlier, Lortie (1974) found that 14.3% of the teachers thought that their salary was the motivating factor. In both studies, it was found that approximately 86% of the teachers reported that the most satisfying aspect of their job was when they were able to reach their students and the students understood the taught concepts (Provenzo). The extrinsic rewards, such

as money and bonuses, that might influence people in the corporate workforce, are different from the extrinsic rewards for teachers.

### **Summary**

Throughout history, student motivation and self-efficacy have been factors in the determination of success for students. Achievement gaps are still present, even with all the different laws the U.S. government has enacted. The NCLB Act (2002) may be a thing of the past, but the desire for all students to receive quality education is still an utmost priority. The purpose of this priority is to close the achievement gaps among the different races and SES of students. It is anticipated that the findings from this study can contribute to the growing body of literature on self-efficacy. This author examined: (a) the relationship between middle school students' self-efficacy, and (b) the specific differences in groups by gender and SES and achievement. During the middle school years of transition, there seems to be an effect on students. However, there is little information about the self-efficacy of students during the middle school years, so the findings from this study should provide a unique perspective to the current ideology.

### **CHAPTER THREE: METHODOLOGY**

In order for a school to maintain Adequately Yearly Progress (AYP) as required in the No Child Left Behind Act of 2001 (NCLB; 2002) and by the policy makers of State Departments of Education, it is vital to understand how self-efficacy plays a role in middle school students' achievement and motivation. Each year there is an increase in the percentage of students who must meet the standards. If there are areas where students need to improve, it is critical that school staff is aware of those areas. One of the primary goals of the NCLB is to close the gaps between the different: (a) ethnic populations, (b) students with disabilities, and (c) the regular education students. Georgia law mandates that each local school system may use state funding to administer a nationally norm-referenced test in Grades 3-8 (Georgia Department of Education, 2013). The rationale for the use of a nationally norm-reference test is to be able to compare students with those throughout the United States. The Iowa Test of Basic Skills (ITBS; Hoover, et al., 2003) is the nationally norm-referenced test that is used in Georgia. The test can be used for other purposes, such as, to determine a student's current level in completion of an Individual Educational Plan (IEP). In addition, the test is used to help identify gifted students and help shape the curriculum within a school system.

There were three primary objectives to this current study. The first objective was to determine whether there was a relationship between self-efficacy and school achievement for middle school eighth grade students as measured with the composite scores from the ITBS (Hoover et al., 2003). The second objective was to determine whether there was a relationship between self-efficacy and socioeconomic status (SES) for eighth grade middle school students, as measured by whether the students receive free

or reduced price lunches. Did SES cause a difference between the mean scores of the two groups of students on the Children's Perceived Self-Efficacy (CPSE; Bandura, 1990a) survey? Finally, the last objective that was to be analyzed was to determine whether there was a relationship between these students' self-efficacy and gender. Did gender cause a difference between the mean scores as measured by the CPSE survey?

The purpose of this study was to determine whether there were any relationships between middle school eighth grade students' self-efficacy and: (a) academic achievement, (b) SES, and (c) gender. Also, the researcher attempted to determine whether SES or gender could be predictors of students' self-efficacy scores. In this chapter, the researcher explained the approach for the correlational comparative study.

This study was conducted in a rural Title I middle school located in the Northeast Georgia Mountains. One grade level was used, which consisted solely of eighth grade students. The participants, setting, instrumentation, procedures, and data analysis are described in this chapter.

### **Research Design**

A correlational and casual comparative research designs were utilized for this study. The design included a pre-established measure of self-efficacy (CPSE; Bandura, 1990a) and a standardized archived assessment of student achievement (ITBS; Hoover et al., 2003). There are many advantages and disadvantages to the use of the non-experimental design. First, the archival nature of the student achievement scores gives the researcher an opportunity to evaluate hypotheses without the introduction of bias because the assessment has already concluded. Such designs are helpful in order to assess theoretical differences and relationships to guide and build theory and practice.

An often, overlooked benefit to any non-experimental design is that it offers researchers the opportunity to investigate processes that would be unethical or impossible with a more sophisticated experimental approach. This is of particular concern for a researcher in the social and behavioral sciences. The main disadvantage to the use of a non-experimental design is that the researcher cannot imply causality. That is, statistical significance within this design cannot imply cause-and-effect relationships (Gall, Gall, & Borg, 2007).

A quantitative research design, which consists of both a correlational and a comparative study, was used to determine whether there is a relationship among eighth grade middle school students' self-efficacy scores, and their cognitive achievement, gender, and SES. According to Gall et al. (2007), a correlational design is used in research in order to determine whether there are relationships between the variables. Because this design is non-experimental, no intervention groups or control groups were used. Correlational designs are simple, because two or more variables are collected for each individual in the study, and a correlation coefficient is computed to discover relationships among the variables.

### **Research Questions and Hypotheses**

With use of the correlational design for Research Question 1, the researcher was able to “analyze the relationship among a large number of variables in a single study” (Gall et al., 2007, p. 336). With use of the comparative design, the researcher was able to determine whether SES or gender have any effect on students' self-efficacy. The research questions and null hypotheses are as follows:

**Research Question 1.** Is there a relationship between student self-efficacy, as measured by the Children's Perceived Self-Efficacy survey and student achievement as measured by the Iowa Test of Basic Skills?

H<sub>0</sub>: There is no significant relationship with student self-efficacy as measured by the Children's Perceived Self-Efficacy survey and student achievement as measured by the Iowa Test of Basic Skills.

**Research Question 2.** Is there a difference between the SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) groups in regard to student self-efficacy as measured by the Children's Perceived Self-Efficacy survey?

H<sub>0</sub>: There will not be a significant difference between the SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) groups in regard to student self-efficacy as measured by the Children's Perceived Self-Efficacy survey.

**Research Question 3.** Is there a significant difference between females and males on student self-efficacy, as measured by the Children's Perceived Self-Efficacy survey?

H<sub>0</sub>: There will not be a significant difference between females and males on student self-efficacy, as measured by the Children's Perceived Self-Efficacy survey.

### **The Variables and Participants**

For Research Question 1, the researcher statistically analyzed the relationships among the variables. The one variable that was compared to the other variables was the self-efficacy survey scores from the CPSE (Bandura, 1990a); this was the independent

variable, while achievement was the dependent variable. Bandura approved the use of his CPSE survey for this study (see Appendix A). The middle school students in eighth grade science classes completed the CPSE survey, which consists of 37 questions. The scores from the survey were the variable with which all the other variables were compared for this study. The scores from the CPSE survey were the independent variable, while the test scores from the ITBS (Hoover et al., 2006) were the dependent variable. The composite scores from the ITBS were used to measure student achievement.

For Research Question 2 and Research Question 3, the independent variables were the students' gender and their SES. For both of these, a dichotomous variable was used. For the independent variable of the SES of the student, the dichotomous variable was coded as: (a) 1 = student is eligible for free or reduced price lunches, or (b) 0 = student is not eligible for free or reduced price lunches. Finally, for Research Question 3, a dichotomous variable for gender was used. The dichotomous variable for gender was coded as: (a) 1 = female and (b) 0 = male. For both Research Question 2 and Research Question 3, the dependent variable was the self-efficacy scores from the CPSE (Bandura, 1990a) survey of the eighth grade students.

The participants for the study were drawn from a rural, Title I, non-diverse middle school population of students located in the Northeast Georgia Mountains. The sample was a convenience sample: all 257 eighth grade students from the same middle school were asked to participate in the study. The typical age for eighth grade students is between 13-14 years old. The student population consisted of: (a) 96% White/non-Hispanic, (b) 2% Hispanic, (c) 1% African American, and (d) 1% Other. Approximately

55% of the students who attended the middle school receive free or reduced price lunches. Based on this status, the school is considered a Title I school, and receives federal funds to help supplement these students and the school. The student population make up is similar to 9 of the 14 middle schools located in the same Regional Educational Service Agency (RESA) district.

### **Setting**

The middle school where this study was conducted is located in the foothills of the Georgia Appalachian Mountains. Tomahawk County (i.e., a pseudonym for the real name) is a county where the population strives to keep tradition. According to the U.S. Census Bureau (2010), Tomahawk County has a population of 29,966, and there has been a 42.6% growth during the last 10 years. The ethnicity of the total population is: (a) Anglo, 89.9%; (b) Hispanic, 4.5%; (c) African American, 1.1%; and (d) Other, 4.5%. In 2009, the median household income was \$31,528, and the median home cost \$184,800. In Tomahawk County, \$4,757 was spent on education per student, while the national average of county spending is \$5,678 per student (U.S. Census Bureau, 2010). The under 18 population for the county is 6,241 (U.S. Census Bureau). There is one high school, one middle school, and three elementary schools in Tomahawk County. All the schools in Tomahawk County are considered Title I schools, which means that more than 40% of the students are eligible for free or reduced price lunches. The middle school, Tomahawk Middle School, has made AYP the past four years, and the staff is proud of the innovation and constant improvement to strive for higher goals for all students to succeed in school (Georgia Department of Education, 2013b).

## **Instrumentation**

Two instruments were used to collect data for this study. To measure students' self-efficacy, the CPSE (Bandura, 1990a) was used. To measure academic achievement, the students' ITBS (Hoover et al., 2006) composite scores from seventh grade were used. Due to budget restrictions, there will be no normed testing, such as the ITBS, completed for the academic year 2012-2013. The students' SES, as well as gender, were used to correlate with the students' self-efficacy scores. All data were de-identified for the purpose of teacher and student anonymity; this should ensure the objectivity of the study.

The CPSE was created by Bandura and published in 1990 along with other scales (1990a). Researchers have used this scale in many studies and with children from all over the world (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Carroll, Houghton, Wood, Unsworth, Hattie, Gordon, & Bower, 2009; Pastorelli, Caprara, Barbaranelli, Rola, Rozsa, & Bandura, 2001). The CPSE has been used in Australia and Italy; also, it has been used in a cross-national study to include countries such as Italy, Hungary, and Poland. In the cross-national study conducted by Pastorelli et al. (2001), the researchers stated, "The psychometric characteristics of the scales appear satisfactory for the three countries" (p. 94). The CPSE has been shown to be a valid and reliable instrument for students from ages 10-18 years.

The CPSE (Bandura, 1990a) scale is composed of 37 items, which represent seven domains that are placed into three basic efficacy factors: (a) academic, (b) self-regulatory, and (c) social self-efficacy. For each item, participants rate their beliefs in regard to their ability to accomplish each task. A six-point scale is used, which ranges

from not at all to extremely well (e.g., 1 = Not at all, 2 = Not too well, 3 = Okay, 4 = Pretty well, 5 = Very well, 6 = Extremely well).

The CPSE (Bandura, 1990a) survey is used to measure the students' perceived capability to judge their own mastery of academic subjects, learning, and the ability to fulfill personal, parental, and teachers' academic expectations (Carroll et al., 2009). An example of an item from the survey includes: "How well can you study when there are other interesting things to do?" Also, the perceived self-regulatory efficacy survey is used to measure a student's perceived capability to resist peer pressures and high-risk activities. "How well can you resist peer pressure to do things in school that get you in trouble?" is an example item used to help measure self-regulatory efficacy.

The third subscale measured in the CPSE (Bandura, 1990a) is perceived social self-efficacy; this measures the children's self-assertiveness, their capability to develop peer relationships, and their leisure time activities. Bandura et al. (1996) established that three factors are highly reliable (e.g., .87 for academic self-efficacy with a variance 15.7%, .75 for social self-efficacy with a variance of 8.3%, and .80 for self-regulatory efficacy and 7.1% of variance). Bandura et al. (1996) stated, "The reliability of these three factors was assessed by the square multiple correlations of factor scores. Coefficients of .70 or better are indicators of stable factors" (p. 1211). Therefore, the CPSE survey is a valid and reliable test to be used with middle school aged students; see Appendix B for the CPSE scale.

The ITBS (Hoover et al., 2006) test is administered to students in Tomahawk County in the third, fifth, and seventh grades. The ITBS is a nationally normed standardized reference test. It was designed to fulfill three main purposes: (a) to obtain

information to allow teachers and parents to monitor student growth from year to year, (b) to supply data for schools to decide on instructional decisions to support students, and (c) to examine the yearly progress as the grade groups pass through the school system and its curriculum (Hoover et al.). Hoover et al. (2003) stated:

As long as our nation continues to be highly mobile and students compete for educational and economic opportunities nationally rather than locally, students and school comparisons with national norm group should be of interest to students, parents, educators, and policymakers. (p. 5)

To be normed, the students are compared to other students in the same grade, who took the test at the same time. The ITBS test has been shown to be both valid and reliable to measure student achievement.

For a test to be reliable and valid, the test results should be reproducible if tested again. According to Hoover et al. (2003), “The amount in error in the scores is a tolerable level in view of the way the scores are intended to be used” (p. 9). Teachers are trained how to give the test and the test procedures, and instructions must be given in a precise way for the test to be valid. Much time and effort goes into the development of the ITBS: “‘Experimental’ test materials are developed and administered to a state and national sample of students. New material must go through rigorous testing procedures conducted by the University of Iowa” (p. 10).

The reliability data are based on the Kuder-Richardson formula 20 (K-R 20) procedures. The Kuder-Richardson formula method is considered a rational equivalence method for the estimation of the internal consistency of a test (Gall et al., 2007).

According to Hoover et al. (2006), for all tests and subtests for Level 13, Form A, and

Grade 7 are between .819 and .982. The reliability for the composite score is .982. This number is extremely high, which means that the test is reliable.

The researchers (Hoover et al., 2006) for the ITBS used sample sizes from 2,000-60,000 students in Grades K-12. According to Hoover et al., “Select percentiles of the 2004-2005 distributions (P10, P25, P50, P75, and P90) were compared to those forms from the 2000 standardization” (p. 5). The differences between the values were shifted from the original standardization to reflect the observed changes in student achievement. Hoover et al. stated, “because change is being estimated at five points in each score distribution, sampling errors are minimized in the development of 2005 raw-score to standard-score conversions” (p. 5).

Hoover et al. (2006) made sure to have a large sample for eighth grade, 6,078; also, they made sure that the sample included students from different levels of SES. Five categories for SES were used with an even distribution of percentage of students in each category: (a) High, 15.2%; (b) High Average, 19.1%; (c) Average, 31.5%; (d) Low Average, 19.1%; and (e) Low, 15.1%. It is important that the questions are reliable for all socioeconomic levels. Also, it is important to note that, for this study, 90.1% of the sample used to create the norms for the ITBS came from public schools. All of these percentages are important to show that the test is reliable and valid for this study, since it was conducted in a public school, and SES is a variable in the study.

## **Procedures**

It was necessary to obtain approval from the administrator of the participating school. Also, approval from the members of the Liberty University Institutional Review Board (IRB) was obtained before any data were collected; see Appendix C, including

administration of the CPSE (Hoover et al., 2006) survey. Once permission was granted to conduct the study, the researcher sent consent letters home for all the eighth grade students from the middle school to request the guardian's permission for the student to participate in the study. The study was conducted in the winter, third quarter of the academic school year 2013. The students took the survey during their science classes.

This researcher decided to administer the survey in the science classes for several reasons. The primary reason for students to take the survey in their science classes was because all students are in a regular education, honors classroom, or a co-taught science classroom. Students are not pulled out for special education classes. Therefore, all students had the opportunity to participate in the study. Another advantage of conducting the study in the students' science classes was that only three regular education teachers and two special education teachers would need to be trained about the purpose of the study and how to administer the survey. This supported the collection of valid and reliable data. For those students, who have testing accommodations because of the requirements on their Individual Educational Plans (IEP), they were able to leave the room and have the survey read and explained to them to guarantee that all students understood the questions. The teachers were allowed to answer questions for the students if necessary. The science teachers had a time period to ask the researcher any questions about the study before the study began. The science teachers read a script (see Appendix D) to introduce the study to the students. The science teachers sent home a cover letter (see Appendix E) and the consent letter (see Appendix F) along with the assent letter (see Appendix G) to be signed by both the guardian and student.

Only those students who returned the consent and assent forms signed by both the student and a guardian were allowed to participate in the study. A complete list of all students who did not participate in the study was kept in order to exclude their ITBS scores so that those scores were not used in the study. Students placed their Georgia Testing Identification (GTI) number on their survey. This unique number is assigned to each student by the State of Georgia, and only the Assistant Principal has access to the numbers. The teachers did not have access to these numbers; only the students knew their number. The identification number was linked to the student name so that the data can be compared, without research bias; also, there was the need to maintain confidentiality. Once the surveys were completed, the researcher linked each survey with the student GTI number. This step was critical so that the researcher could link the CPSE scores with the student's ITBS scores as well as the student's SES and gender. The Assistant Principal filled in the spreadsheet with the students' ITBS scores, gender, and SES. Then, she deleted the students' GTI numbers, so that the data cannot be linked to individual students. Due to the need to use seventh grade archival ITBS data, only those students' whose SES remained the same during their seventh grade and eighth grade years, qualified to participate in the study. All data from students whose SES status changed between their seventh and eighth grade years were not used in the study. The use of these procedures helped to establish a valid study to guarantee that the SES was accurately compared to the archival ITBS data. The Assistant Principal extracted the ITBS scores of the student participants and entered that data into an MS Excel spreadsheet. Also, the Assistant Principal linked the GTI numbers with the ITBS scores and removed the names of the students. Students' gender and SES were imported into

the spreadsheet and linked to the student's GTI number (see Appendix H) for an example of the spreadsheet. The use of this procedure was a control for researcher biases and confidentiality.

At this point, the data were transferred into a statistical software program to help the researcher (a) the analyze data, (b) create charts, and (c) construct diagrams with the data from the study. Subsequently, the researcher performed the various statistical analyses to determine whether there were relationships between the variables and the self-efficacy variable. According to Glatthorn and Joyner (2005) although, "Correlational studies attempt to understand patterns of relationships among variables" (p. 101). The comparative portion of the study was used to determine whether SES or gender was correlated to higher self-efficacy scores. All data are secured in a locked filing cabinet and or on a password protected computer file, in order to that they remain confidential and secured. Students who did not participate in the study were not penalized in any way and were allowed to read silently while the survey was administered.

### **Sample Size Justification: A-Priori Power Analysis**

There are several ways to determine the sample size for a quantitative study. A common strategy is to determine the number of participants required to reach a specified level of statistical power, given fixed parameters. The a-priori power analysis was utilized for this purpose. It was performed to determine the number of participants required to detect a medium effect ( $d = .50$ ) with power = .80 given the following testing parameters: a two-tailed independent samples  $t$ -test was conducted at  $\alpha = .05$ . The findings from the analysis indicated that a sample size of 128 could be used to detect a

medium effect given these parameters. The power analysis was conducted with G\*Power 3.1.0.

### **Data Analyses**

The CPSE (Bandura, 1990a) survey data, ITBS (Hoover et al., 2006) test data, SES, and basic demographics were analyzed. The data were disaggregated, and an analysis was conducted to address each research question. There was a total score for the CPSE, and the total score from the CPSE for each research question was analyzed. The data were entered into Statistical Package for Social Scientists (SPSS; 2012), a statistical software program. All statistical tests were conducted at  $\alpha = .05$ . Descriptive statistics were provided for all research variables. Frequencies and percents were calculated for all nominal and ordinal-scaled variables. Mean scores and standard deviations were calculated for all of the continuous variables. The following is a review of the data analysis procedures, which were utilized to assess each research questions.

RQ 1. Is there a relationship between student self-efficacy, as measured by the Children's Perceived Self-Efficacy survey and student achievement as measured by the Iowa Test of Basic Skills?

RQ 1. A Pearson Product-Moment Correlation and a simple linear regression were both conducted to address the question. A Pearson Product-Moment Correlation was used to determine if there was a relationship between CPSE mean scores and ITBS composite scores. The correlation was used to measure the direction and relationship between self-efficacy and achievement. The simple linear regression was used to determine a predictive value of self-efficacy and achievement. Self-efficacy was the independent variable, and ITBS performance was the dependent variable. Participants'

standardized residuals were used to identify outliers in the data. A participant was considered an outlier when the standardized residual was greater than the absolute value of 3. A scatterplot was developed to assess the linearity and homoscedasticity assumptions. Also, tables were developed to display the regression coefficients and descriptive statistics.

RQ2 and 3 were stated as:

RQ2. Is there a difference between the SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) groups in regard to student self-efficacy as measured by the Children's Perceived Self-Efficacy survey?

RQ3. Is there a significant difference between females and males on student self-efficacy, as measure by the Children's Perceived Self-Efficacy survey?

RQ 2 and 3. A two-tailed independent samples *t*-test was conducted for each research question. Self-efficacy was the dependent variable, and SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) and gender were the between-subjects independent variables for RQ2 and 3, respectively.

The students' self-efficacy scores were standardized by group, and the resulting *z*-scores were utilized to identify outliers in the data. A participant was considered an outlier when the standardized score was greater than the absolute value of 3. Histograms were developed for each group to assess the normality assumption. If a serious violation of the normality assumption occurred, the non-parametric equivalent of the *t*-test (i.e., Mann-Whitney test) would have been used. Levene's test was used to assess the homogeneity of variances assumption. The degrees of freedom were adjusted in cases of

a significant Levene's test to compensate for heterogeneity of variances. Also, a *t*-test table and descriptive statistics were displayed for each test.

Levene's test was conducted to address the homogeneity of variances. A Greenhouse-Geisser correction was utilized if the homogeneity of variances assumption was not met. Univariate analysis of variance (ANOVA) post hoc tests were conducted to assess pairwise differences for each dependent variable, if a global multivariate difference was found. Also, tables of ANOVA test statistics and descriptive statistics were developed. While the data analyzed for RQ1 cannot demonstrate causality, it can be used to show a relationship between students' self-efficacy skills and academic functioning. If a significant relationship is found, teachers may be interested in finding ways to increase students' self-efficacy as a means to increase academic achievement. If no relationship is found, other areas of a students' life and schooling can be examined to determine what other factors may have an effect on achievement. For RQ2 and 3, if SES or gender is linked to higher self-efficacy scores, then teachers and administrators can develop programs and activities to support those data. This information can be invaluable to school staff who are interested in improved student achievement while also supporting students to be more productive citizens.

### **Summary**

A correlational and causal comparative design were both used in the study in order to investigate the three research questions. Middle school students from one rural school received permission from their parents/guardians to participate in the study. Students who brought signed consent forms were allowed to participate in the study.

Participants were administered the 37 question CPSE (Bandura, 1990a) survey. The total score from the surveys was used as a variable for all three research questions.

In Chapter Four, the findings from the study are presented. The researcher includes the descriptive statistics, including the number of participants, gender, and SES. For each research question, the statistical test is explained with the results from the statistical test. The researcher explains whether each null hypothesis was accepted or rejected. Figures and tables are presented to display the statistical data obtained from the study.

## CHAPTER FOUR: RESULTS

The purpose of this study was to determine whether there is a relationship between self-efficacy and three separate variables. The first objective was to determine if there is a relationship with self-efficacy, as measured with the Children's Perceived Self-Efficacy (CPSE; Bandura, 1990a) survey and student achievement for middle school eighth grade students as measured with the composite scores from the Iowa Test of Basic Skills (ITBS; Hoover et al., 2003). The second objective was to determine whether there was a relationship between self-efficacy and socioeconomic status (SES) for eighth grade middle school students as measured by whether the students were eligible to receive free/reduced lunches. Did SES cause a difference between the means of the two groups of students with the means from the CPSE survey? Finally, the last objective to be analyzed was whether there was a relationship between the students' self-efficacy and gender? Did gender cause a difference between the mean scores as measured by the CPSE survey? All of the eighth grade students enrolled at one middle school were given the opportunity to participate in this study.

### **Descriptive Statistics for Participant Demographics**

A total of 152 students participated in the study. The descriptive statistics for the participants' demographics are listed in Table 1. Of the 152 students, 85 (55.9%) were eligible for free/reduced price lunch, and 67 (44.1%) were not eligible. Approximately one-half ( $n=78$ ; 51.3%) of the students were female. The ethnicity of the participants were reported as: (a) 2 (1.3%) African American, (b) 1 (0.7%) American Indian/Alaska Native, (c) 7 (4.6%) Hispanic, (d) 1 (0.7%) multiracial, and (e) 141 (92.8%) White.

Table 1

*Descriptive Statistics for Student Demographics*

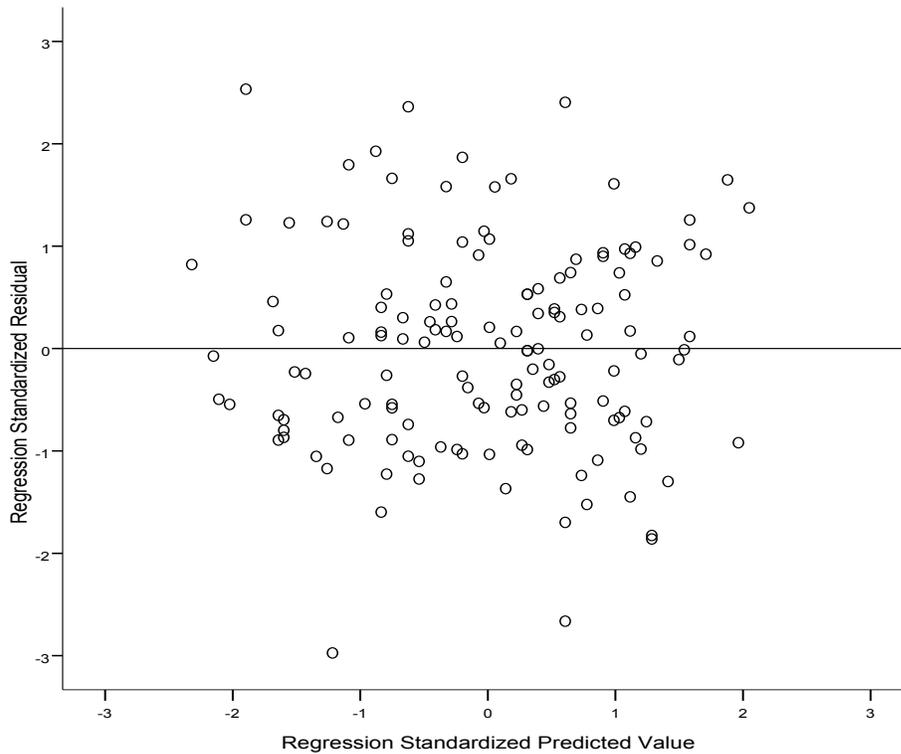
Variable	<i>N</i>	%
<b>Socioeconomic Status</b>		
Eligible for Free/Reduced Lunch	85	55.9
Not Eligible Free/Reduced Lunch	67	44.1
<b>Ethnicity</b>		
African American	2	1.3
American Indian/Alaska Native	1	0.7
Hispanic	7	4.6
Multi-Racial	1	0.7
White	141	92.8
<b>Gender</b>		
Female	78	51.3
Male	74	48.7

**Research Questions and Hypotheses**

**Research Question 1:** Is there a relationship between student self-efficacy, as measured by the Children’s Perceived Self-Efficacy survey and student achievement as measured by the Iowa Test of Basic Skills?

H<sub>0</sub>: There is no significant relationship with student self-efficacy as measured by the Children’s Perceived Self-Efficacy survey and student achievement as measured by the Iowa Test of Basic Skills.

A Pearson correlational along with a simple linear regression were both conducted to address Research Question 1. Student self-efficacy was the independent variable while the ITBS composite scores were the dependent variable. A linear regression model was used for the prediction value to gain knowledge of how one variable can predict another variable (Howell, 2010). The descriptive statistics for the individual items of the CPSE (Bandura, 1990a) survey are listed in Appendix I. The following testing procedures were utilized (Howell; Stevens, 2002): first, the data were screened for outliers by calculation of the participants' standardized residuals. A data point was considered an outlier when the standardized residual was greater than the absolute value of 3. This process did not reveal any outliers in the data. Second, a residual plot (see Figure 1) was created to assess model linearity and homoscedasticity. The residual plot indicated a linear model and model homoscedasticity. Homoscedasticity indicates that the size of the error (i.e., the residuals) were consistent across levels of the criterion.



*Figure 1.* Residual plot for Model 1

The scatterplot is displayed in Figure 2. The descriptive statistics and regression coefficients are listed in Tables 2 and 3, respectively. The regression indicated that student self-efficacy was a significant positive predictor of students' ITBS scores ( $F(1, 143) = 5.13, \beta = 0.19, R^2 = .04, r = .19, p = .025$ ). The analyses of these data confirmed a positive correlation between self-efficacy and ITBS scores. This was an indication that the students' ITBS scores increased with increasing levels of self-efficacy within this model. According to the upward sloping regression line in the scatterplot, there is an indication of a positive relationship. Therefore, null Hypothesis 1 was rejected, as measured by the CPSE; student self-efficacy was a significant independent variable of student achievement.

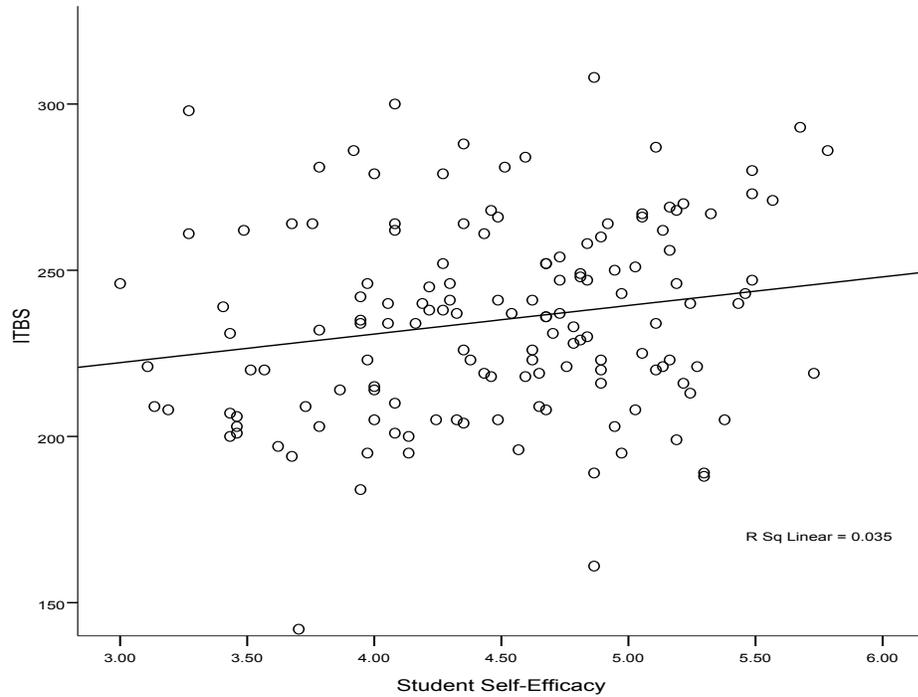


Figure 2. Scatterplot for Model 1

Table 2

Descriptive Statistics for Model 1

Variable	<i>N</i>	<i>M</i>	<i>SD</i>
ITBS	145	234.92	29.41
Student Self-Efficacy	145	4.48	0.64

Table 3

Regression Coefficients for Model 1

Predictor	Unstandardized Coefficients		Standardized Coefficients	<i>T</i>	<i>Sig.</i>
	<i>B</i>	<i>SE</i>	$\beta$		
Student Self-Efficacy	8.60	3.79	0.19	2.27	.025

**Research Question 2.** . Is there a difference between the SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) groups in regard to student self-efficacy as measured by the Children's Perceived Self-Efficacy survey?

H<sub>0</sub>: There will not be a significant difference between the SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) groups in regard to student self-efficacy as measured by the Children's Perceived Self-Efficacy survey.

An independent samples *t*-test (Howell, 2010) was conducted to determine whether there was a statistically significant difference between students who were eligible to receive free/reduced price lunch and students who were not eligible to receive free/reduced price lunch on student self-efficacy. The SES status of participants (i.e., students eligible for free/reduced price lunch vs. not eligible for free/reduced price lunch) was the between-subjects independent variable, and student self-efficacy was the dependent variable.

The data were screened for outliers. The participants' dependent variable scores were standardized by group, and data points were removed if the standardized score was greater than an absolute value of 3. This process did not reveal any outliers in the data. Next, histograms were created for each group to assess the normality assumption. The distributions of student self-efficacy, for those who were not eligible for free/reduced lunch and those who were eligible for free/reduced lunch, are presented in Figures 3 and 4, respectively. Both histograms revealed that the sample self-efficacy scores were approximately normally distributed. Levene's test was not significant, an indication that the groups had equal error variances.

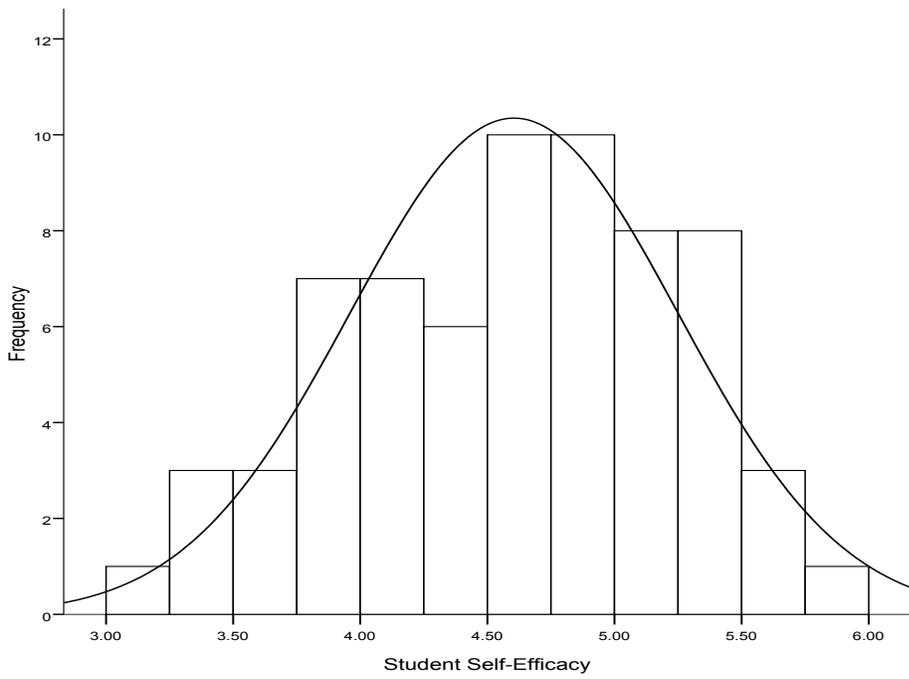


Figure 3. Distribution of Not Eligible for Free/Reduced Price Lunch Group

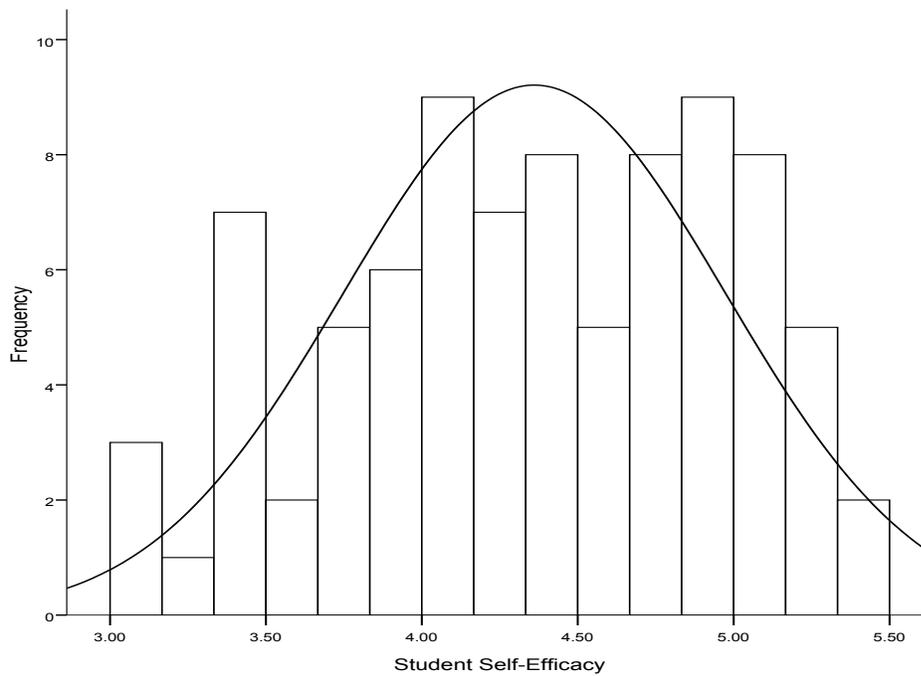


Figure 4. Distribution of Eligible for Free/Reduced Price Lunch Group

The means and standard deviations are displayed in Table 4. The *t*-test (see Table 5) revealed a significant difference between those who were not eligible for free/reduced price lunch and those who were eligible for free/reduced price lunch on student self-efficacy ( $t(150) = 2.38, p = .019, d = .38$ ). Those, who were not eligible for free/reduced price lunch ( $M = 4.60, SD = 0.65$ ), had significantly higher self-efficacy scores than those who were eligible for free/reduced price lunch ( $M = 4.36, SD = 0.61$ ). Thus, the researcher rejected null Hypothesis 2.

Table 4

*Mean and Standard Deviations for Research Question 2*

Socioeconomic Group	<i>n</i>	<i>M</i>	<i>SD</i>
Not Eligible for Free/Reduced Price Lunch	67	4.60	0.65
Eligible for Free/Reduced Price Lunch	85	4.36	0.61

Table 5

*Test Statistics for Research Question 2*

<i>t</i>	<i>df</i>	<i>Sig.</i>	<i>Mean Difference</i>	<i>SE Difference</i>	<i>95% CI of the Difference</i>	
					<i>Lower Bound</i>	<i>Upper Bound</i>
2.38	150	.019	0.24	0.10	0.04	0.45

**Research Question 3.** Is there a significant difference between females and males on student self-efficacy, as measure by the Children’s Perceived Self-Efficacy survey?

$H_0$ : There will not be a significant difference between females and males on student self-efficacy, as measured by the Children's Perceived Self-Efficacy survey.

An independent samples  $t$ -test was conducted to determine if there was a statistically significant difference between females and males on student self-efficacy. Gender (i.e., female vs. male) was the between-subjects independent variable, and student self-efficacy was the dependent variable.

The data were screened for outliers in the same manner described in Research Question 2. This process did not reveal any outliers in the data. Next, histograms were created for each group to assess the normality assumption. The distributions for the females and males are presented in Figures 5 and 6, respectively. Both histograms revealed that the self-efficacy scores for the sample were approximately normally distributed. Levene's test was not significant, which indicated the groups had equal error variances.

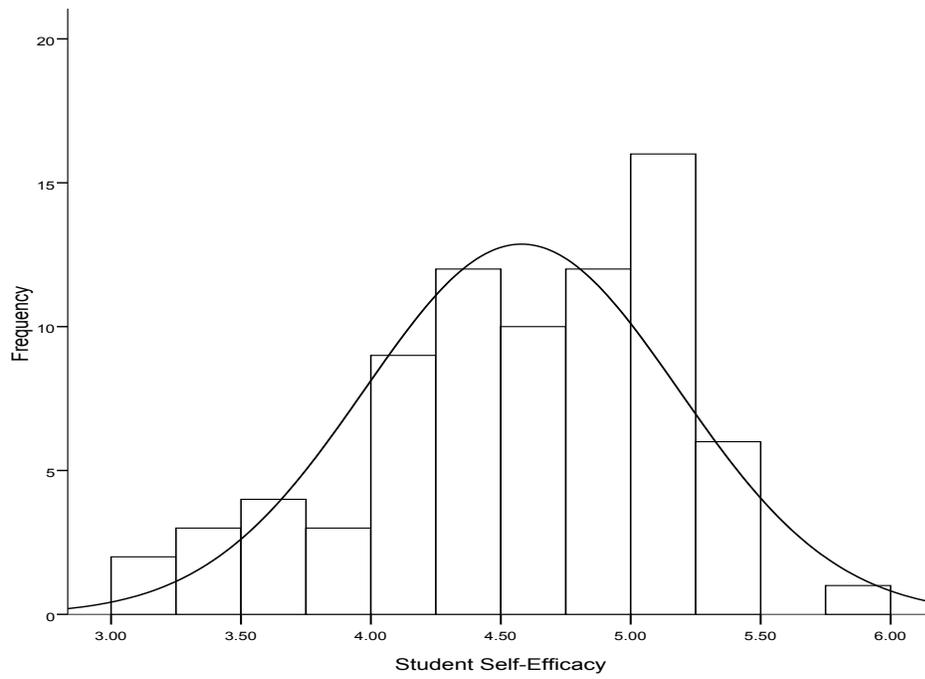


Figure 5. Distribution of female self-efficacy

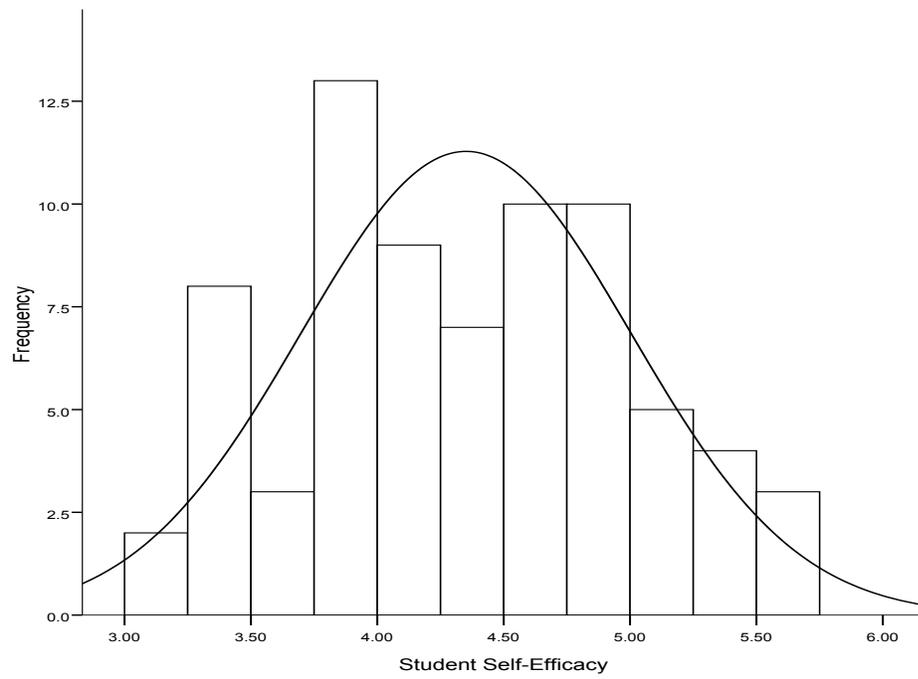


Figure 6. Distribution of male self-efficacy

The means and standard deviations are listed in Table 6. The *t*-test (see Table 7) revealed a significant difference between the females and males on student self-efficacy ( $t(150) = -2.24, p = .027, d = .37$ ). The females ( $M = 4.58, SD = 0.60$ ) had significantly higher self-efficacy scores than the males ( $M = 4.35, SD = 0.65$ ). Thus, the researcher rejected null Hypothesis 3.

Table 6

*Mean and Standard Deviations for Research Question 3*

Gender	<i>n</i>	<i>M</i>	<i>SD</i>
Female	78	4.58	0.60
Male	74	4.35	0.65

Table 7

*Test Statistics for Research Question 3*

<i>t</i>	<i>df</i>	<i>Sig.</i>	<i>Mean Difference</i>	<i>SE Difference</i>	<i>95% CI of the Difference</i>	
					<i>Lower Bound</i>	<i>Upper Bound</i>
-2.24	150	.027	-0.23	0.10	-0.43	-0.03

## Summary

The purpose of this study was to determine if there was a relationship between self-efficacy and three separate variables: (a) student achievement, (b) student SES, and (c) gender. The research questions were developed to determine the relationships between students' self-efficacy and the different variables. Eighth grade students from one middle school had the opportunity to participate in the study. There were 156 students who

participated in the study. The data analysis suggested that all three null hypotheses should be rejected. Students who had higher self-efficacy had a significantly higher student achievement, as measured by the ITBS test. Students who were not eligible for free or reduced price lunch had higher self-efficacy. Finally, females had significantly higher self-efficacy than males. In Chapter Five, the restatement of the problem, review of methodology, and a summary of the results are discussed. In Chapter Five, the researcher concludes with the limitations, implications, and recommendations for further research on the topic of self-efficacy and middle school students.

## CHAPTER FIVE: SUMMARY AND DISCUSSION

The purpose of this research study was to examine the data collected from a sample of eighth grade students to determine if there were relationships between student self-efficacy and three separate variables: (a) student achievement, (b) socioeconomic status (SES), and (c) gender. The researcher conducted this study through the theoretical perspective of Bandura's (1977) self-efficacy theory and the lens of a Christian worldview. In Luke 12:6-7 (NASB), it is stated, "Are not five sparrows sold for two pennies? Yet not one of them is forgotten by God. Indeed, the very hairs of your head are all numbered. Don't be afraid; you are worth more than many sparrows." Every human life is valued by God and is worthy of being helped if needed. By the examining ways to improve learning experiences and self-efficacy skills for students, the researcher hopes to further God's mission. In Philippians 2:4, it is stated, "Let each of you look not only to his own interests, but also to the interests of others." It is critical that Christians continue to strive for improvement in themselves and provide assistance to others to create a better life for future generations.

The sample for this study consisted of 152 eighth grade students who attended a rural school in Georgia. Those students who returned a signed consent form from a guardian and then signed an assent form were the participants in the study. The participants were administered a 37 question survey, the Children's Perceived Self-efficacy (CPSE) survey, which was developed by Bandura (1990a) for children ages 13-18. The survey was used to measure student self-efficacy. This chapter is written as an aid to the reader, and the restatement of the problem, the review of the methods, and a summarization of the results are explained. Also in this final dissertation chapter, the

researcher provides a discussion about the findings as well as identification of the limitations to the study. Finally, the implications from the findings are reported, and recommendations for future studies are identified.

### **Restatement of the Problem**

In the extensive review of the literature on self-efficacy, it was found that there are few studies that have been conducted with middle school students. In addition, there are gaps in achievement between lower SES students and those who have a high SES status, gender, and race/ethnicity, among all ages of students (Richard, 2013). Much research has been conducted on the topic of self-efficacy with college age students, primarily because parental consent is not needed because they are 18 years old or older. Middle school age students are in a timeframe where the onset of puberty has begun. Because students' bodies and frames of mind change drastically during these years, it is during this time that "the young adolescent experiences rapid but uneven physical, social, emotional, and cognitive growth" (Kelly, 2010, p. 560). Students make the attempt to become more independent and discover their self-identity; also, many rely on their peers to set the standards (Kelly). Self-efficacy plays an important role in a person's outlook on life whether it applies to: (a) academics, (b) jobs, or (c) sports. Self-efficacy beliefs have a strong influence in an individual's determination of the outcomes of expectations (Pajares, 1997). Self-efficacy is adaptive, and a person can learn how to increase his/her self-efficacy. According to Pastorelli et al. (2001), the three main sources of self-efficacy are the child's: (a) family, (b) peers, and (c) school. Pajares (1997) found that mastery experiences, vicarious experiences, verbal persuasions as well as the physiological states of stress, anxiety, fatigue, and mood provide information about a person's self-efficacy.

This research study was conducted to determine whether there was a relationship between self-efficacy and student achievement. Although in many studies, such as Bong and Skaalvik (2003), Pajares (1996), and Pintrich and Schunk (2002), it has been found that the presence of higher self-efficacy positively correlated with higher student achievement, most of these studies were conducted with young adults, not the middle school aged student. The findings from this current study are a contribution to the growing body of research on self-efficacy and its relationship to the SES of students. In several studies (APA, 2012; Jensen, 2009; Morgan, Farkas, Hillemeier, & Macuzuga, 2009), it was found that people with lower SES have lower self-efficacy. The findings from this study will provide the educational community with current research on the subject of self-efficacy and SES as related to middle school students.

There was a time in the history of the United States, and some might argue that it still occurs, when being a female in school and on the job was and a disadvantage. Some 30 years ago, males represented the majority (58%) of the undergraduate population, and now they are the minority (44%) of those who attend college (Tyre, 2006). In that recent past, the majority of females did not attend college and, consistently, males earned more money than females (Mundy, 2012). However, times have changed, and the sexes are becoming more equal in the workforce and in college enrollment. When one examines self-efficacy in males and females, it is important to remember that through Christian practices, males and females can be equal in their self-efficacy. Role models, which are based on a Christian Worldview, can make a difference in the lives of U.S. youth. In Matthew 7:24 (NASB), it is stated, “Therefore everyone who hears these words of mine and puts them into practice is like a wise man who built his house on the rock.” For that

reason, teachers, who teach with Christianity in mind, will strengthen their students' self-efficacy. One purpose of this study was to determine if there are differences in the self-efficacy of males and females at the middle school age.

### **Review of Methodology**

Correlational and causal comparative research designs were both used to determine if self-efficacy has a significant relationship with: (a) student achievement, (b) student SES, and (c) gender. A total of 152 students from one rural middle school participated in the study. All of the participants were in eighth grade. As of the academic school years of 2012-2013, the school population consisted of: (a) 96% White/non-Hispanic, (b) 2% Hispanic, (c) 1% African American, and (d) 1% Other. Approximately 55% of the students who attended the school received free/reduced price lunches, which was the measure used to determine SES for the purpose of this study. The school received federal Title I funding due to the high percentage of low SES students in the population. Of those who participated in the study, 56% of the participants were eligible for free/reduced price lunch, while 44% of the participants were not eligible for free/reduced price lunches. Approximately one-half of the participants were female (51.3%). The students in the sample matched closely to the collective student population. The following research questions and hypotheses were used to guide the study:

***Research Question 1.*** Is there a relationship between student self-efficacy, as measured by the Children's Perceived Self-Efficacy survey and student achievement as measured by the Iowa Test of Basic Skills?

H<sub>0</sub>: There is no significant relationship with student self-efficacy as measured by the Children's Perceived Self-Efficacy survey and student achievement as measured by the Iowa Test of Basic Skills.

**Research Question 2.** Is there a difference between the SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) groups in regard to student self-efficacy as measured by the Children's Perceived Self-Efficacy survey?

H<sub>0</sub>: There will not be a significant difference between the SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) groups in regard to student self-efficacy as measured by the Children's Perceived Self-Efficacy survey.

**Research Question 3.** Is there a significant difference between females and males on student self-efficacy, as measured by the Children's Perceived Self-Efficacy survey?

H<sub>0</sub>: There will not be a significant difference between females and males on student self-efficacy, as measured by the Children's Perceived Self-Efficacy survey.

### **Summary of Results**

For the first research question, Pearson correlation and a simple linear regression were both performed to address the first hypothesis. The independent variable was student self-efficacy, and the ITBS composite score was the dependent variable. The data were screened for outliers. There were no outliers because no data points were greater than 3 of the |standardized residual|. A residual plot was created to assess for linearity and homoscedasticity, and it indicated a linear model and a model of

homoscedasticity. The regression indicated that student self-efficacy was a significant positive predictor of students' ITBS scores ( $F(1, 143) = 5.13, \beta = 0.19, R^2 = .04, r = .19, p = .025$ ). Students' ITBS scores increased with increasing levels of self-efficacy. The researcher rejected the null hypothesis.

For both Research Questions 2 and 3, an independent samples  $t$ -test (Howell, 2010) was performed to determine if there was a significant difference between the independent variables, student SES status and gender, and the dependent variable, student self-efficacy. The data were screened for outliers for each research question. Histograms were created for each group to assess the normality assumption. For all four histograms, one for male, female, students eligible for free or reduced price lunch, and for students not eligible for free/reduced price lunches, it was found that the students' self-efficacy scores were approximately normally distributed. Levene's test was not significant for either research question, which was an indication that the groups had equal error variances. For Research Question 2, the  $t$ -test revealed significance between students, who were eligible for free/reduced lunch and those who were not eligible for free/reduced price lunch, for student self-efficacy ( $t(150) = 2.38, p = .019, d = .38$ ). Those who were not eligible for free/reduced price lunch ( $M = 4.60, SD = 0.65$ ) had significantly higher self-efficacy scores than the students who were eligible for free/reduced price lunch ( $M = 4.36, SD = 0.61$ ). Thus, the researcher rejected the null Hypothesis 2.

Finally, for Research Question 3, the  $t$ -test revealed a statistically significant difference between females and males on student self-efficacy. The between-subjects independent variable was gender, while the dependent variable was student self-efficacy. The  $t$ -test revealed a significant difference between the females and males for student

self-efficacy ( $t(150) = -2.24, p = .027, d = .37$ ). The females ( $M = 4.58, SD = 0.60$ ) had significantly higher self-efficacy scores than the males ( $M = 4.35, SD = 0.65$ ). The researcher rejected the null Hypothesis 3.

For all three Research Questions for this study, the null hypotheses were rejected. There was a significant difference among the groups. The significance suggested that the presence of higher self-efficacy increases student achievement. Also, this significance suggested that there are differences among gender, and their SES status as these differences relate to their self-efficacy.

## **Discussion**

Self-efficacy is dynamic, and many variables affect the self-efficacy of a person (Pajares, 1996). Bandura (1990a) argued that a general self-efficacy scale is hard to use; his CPSE measures three different types of self-efficacies: (a) Perceived Academic efficacy, (b) Perceived Social efficacy, and (c) Self-Regulatory efficacy. Also, student achievement is a dynamic variable, and many different factors can affect student achievement such as: (a) quality of teachers, (b) the type of test, (c) the mood of the student, (d) family lifestyles, (e) gender, and (f) SES (Pintrich & Schunk, 2002). The purpose for Research Question 1 was to determine if there was a relationship between the two variables of self-efficacy and student achievement at the middle school level. Researchers (Bong & Skaalvik, 2003; Carroll et al., 2009; Pajares, 1996; Pintrich & Schunk, 2002) have found that high self-efficacy is positively linked to higher achievement. Even though in this current study there was an indication that student self-efficacy was a significant positive predictor of students' ITBS scores ( $F(1, 143) = 5.13, \beta = 0.19, R^2 = .04, r = .19, p = .025$ ), the coefficient of determination ( $R^2 = .04$ ) indicated

that only 4% of students' achievement was linked to self-efficacy. There are many other factors involved in student achievement. Also, there is the possibility of reverse causality for Research Question 1. Since it is not known whether the presence of increased achievement causes higher self-efficacy or if higher self-efficacy causes higher achievement, this phenomenon is termed, reverse causation. Reverse causation can be an assumption with comparative research, when no single factor can be identified as the cause (Cohen, Manion, & Morrison, 2000). According Cohen et al., "when a relationship has been discovered, there is a problem of deciding which is the cause and which is the effect; the possibility of reverse causation has to be considered" (p. 208). It could be that, if a student does well in academics and is inherently bright, this could cause the student to *feel good* about his or her self-efficacy. The CPSE (Bandura, 1990a) survey was used to not only measure the students' academic self-efficacy but, also, it was used to measure their: (a) perceived academic efficacy, (b) perceived social efficacy, and (c) self-regulatory efficacy.

For Research Question 2, the researcher wanted to determine if there was a significant difference between the SES (i.e., students eligible for free/reduced price lunch vs. students not eligible for free/reduced price lunch) groups in regard to student self-efficacy as measured by the CPSE survey? The categorical variables, students eligible for free/reduced lunch vs. students not eligible for free/reduced lunch, were the independent variables, while student self-efficacy was the dependent variable. Students, who reported a higher SES (i.e., students not eligible for free/reduced price lunch), had significantly higher self-efficacy scores than the students with lower SES (i.e., students eligible for free/reduced price lunch;  $t(150) = 2.38, p = .019, d = .38$ ). The participants

who were not eligible for free/reduced price lunch ( $M = 4.60$ ,  $SD = 0.65$ ) had a slightly higher self-efficacy mean score than the participants who were eligible for free/reduced price lunch ( $M = 4.36$ ,  $SD = 0.61$ ). Even though the null hypothesis was rejected due to the significance of the mean difference, one must also be aware that the members of both groups scored themselves comparatively high on their self-efficacy. A Likert scale was used, where 1 was the lowest on the self-efficacy scale and 6 was the highest rating on the self-efficacy scale. Both groups scored themselves as 4.60 (i.e., higher SES) and 4.36 (i.e., lower SES); these ratings are comparatively close when they are compared to the Likert scale of 1 to 6. When looking at the means alone, the school district staff should feel proud that the students with lower SES still have a comparative high self-efficacy rating. This leads to the question of different levels of poverty, and how this could affect self-efficacy. For example rural poverty may affect self-efficacy differently than urban poverty. Since this study was conducted in a rural school setting, where the majority of the population (96%) consisted of white/non-Hispanic students, this could affect self-efficacy. Poverty within one particular race might affect student self-efficacy. These factors were not explored in this study. The  $t$ -test did indicate a significant difference, but given the mean scores between the groups, less than half a unit on the CPSE survey, there seems to be very little difference in the mean scores between the groups. They both scored comparative high self-efficacy.

Lastly, Research Question 3 was used to determine if there was a significant difference between females and males on student self-efficacy, as measure by the CPSE survey. At the middle school level, boys are more likely to fail a grade and have discipline problems with the teachers and administration (Tyre, 2006). The  $t$ -test

revealed a significant difference between the females and males for student self-efficacy ( $t(150) = -2.24, p = .027, d = .37$ ). Also, the females ( $M = 4.58, SD = 0.60$ ) had significantly higher self-efficacy scores than the males ( $M = 4.35, SD = 0.65$ ). Thus, the researcher rejected null Hypothesis 3. However, this could be misleading, since the females had a higher mean score of 4.48 in comparison to the males with a mean score of 4.35; the members of both genders scored comparatively high on the self-efficacy scale.

There was only a 0.23 difference between the means for the genders. Even though males are more likely to be placed in special education programs, be held back a grade, and be disciplined in school (Tyre, 2006), apparently, these diverse issues do not affect their self-efficacy, since the males still scored themselves comparative high on the CPSE survey. There is no way of knowing from the population sample how many students were in the special education program, had been help back, or had discipline referrals. In order to equalize the significance level and to improve male self-efficacy, school administrators could try to recruit male role models and develop more programs specifically targeted with the characteristics of the school male in mind.

School administrators should not be concerned about the significant differences in this study and should notice that all groups scored themselves comparatively high, when looking at a Likert scale of a 6 as the highest. There was a positive relationship ( $r = .19$ ) between higher self-efficacy and higher achievement, but once again, the coefficient of determination ( $R^2 = .04$ ) indicated that only 4% of students' achievement was directly linked to self-efficacy. The middle school years are difficult for most students, and students tend to depend more on their peers for direction than family (Tyre, 2006).

According to this current study, the eighth grade participants reported a strong sense of self-efficacy, despite variations among SES and gender.

### **Limitations**

There are several factors that might have influenced the results of this study: (a) the sample of participants used for study, (b) the CPSE (Bandura, 1990a) survey, (c) the use of seventh grade ITBS (Hoover et al., 2006) test scores for students who were currently in the eighth grade, (d) the use of middle school aged students, (e) the measure of participants' SES, and (d) the variable of student achievement. A convenience sample was used for the study. Students from one school, and one grade were asked to participate in the study. The study took place in a non-diverse, rural setting, this could be a limitation due to the idea that not all schools take place in rural non-diverse settings. From the 257 students eligible, 152 (59%) students participated in the study. The eighth grade participants represented the collective whole of the school; the majority (92%) were White/non-Hispanic and a little over one-half (55.9%) were eligible for free/reduced price lunch. Also, there was a normal distribution for the gender portion of the study; 48.7% of the sample were female.

Another limitation to the study may have been the requirement for consent forms, which had to be signed by a guardian since the participants were under the age of 18. Middle school aged students are notorious for their lack of organizational skills and ability to obtain permission signatures (Tyre, 2006). Also, since not all of eighth grade students participated in the study, it could have been that those who did not like school or had low self-efficacy are those who did not return their consent forms. It was not possible to use a random sample due to the nature of the study and the ages of the

participants, although the use of a random sample of eighth grade students might have resulted in a more accurate picture of self-efficacy. One noticeable trend, which this researcher realized, was 100% of one entire advanced science class chose to participate. This could also have affected the overall data analyses of the study.

The CPSE (Bandura, 1990a) survey was designed specifically for youth, aged 13-18. It consists of 37 questions, and participants were asked to circle a number from 1 to 6 on a Likert scale (e.g., 1 = Not at all, 2 = Not too well, 3 = Okay, 4 = Pretty Well, 5 = Very well, 6 = Extremely Well). This was a survey where students rated themselves. There may have been wording that some participants did not understand or did not have the experiences required for them to answer with accurate knowledge. In hindsight, there was one question that should have been updated to current students' experiences. Students scored the low on self-efficacy for the question, "How well can you use the library to get information for class assignments?" The mean self-efficacy rating was 2.99 for this question. Likely, the misunderstanding was based on the fact that currently, most students use the Internet to find information, and they are not accustomed to using books in a library. Additionally, even though the three science teachers were trained on how to give the survey, they were told they could walk around and answer questions the participants might have. There is no way to know if the teachers walked around and helped the students take the survey and clarify any questions and to what extent such help changed the way students answered.

Another limitation to the study was the use of the participants' seventh grade ITBS (Hoover et al., 2006) scores. Due to budget cuts, the school district administrators decided not to use the norm referenced test, ITBS, this year for all three middle school

grades. Therefore, the researcher had to use the eighth grade students' seventh grade test scores. The student achievement had a one-year maturation. It would have been better to have administered the CPSE survey earlier in the school year.

Also, the SES of students was a difficult variable to measure with middle school aged students. The only logical way to measure the SES of students was to determine if the student was eligible for free/reduced price lunch. These data were available in the state database, which the Assistant Principal was able to access for the researcher after the consent forms were submitted. There are many different levels of SES, on a spectrum from wealthy to extremely poor. The findings would have been more specific if there had been a way to divide the students into more specific SES status groups, other than two groups. There is no way to know if the poorest or wealthiest of the student population participated in the study.

Finally, just the act of studying student achievement and self-efficacy could be a limitation. Both of these variables are dynamic and in a state of constant change. Both can be affected by many different factors that occur on a daily basis, such as: (a) family dynamics, (b) teachers, (c) mood swings, and (d) SES.

### **Implications**

The findings from this study will add to the growing body of knowledge about: (a) self-efficacy, (b) student achievement, (c) SES, and (d) gender of the middle school aged student. The key point to this study was that the middle school aged student was the focus of this study. The more teachers and administrators can understand middle school students, the better this population can be reached and taught. These findings add to many studies (Bong & Skaalvik, 2003; Carroll et al., 2009; Pajares, 1996; Pintrich &

Schunk, 2002), which have shown that the presence of higher self-efficacy leads to higher achievement. Specifically, the findings from this current study provide information that self-efficacy is a significant positive predictor of students' ITBS (Hoover et al., 2006) scores. Self-efficacy can change through vicarious experiences, and modeling (Pajares, 1997). Knowing that teachers can help to improve student self-efficacy means that there is a strong possibility that they can improve student achievement.

In the No Child Left Behind Act (2002), it is required that all children succeed in school. It was designed to close the gaps among: (a) SES groups, (b) ethnic groups, and (c) gender. The findings from this study provide insight about the degree of these gaps among SES groups and gender with self-efficacy. It shows that, in a school where over 55% of its population receives free/reduced price lunches; students can still have a comparative high self-efficacy. It was found that both groups had mean averages of 4.60 and 4.36, respectively, on the CPSE (Bandura, 1990a) survey; these averages were comparative high, especially since 6.0 is the highest possible score. These averages show that the school staff are successful, in that the SES status of a student does not negatively affect the placement of students in their classes. Students receive an equal education, and one can assume that this is true because of their close self-efficacy ratings.

At the school where this study was conducted there are several procedures used to keep students' SES status confidential. At some schools, staff have gone to a great extent to make sure others, including teachers and students, do not know the SES of students. For example, at Tomahawk Middle School, the students type in a lunch number to receive their daily lunches. Other students do not know if the student receives a

free/reduced price lunch. The technology is available so that many parents use their debit or credit card to place money into the students' lunch account. Also, the homeroom teachers ask all students to bring back the federal free/ reduced price lunch forms; if the family does not wish to use the services or do not need the services, the guardian signs the paper with the words, "do not need" on the form. Since all students are required to return the free/reduced lunch forms, and all students type in lunch codes, the use of these measures keeps students' SES anonymous. Because of this effort for confidentiality, this practice may improve students' self-efficacy throughout their school years. These kinds of efforts could be applied within other schools, which could help to improve the self-efficacy of students with low SES. In turn, this could improve self-efficacy and lead to higher student achievement.

A topic that has been researched for many years is gender differences, and how these differences affect students' education. Based on the findings from this current study, these eighth grade females had higher self-efficacy than their male counterparts. However, even though the differences were significant, in comparison, the males were behind the females only by a .23 difference. This is an indication that, at this middle school, both genders reported a comparative high self-efficacy. Other issues may affect why middle school males are more likely to have discipline referrals and have failing grades. It may be that both teachers and administrators need to look at why this is a trend for males and, at least, they can rule out self-efficacy as an issue because of this study.

Finally, education laws are constantly changing, and all research studies should be examined to determine what works. Administrators of schools with similar demographics could relate to the findings from this study and use them to guide their

schools in a positive direction. Just because a school is considered a Title I school, one cannot assume that the self-efficacy of those students who attend these schools is low. Teachers, mentors, school climate, and parents, all have an impact on student self-efficacy and students' belief in what they can and cannot achieve.

### **Recommendations for Future Research**

Based on the findings from this study and the associated review of literature, there are several recommendations for further research. One of the first recommendations would be to include the subscales (i.e., the perceived academic efficacy, perceived social efficacy, and self-regulatory efficacy) that were designed with the CPSE (Bandura, 1990a) survey. The results from the subscales might provide more insight on the differences among the groups and the three different types of self-efficacy measured in the CPSE survey. Programs could be designed for a specific school in order to address a specific aspect of self-efficacy, which might need to be increased among a specific group.

A second recommendation for future research would be to conduct a longitudinal study. The study would use the same participants from this study and conduct the same CPSE (Bandura, 1990a) survey within two years, when the participants would be in tenth grade. High school students are “engaging in a number of unhealthful behaviors that impose huge societal costs” (Escobar-Chaves & Anderson, 2008, p. 147); therefore, do teenage youth in high school have higher or lower self-efficacy than they did as a middle school student? The subscales from the CPSE survey could be used to target the different areas of self-efficacy that change over time. If there were not enough of the same participants to participate in a two-year study, the study could be conducted with the

entire tenth grade, since normality was met (i.e., all groups had scores that were approximately normally distributed).

A third recommendation for further research would be to use ethnicity as a variable in the study. Closing the gap among the majority and minority populations is part of the NCLB Act (2002); therefore, this would be another vital aspect that should be conducted with self-efficacy and middle school aged students. It would be interesting to determine in an almost non-diverse school, would those students who are of a minority have a significant lower self-efficacy than their peers? According to Bandura (1993), modeling is a vital source of self-efficacy. If there are only a few, or no minority teachers, does this affect those minority students? For this study, only 11(7%) of the participants were of minority status, and the sample size alone was insufficient to conduct a strong statistical test. Several school populations would have to be used in order to obtain a sufficient minority sample to produce strong statistical findings.

Fourth, another interesting aspect of this study that could be used for further research would be to look at the self-efficacy mean scores between the three different types of science classes (i.e., honors, regular, and inclusion). Does being in a particular type of science class have a relationship with student self-efficacy? The inclusion science classes have up to eight special education students, along with other regular education students, and these classes have either a certified special education teacher or a paraprofessional as well as the regular education teacher. The regular education classes have a mix of all levels of students with only one certified teacher. The honor classes are made up of a majority of gifted students, who have passed state required tests to be identified as gifted, along with a few high achieving students; a certified gifted teacher

teaches them. With the Individuals with Disabilities Education Act (IDEA), special education students are required to be in the least restrictive environment (Taylor, 2010). This means that the majority of special education students are placed in a rather large class with regular education students, and they are provided with the same curriculum as the regular education students. According to Bandura's (1993) self-efficacy theory, it is suggested that modeling is vital, and the presence of modeling can either increase or decrease self-efficacy (Pajares, 1997). Does the placement of students with special needs in an inclusion class affect the overall self-efficacy mean of the class? Would students in Honors' class rate themselves lower or higher on self-efficacy than those in other classes? If this study was conducted the researcher would need to be aware of those students who have an Response To Intervention (RTI) plan; these are students who are have academic issues and may be slated to be tested for special education services (Georgia Department of Education, 2013c). Another way to examine self-efficacy, instead of the types of classes, would be for the researcher to classify each student according to the program of education, as either: (a) special education, (b) RTI, (c) regular education, or (d) gifted. Which of the groups of students have higher self-efficacy or is there a difference among the groups?

Finally, another recommendation for future research would be to find an urban school that has similar demographics and population as the one used in this study. It would be of value to see if there is a significant difference in self-efficacy between students who attend an urban school and students who attend rural schools. Are there different types of poverty based on rural or urban settings?

## **Conclusion**

In this rural middle school setting, this researcher found that self-efficacy is correlated to: (a) student achievement as measured by the ITBS (Hoover et al., 2006; those with higher test scores had higher self-efficacy scores); (b) SES (i.e., those in a higher SES group had higher self-efficacy scores); and (c) gender (i.e., females had slightly higher self-efficacy scores). The results from this study can be used by both teachers and school administrators to help improve self-efficacy for all students. By improving self-efficacy, this will hopefully result in higher academic achievement. Future research in the field will be helpful to further validate the results of this study in middle grade aged students and will give even more insight into more specific ways school staff can help students improve their self-efficacy during these challenging pubertal years. With the increased focus on standardized test scores in this age of accountability in education, it seems as though the personal attributes and feelings of students are neglected in planning for school improvement and student achievement. By keeping self-efficacy an important topic in educational discussions, educators can better serve their students and help them grow in more ways personally, which could in turn lead to academic gains. Due to the results from this study, which showed that self-efficacy is a significant factor in students' achievement, educational stakeholders should reexamine their policies and practices to ensure each and every student's self-efficacy is fostered in the school environment at the optimum point.

## REFERENCES

- Addy, S., & Wight, V. R. (2012). *Basic facts about low-income children, 2010* (National Center for Children Poverty). Retrieved from Columbia University, Mailman School of Public Health at [www.nccp.org/publications/pdf/text\\_1049.pdf](http://www.nccp.org/publications/pdf/text_1049.pdf)
- Achievement Gap. (2011). *Education Week*. Retrieved from <http://www.edweek.org>
- Aikens, N. L., & Barbarin, O. (2008). Socioeconomic differences in reading trajectories: The contribution of family, neighborhood, and school contexts. *Journal of Educational Psychology, 100*(2), 235-251.
- Alarcon, I. (2010). Advanced heritage learners of Spanish: A sociolinguistic profile for pedagogical purposes. *Foreign Language Annals, 43*(2), 269-288.
- Alger, L. (2007). The teachers as the surrogate parent. *ATA magazine, 87*(4), 4-6.
- Allan, W., Eccles, J., Yoon, K. S., Harold, R. D., Arbreton, A. J., Freedman-Doan, C., & Blumenfeld, P. C. (1997). Change in children's competence beliefs and subjective task values across elementary school years: A 3-year study. *Journal of Educational Psychology, 89*(3), 451-469.
- Alspaugh, J. W. (1998). Achievement loss associated with the transition to middle school and high school. *The Journal of Educational Research, 92*(1), 20-25.
- American Psychological Association. (2011). *Education and socioeconomic status*. Retrieved from <http://www.apa.org/pi/ses/resources/publications/index.aspx>
- Amrein, A. L., & Berliner, D. C. (2002). *An analysis of some unintended and negative consequences of high-stakes testing*. Tempe, AZ: Arizona State University, Educational Policy Studies Laboratory.

- Appelbaum, S. H. (1996). Self-efficacy as a mediator of goal setting and performance: Some human resource applications. *Journal of Managerial Psychology, 11*(3), 33-47.
- Au, W. W. (2007). High-stakes testing and curricular control: A qualitative metasynthesis. *Educational Researcher, 36*(5), 258-267.
- Au, W. W. (2008). Devising inequality: A Bernsteinian analysis of high-stake testing and social reproduction in education. *British Journal of Sociology of Education, 29*(6), 639-651.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.
- Bandura, A. (1990a). *Multidimensional scales of perceived self-efficacy* (Unpublished test). Stanford University, Stanford, CA.
- Bandura, A. (1990b). Perceived self-efficacy in the exercise of control over AIDS infection. *Evaluation and Program Planning, 13*(1), 9-17.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*(2), 117-148.
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (pp. 71-81). New York, NY: Academic Press.
- Bandura, A. (2011). On the functional properties of perceived self-efficacy revisited, *Journal of Management, 38*(1), 9-44.
- Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development, 67*(3), 1206-1222.

- Baker, M., & Johnston, P. (2010). The impact of socioeconomic status on high stakes testing reexamined. *Journal of Instructional Psychology*, 37(3), 193-199.
- Best places to live in Dahlonaga*. (2012). Retrieved from <http://www.bestplaces.net>
- Bong, M., & Skaalvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really? *Educational Psychology Reviews*, 15(1), 1-40.
- Borman, G., & Dowling, M. (2010). The equality of equality of educational opportunity data. *Teacher College Record*, 12(5), 1201-1246.
- Buchanan, T., & Selmon, N. (2008). Race and gender differences in self-efficacy: Assessing the role of gender role attitudes and family background. *Sex Roles*, 58, 822-836.
- Buffenbarger, A. (2011). Priority schools: Dayton, team effort. *National Education Association*. Retrieved from <http://www.nea.org>
- Bradley, R. H., & Corwyn, R. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, 53(1), 371-399.
- Brown v. Board of Education, 347 U.S. 483 (1954).
- Brummelen, H. V. (2002). *Steppingstones to curriculum: A biblical path*. Colorado Springs, CO: Purposeful Design.
- Campbell, D. T. (1976). *Assessing the impact of planned social change*. Retrieved from Western Michigan University, Evaluation Center, <http://www.eric.ed.gov/PDFS/ED303512.pdf>
- Campbell, J. R., Harnbo, C. M., & Mazzeo, J. (1999). *Trends in academic progress: Three decades of student performance* (NCES 2000-469). Washington, DC: National Center for Education Statistics (NAEP).

- Carneiro, P., Crawford, C., & Goodman, A. (2007). *Impact of early cognitive and non-cognitive skills on later outcomes*. London, England: London School of Economics of Education.
- Carnevale, A., & Rose, S. J. (2004). Socioeconomic status, race/ethnicity, and selective college admissions. In R. D. Kahlenberg (Ed.), *America's undertapped resource: Low-income students in higher education* (pp. 101-156). New York, NY: The Century Foundation
- Carroll, A., Houghton, S., Wood, R., Unsworth, K., Hattie, J., Bower, J....Gordon, L. (2009). Self-efficacy and academic achievement in Australian high students: The mediating effects of academic aspirations and delinquency. *Journal of Adolescence, 32*(4), 797-817.
- Cauley, K. M., & Jovanovich, D. (2006). Developing an effective transition program for students entering middle school or high school. *The Clearing House, 80*(1), 15-25.
- Chambers, T. V. (2009). The "Reivement Gap:" School tracking policies and the fallacy of the "Achievement Gap." *The Journal of Negro Education, 78*(4), 417-431.
- Choi, N., Fuqua, D. R., & Griffin, B. W. (2001). Exploratory analysis of the structure of scores from the multidimensional scales of perceived self-efficacy. *Educational and Psychological Measurement, 61*(3), 475-489.
- Cohen, L., Manion, L. Morrison, K. (2000). *Research methods in education* (5th ed). London, UK: Routledge.

- Coley, R. J. (2002). *An uneven start: Indicators of inequality in school readiness*. Princeton, NJ: Educational Testing Service.
- Curtin, E. M. (2006). Lessons of effective teaching from middle school ESL students. *Middle School Journal, 37*(3), 38-45.
- Duckworth, A. L., & Seligman, M. E. P. (2006). Self-discipline gives girls the edge: Gender in self-discipline, grades, and achievement test scores. *Journal of Educational Psychology, 98*(1), 198-208.
- Escobar-Chaves, S. E., & Anderson, C. A. (2008). Media and risky behaviors. *The Future of Children, 18*(1), 147-180.
- Elliot, P. (2009, March 11). Obama supports teacher merit pay. *Deseret Morning News*, p. A01.
- Evans, G. W. (2004). The environment of childhood poverty. *American Psychologist, 59*(2), 77-92.
- Evans, G. W., & Rosenbaum, J. (2008). Self-regulation and the income-achievement gap. *Early Childhood Research Quarterly, 23*(4), 504-514.
- Forte, I., Jacquet, F., & Leroy, N. (2011). Self-efficacy, goals, and job search behaviors. *Child Development International, 16*(5), 469-481.
- Franco, M. S. (2010). *Encyclopedia of educational reform and dissent*. Thousand Oaks, CA: Sage.
- Frey, A., Ruchkin, V., Martin, A., & Schwab-Stone, M. (2009). Adolescents in transition: School and family characteristics in the development of violent behaviors entering high school. *Child Psychiatry Human Development, 40*(1), 1-13.

Gall, M., Gall, J., & Borg, W. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson.

Georgia Department of Education. (2012a). *Race to the top*. Retrieved from <http://www.doe.k12.ga.us>

Georgia Department of Education. (2012b). *New student requirements*. Retrieved from <http://www.doe.k12.ga.us>

Georgia Department of Education. (2013a). *Testing and performance*. Retrieved from <http://www.doe.k12.ga.us>

Georgia Department of Education. (2013b). *2011 AYP*. Retrieved from <http://www.archives.doe.k12.ga.us>

Georgia Department of Education. (2013c). *RTI interventions*. Retrieved from <http://www.doe.k12.ga.us>

Hedges, L. V., & Nowell, A. (1998). Black-White test score convergence since 1965. In C. Jencks & M. Phillips (Eds.), *The Black-White test score gap* (pp. 149-181). Washington, DC: Brookings Institute.

Holmes-Lonergan, H. A. (2006). *Encyclopedia of human development* (Vol. 3). Thousand Oaks, CA, Sage.

Hoover, H. D., Dunbar, S. B., Frisbie, D. A., Oberley, K. R., Ordman, V. L., Naylor, R. J., ... Quall, A. L. (2003). *The Iowa tests: Interpretive guide for teachers and counselors*. Itasca, IL: Riverside.

Hoover, H. D., Dunbar, S. B., Frisbie, D. A., Oberley, K. R., Bray, G. B., Naylor, R. J., ... Qualls, A. L. (2006). *The Iowa tests: Measurement you can trust, 2005 norms and score conversions*. Itasca, IL: Riverside.

- Horton, J. O. (2004). Teaching American history: The promise and perils of public education. *The Organization of American Historians Newsletter*, 32(3), 17.
- Howell, D.C. (2010). *Fundamental statistics for the behavioral sciences*. Belmont, CA: Thomson-Wadsworth.
- Hsuch, J., & Yoshikawa, H. (2007). Working nonstandard schedules and variables shifts in low-income families: Associates with parental psychological well-being, family functioning and child well-being. *Developmental Psychology*, 43(3), 620-632.
- Huber, R. A., & Moore, C. J. (2000). Educational reform through high stakes testing - don't go there. *Science Educator*, 9, 7-13.
- Jenks, C., & Phillips, M. (1998). *The Black-White test score gap*. Washington, DC: Brooking Institution.
- Jensen, E. (2009). *Teaching with poverty in mind: What being poor does to kids' brains and what schools can do about it*. Portland, OR: Book News.
- Kelly, M. K. (2010). Middle school. In T. C. Hunt, J. C. Carper, T J. Lasley, & C. Raisch (Eds.), *Encyclopedia of educational reform and dissent* (Vol. 2, pp. 559-562). Thousand Oaks, CA: Sage.
- Kennedy, E. (2010). Narrowing the achievement gap: Motivation, engagement, and self-efficacy matter. *Journal of Education*, 190(3), 1-11.
- Kingsbury, K. (2008). Four-day school weeks. *Time Magazine U.S.* Retrieved from <http://www.time.com>
- Koebler, J. (2011). Educators implicated in Atlanta cheating scandal. *U.S. News*. Retrieved from <http://www.usnews.com>

- Koltko-Rivera, M. E. (2004). The psychology of worldviews. *Review of General Psychology*, 8(1), 3-58.
- Kuhn, J. T., & Holling, H. (2007). Gender, reasoning ability, and scholastic achievement: A multilevel mediation analysis. *Learning and Individual Differences*, 19(2), 229-233.
- Hunt, T. C., Carper, J. C., Lasley, T. J., & Raisch, C. D. (Eds.). (2010). *Encyclopedia of educational reform and dissent*. Thousand Oaks, CA: Sage.
- Langhout, R. D., Drake, P., & Roselli, F. (2009). Classism in the university setting: Examining student antecedents and outcomes. *Journal of Diversity in Higher Education*, 2(3), 166-181.
- Lee, J. (2010, January 19). *Speeding up the race to top* [Web log post]. Retrieved from <http://www.whitehouse.gov/blog/2010/01/19/speeding-race-top>
- Lee, V. E., & Burkam, D. T. (2002). *Inequality at the starting gate: Social background differences in achievement as children begin school*. Washington, DC: Economic Policy Institute.
- Legewie, J., & DiPrete, T. A. (2012). School context and the gender gap in educational achievement. *American Sociological Review*, 77(3), 463-485.
- Levin, H. M., Belfield, C., Muenning, P., & Rouse, C. (2007). *The cost and benefits of an excellent education for all America's children*. New York, NY: Teachers College.
- Lewin, T. (2012). Obama wades into issue of raising drop out age. *New York Times*. Retrieved from <http://www.nytimes.com>
- Lewis, A. C. (2002). Accountability. *The Education Digest*, 67(5), 70-71.
- Lewis, A. C. (2004). Failing NCLB. *The Education Digest*, 69(7), 65-67.

- Lleras, C., & Rangel, C. (2009). Ability grouping practices in elementary school and African American/Hispanic achievement. *American Journal of Education, 115*(2), 279-304.
- Lopez, F. (2011). The nongeneralizability of classroom dynamics as predictors of achievement for Hispanic students in upper elementary grades. *Hispanic Journal of Behavioral Sciences, 33*(3), 350-376.
- Lortie, D. (1975). *Schoolteacher: A sociological study*. Chicago, IL: The University of Chicago.
- Madaus, G. F., & Clarke, M. (2001). The adverse impact of high-stakes testing on minority students: Evidence from one hundred years of test data. In G. Orfield & M.L. Kornhaber (Eds.), *Raising standards or passing barriers? Inequality and high-stakes testing in public education* (pp. 85-106). New York, NY: Century Foundation Press.
- McCabe, P. P. (2003). Enhancing self-efficacy for high-stakes reading tests. *The Reading Teacher, 57*(1), 12-20.
- McCullough, S. R. (2008). Title I. In C. J. Russo (Ed.), *Encyclopedia of education law* (pp. 830-831). Thousand Oaks, CA: Sage.
- McElroy, E. J. (2005). Supporting English language learners. *TeachingK-8, (36)*3, 8.
- Meece, J. L, Glienke, B. B., & Burg, S. (2006). Gender and motivation. *Journal of School Psychology, 44*(5), 351-373.
- Merriam-Webster Online Dictionary*. (n.d.). Achievement. Retrieved from <http://www.m-w.com/dictionary/achievement>

- Miller, P. (2002). *Theories of developmental psychology* (4th ed.). New York, NY: Worth.
- Montgomery, B. (2012). One middle school's journey. *Perspectives on Language and Literacy*, 38(2), 37-40.
- Morgan, P. L., Farkas, G., Hillemeier, M. M., & Maczuga, S. (2009). Risk factors for learning-related behavior problems at 24 months of age: Population-based estimates. *Journal of Abnormal Child Psychology*, 37(3), 401-414.
- Mundy, L. (2012). The richer sex. *Time*, 179(12), 28-34.
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 38(1), 30-38.
- National Center for Children in Poverty. (2012). *Child poverty*. Retrieved from <http://www.nccp.org/topics/childpoverty.html>
- National Center for Education Statistics. (2004). *Trends in educational equity of girls and women*. Washington, DC: U.S. Department of Education.
- National Center for Education Statistics. (2008). *Percentage of high school dropouts among persons 16 through 24 years old (status dropout rate), by income level, and percentage distribution of status dropouts, by labor force status and educational attainment: 1970 through 2007*. Retrieved from [http://nces.ed.gov/programs/digest/d08/tables/dt08\\_110.asp](http://nces.ed.gov/programs/digest/d08/tables/dt08_110.asp)
- National Center for Education Statistics. (2011). *Employment-related characteristics*. Retrieved from [http://nces.ed.gov/pubs2012/2012026/chapter3\\_31.asp](http://nces.ed.gov/pubs2012/2012026/chapter3_31.asp)

- Nicholas, S. L., & Berlinger, D. C. (2007). *Collateral damage: How high-stakes testing corrupts America's schools*. Cambridge, MA: Harvard Education Press.
- No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, (2002).
- Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research, 66*(4), 543-578.
- Pajares, F. (1997). Current directions in self-efficacy research. In M. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (pp. 1-49). Greenwich, CT: JAI.
- Pajares, F. (2002). Gender and perceived self-efficacy in self-regulated learning. *Theory of Practice, 41*(2), 116-125.
- Palardy, G. J. (2008). Differential schools effects among low, middle, and high social class composition schools: A multiple group, multilevel latent growth curve analysis. *School Effectiveness and School Improvement, 19*(1), 21-49.
- Pastorelli, C., Caprara, G., Barbaranelli, C., Rola, J., Rozsa, S., & Bandura, A. (2001). The structure of children's perceived self-efficacy: A cross-national study. *European Journal of Psychological Assessment, 17*(2), 87-97.
- Perkins, R., Kleiner, B., Roey, S., & Brown, J. (2004). *The high school transcript study: A decade of change in curricula and achievement, 1990-2000* (Report No. 2004455). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education. Theory, research, and application* (2nd ed.). San Diego, CA: Merrill Prentice Hall.
- Plessy v. Ferguson, 163 U.S. 537 (1896).

- Polinsky, M., & Kagan, O. (2007). Heritage languages: In the “wild” and in the classroom. *Language and Linguistics Compass*, 1(5), 368–395.
- Pomerantz, E. M., Altermatt, E. R., & Saxon, J. L. (2002). Making the grade but feeling distressed: Gender differences in academic performance and internal distress. *Journal of Educational Psychology*, 94(2), 396-404.
- Provenzo, E. (2010). Merit pay. In T. C. Hunt, J. C. Carper, T. J. Lasley, & C. D. Raisch (Eds.), *Encyclopedia of education reform and dissent* (pp. 556-558). New York, NY: Sage.
- Ramirez, A. (2011). Merit pay misfires. *Educational Leadership*, 68(4), 55-58.
- Richard, M. H. (2013). Rethinking achievement gap talk in urban education. *Urban Education*, 48(1), 3-8.
- Redd, Z., Karver, T. S., Murphey, D., Moore, K. A., & Knewstub, D. (2011). Two generations in poverty: Status and trends among parents and children in the United States, 2000-2010. *Child Trends* (Publication # 2011-25, 1-17).
- Reems, R., Ryan, S., & Espinoza, J. (2011). Reframing the ecology of ‘the achievement gap:’ Why ‘no excuses’ reforms have failed to narrow student differences in educational outcomes. In T. Timar & J. Maxwell-Jolly (Eds.), *Connecting the dots and closing the achievement gap* (pp 1-45). Cambridge, MA: Harvard Education Press.
- Rosen, J. A., Glennie, E. J., Dalton B. W., Lennon, J. M., & Bozick, R. N. (2010). *Noncognitive skills in the classroom: New perspectives on educational research* (RTI Press Publication No. BK-0004-1009). Research Triangle Park, NC: RTI International. Retrieved from <http://www.rti.org/rtipress>

- Santau, A. O., Maerten-Rivera, J. L., & Huggins, A. C. (2011). Science achievement of English language learners in urban elementary schools: Fourth-grade student achievement results from professional development intervention. *Science Education, 95*(5), 771-793.
- Sainz, A. (2012). *Three low-performing Memphis schools being taken over*. Retrieved from <http://www.ctpost.com>
- Samuels, C. A. (2011). Cheating scandals intensify focus on test pressures. *Education Week, 30*(37), 1.
- Sarrio, J. (2012). New lineup of APS principals after scandal. *The Atlanta Journal-Constitution*. Retrieved from <http://www.ajc.com>
- Saudino, K. (2005). Behavioral genetics and child temperament. *Journal of Developmental and Behavioral Pediatrics, 26*(3), 214-223.
- Schunk, D. H., & Meece, J. L. (2005). Self-efficacy beliefs of adolescents. In F. Pajores & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 71-96). Retrieved from [http://www.rti.org/pubs/rtipress/rosen/Chapter5\\_Self-Efficacy.pdf](http://www.rti.org/pubs/rtipress/rosen/Chapter5_Self-Efficacy.pdf)
- Shiu, A., Kettler, T., & Johnson, S. K. (2009). Social effects of Hispanic students enrolled in an AP class in middle school. *Journal of Advanced Academics, 21*(1), 58-82.
- Siegle, D., & McCoach, D. B. (2007). Increasing student self-efficacy through teacher training. *Journal of Advanced Academics, 18*(2), 278-312.
- Stevens, J. P. (2002). *Applied multivariate statistics for the social sciences* (4th ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

- Stewart, J. (2011). Race to the top means merit pay for teachers. *Georgia Public Broadcast News*. Retrieved from <http://www.gpb.org>
- Taylor, K. R. (2010). Inclusion and the law. *Principal Leadership*, 11(2), 8-10.
- Taliaferro, J. D., & DeCuir-Gunby, J. T. (2008). African American educators' perspectives on advanced placement opportunity gap. *The Urban Review*, 40(2), 164-185.
- Toppo, G. (2008, April 22). Nation at Risk: The best thing or the worst thing for education? *USA Today*, Retrieved from <http://usatoday.com>
- Tyre, P. (2006, January 30). The trouble with boys. *Newsweek*, pp. 1-6. Retrieved from <http://www.thedailybeast.com/newsweek/2006/01/29/the-trouble-with-boys.html>
- U.S. Bureau of Labor. (2010). *Household data annual averages: Employed persons by detail occupation, sex, race, and Hispanic or Latino ethnicity*. Retrieved from <http://www.bls.gov/cps/cpsaat11.pdf>
- U.S. Census Bureau. (2010). *Table C2. Household relationships and living arrangements of children under 18 years, by age and sex 2010*. Retrieved from <http://www.census.gov/population/www/socdemo/hh-fam/cps2010html>
- U.S. Department of Education. (2009). *President Obama, U.S. Secretary of Education Duncan announce national competition to advance school reform*. Retrieved from <http://www2.ed.gov/news/pressreleases/2009/07/07242009.html>
- U.S. Department of Education, National Center for Education Statistics. (2011). *The condition of education 2011*. Retrieved from <http://nces.ed.gov/fastfacts/display.asp?id=16>

U.S. Department of Health & Human Services: Administration for Children & Families.

(2011). *Office of Head Start*. Retrieved from <http://www.acf.hhs.gov/programs/ohs/>

Usher, L. U., & Pajares, F. (2006). Sources of academic and self-regulatory efficacy beliefs of entering middle school students. *Contemporary Educational Psychology, 31*(2), 125-141.

Valdes, G. (2000). *Spanish for native speakers: Vol. 1* (AATSP Professional Development Series Handbook for Teachers K-16). New York, NY: Harcourt College.

Wan, G. (2010). Achievement gap. In T. Hunt, J. Carper, T. Lasley, & C. Raisch (Eds.), *Encyclopedia of educational reform and dissent* (pp. 19- 21). Thousand Oaks, CA: Sage.

Washington, J. (2009, July 22). Defending dads' role: Fathers seen as vital to lives of children. *Washington Times*, p. A13

Watson, S. (2012). *How public schools work*. Retrieved from <http://howstuffworks.com/public-schools1.htm>

White, E. E. (1886). *The elements of pedagogy: A manual for teachers, normal schools, normal institutes, teachers' reading circles, and all persons interested in school education*. Cincinnati, OH: Bragg & Co.

The White House, Office of the Press Secretary. (2012). *Education*. Retrieved from <http://www.whitehouse.gov/issues/education>

Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology, 25*(1), 68-81.

- Wigfield, A., Eccles, J. S., Yoon, K. S., & Harold, R. D. (1997). Change in children's competence beliefs and subjective task value across the elementary school years: A 3-year study. *Journal of Educational Psychology, 89*(3), 451-469.
- William, D. (2010). Standardized testing and school accountability. *Educational Psychologist, 45*(2), 107-122.
- Winters, J. V. (2009). Variation in teacher salaries in Georgia: Does the property base matter? *Journal of Education Finance, 35*(2), 157-171.
- Yancey, A. (2008). Role models. In W. A. Darity (Ed.), *International encyclopedia of the social sciences* (pp. 273-275). Detroit, MI: Macmillian.
- Yancey, G. B. (2010). Self-efficacy. In N. A. Piotrowski (Ed.), *Salem health: Psychology and mental health* (pp. 1712-1715). Pasadena, CA: Salem Press.
- Yen, H. (2009). Hispanics one-fifth of K-12 students. *USA Today*. Retrieved from <http://www.usatoday.com>
- Yeung, W. J. & Conley, D. (2008). Black-White achievement gap and family wealth. *Child Development, 79*(2), 303-324.

## Appendix A: Dr. Bandura Approval E-mail

Approval e-mail from Dr. Albert Bandura to use the *CPSE* survey.  
From: "Albert Bandura" <bandura@psych.stanford.edu>  
To: "Cas Alldred" <xxxxxxxxxxxxxxxxxx>  
Sent: Monday, July 16, 2012 7:17:50 PM

Subject: RE: Children's Perceived Self-Efficacy Survey...permission to use?  
Permission granted.  
Albert Bandura

-----Original Message-----

From:  
Sent: Monday, June 25, 2012 3:10 PM  
To: albertob@stanford.edu  
Subject: Children's Perceived Self-Efficacy Survey...permission to use?  
Dr. Bandura,

I am hoping that this e-mail makes it across the United States and that you receive it. I am a student working on my dissertation. The topic that I am researching is self-efficacy and middle school students. I am hoping to conduct a correlational study with eighth grade students (316), using their self-efficacy scores, and seeing if there is a correlation among the self-efficacy scores and gender, achievement, and socioeconomic status. Here are my three research questions:

This study will use eighth grade middle school boys and girls from one public school in the North Georgia Mountains. Students' self-efficacy scores will be used to correlate the variables. The following research questions were generated:

1. Is there a relationship with eighth grade students' self-efficacy scores and achievement as measured by the Iowa Test of Basic Skills?
2. Is there a relationship between eighth grade students' self-efficacy scores and socioeconomic status as measured as to whether the student receives free or reduced lunches?
3. Is there a relationship between eighth grade students' self-efficacy scores and gender?

I write to you in hopes of having permission to use the 37 question survey that was presented in your paper, "The Structure of Children's Perceived Self-Efficacy: A Cross-National Study" presented in 2001. Please respond to my e-mail with further instructions if I need them to use the survey.

Thank you,  
Casandra C. Alldred  
Liberty University  
Virginia

**Appendix B: The Children’s Perceived Self-Efficacy scale: (Bandura, 1990a)**

ID Number: \_\_\_\_\_ Date: \_\_\_\_\_

Please circle one: Male    Female

Please indicate the degree to which you agree or disagree with each statement below by circling the appropriate number to the right of the statement.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>Not at all</b>	<b>Not too well</b>	<b>Okay</b>	<b>Pretty well</b>	<b>Very well</b>	<b>Extremely well</b>

**How well can you...**

1	learn math?	1	2	3	4	5	6
2	learn social studies?	1	2	3	4	5	6
3	learn science?	1	2	3	4	5	6
4	learn literature	1	2	3	4	5	6
5	learn grammar?	1	2	3	4	5	6
6	learn geography?	1	2	3	4	5	6
7	learn foreign languages?	1	2	3	4	5	6
8	finish homework assignments by deadlines?	1	2	3	4	5	6
9	study when there are other interesting things to do?	1	2	3	4	5	6
10	concentrate on school subjects?	1	2	3	4	5	6
11	take class notes of class instruction?	1	2	3	4	5	6
12	use the library to get information for class assignments?	1	2	3	4	5	6
13	organize your school work?	1	2	3	4	5	6
14	plan your school work?	1	2	3	4	5	6
15	remember information presented in class and textbooks?	1	2	3	4	5	6
16	arrange a place to study without distractions?	1	2	3	4	5	6
17	motivate yourself to do school work?	1	2	3	4	5	6
18	participate in class discussions?	1	2	3	4	5	6
19	learn sport skills?	1	2	3	4	5	6
20	learn regular physical education activities?	1	2	3	4	5	6
21	learn the skills needed for team sports (for example, basketball, volleyball, football, soccer, swimming)?	1	2	3	4	5	6
22	resist peer pressure to do things in school that can get you into trouble?	1	2	3	4	5	6
23	stop yourself from skipping school when you	1	2	3	4	5	6

	feel bored or upset?						
24	resist peer pressure to smoke cigarettes?	1	2	3	4	5	6
25	resist peer pressure to drink beer, wine or liquor?	1	2	3	4	5	6
26	stand firm to someone who is asking to do something unreasonable or inconvenient?	1	2	3	4	5	6
27	live up to what your <b>parents</b> expect of you?	1	2	3	4	5	6
28	live up to what your <b>teachers</b> expect of you?	1	2	3	4	5	6
29	live up to what your <b>peers</b> expect of you?	1	2	3	4	5	6
30	live up to what <b>you</b> expect of yourself?	1	2	3	4	5	6
31	make and keep female friends?	1	2	3	4	5	6
32	make and keep male friends?	1	2	3	4	5	6
33	carry on conversations with others?	1	2	3	4	5	6
34	work in a group?	1	2	3	4	5	6
35	express your opinions when other classmates disagree with you?	1	2	3	4	5	6
36	stand up for yourself when you feel you are being treated unfairly?	1	2	3	4	5	6
37	deal with situations where others are annoying you or hurting your feelings?	1	2	3	4	5	6

## Appendix C: IRB Approval letter

January 10, 2013  
Casandra C. Alldred

Description: <http://www.liberty.edu/media/1616/40themail/wordmark-for-email.jpg>  
IRB Exemption 1498.011013: A Study of Eighth Graders' Self-Efficacy as it Relates to Achievement, Gender, and Socioeconomic Status

Dear Casandra,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and that no further IRB oversight is required.

Your study falls under exemption category 46.101 (b) (2, 4), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:

(i) 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.

(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.

Please note that this exemption only applies to your current research application, and that any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption, or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at [irb@liberty.edu](mailto:irb@liberty.edu).

Sincerely,  
Fernando Garzon, Psy.D.  
Professor, IRB Chair

Counseling  
(434) 592-4054  
Liberty University | Training Champions for Christ since 1971

## **Appendix D: Script Read to the Students**

Most of you know Mrs. Alldred as a science teacher who teaches seventh grade science. She is currently in college at Liberty University and is working on completing her Doctorate degree. She is asking that you help her complete her degree by participating in her study.

She is researching self-efficacy; this is how you believe that you can accomplish a certain task. Your self-efficacy may change depending on the task at hand. For example you may think you are good at math, but not good at sports. If you choose to participate in the study, you will be asked to complete a 37-question survey. With each question you will circle a number that corresponds to your opinion or belief. The survey should not take longer than 20 minutes.

Once you complete the survey, those scores will be compared to several variables, those are: your achievement. She will use your seventh grade ITBS scores. She will also use your gender to compare your self-efficacy scores with. Finally, she will use your lunch status to be compared with your self-efficacy scores. At no time will she know your names and your individual data. You will use your Georgia Testing Identification (GTI) number or your survey; this number will allow her to connect your survey to your other data without her knowing your name. This keeps her unbiased and all data confidential. She does not know what to expect when comparing these different variables and that is why this study is being conducted.

The results from the study could lead to more clubs, groups, or themes to be interwoven in the daily activities of middle school students. If you wish to participate all data will remain confidential. At no time will I or any other teacher know your name in

the study and your data. If you choose not to participate you will not be penalized in any way.

Please take home the consent letter to your guardian. Since you are under the age of 18, you must have guardian permission to participate. Your decision to participate is totally voluntary. You will not be evaluated negatively or positively according to your decision to participate or not in this study. Thank you so much for your time.

## Appendix E: Parent Cover Sheet Letter

Dear Parents/Guardians,

Your son/daughter is being asked to participate in a study; all eighth grade students at the school are invited to participate. I am a doctoral student at Liberty University. Part of the program is for me to complete a dissertation. The dissertation process requires action research. I am conducting a study to see if there is a relationship among students' self-efficacy and their achievement, gender, and socioeconomic status. Self-efficacy is the belief that you can accomplish a particular task.

Students will be asked to complete a 37-question self-efficacy survey. The survey was created for teenagers. The survey should take no more than 20 minutes to complete. The survey and all data will remain confidential. No data will be connected to the names of students. Through this study, I feel confident that the results from the research will be both beneficial to the administrators and the teachers of the school and other schools with similar demographics.

Attached to this letter is a more detail explanation of the study. If you have any questions you may e-mail them to me at xxxxxxxxxxxxxxxxxxxx.

If you are willing to help me in my study and allow your son or daughter to participate in the study, I will greatly appreciate it. Please sign the attached paper and have your child return the letter to his or her science teacher. Thank you for assisting in me in my endeavors and allowing your son/daughter to complete the survey.

Sincerely,  
Casandra Alldred

## **Appendix F: Consent Form for the Guardian**

### **Consent Form**

A Study of Eighth Grade Students' Self-Efficacy as it Relates to  
Achievement, Gender, and Socioeconomic Status

Casandra C. Alldred  
Liberty University  
School of Education

#### **Introduction:**

Your child is invited to participate in a research study investigating self-efficacy. Self-efficacy is the belief that you can accomplish a certain task. For example a student may feel that he/she can do well in math but not at playing a sport. This study is being conducted by Casandra Alldred, a graduate student at Liberty University under the supervision of Dr. Mark Angle, a faculty member in the Department of Education. Eighth grade students were selected as possible participants in this research because there is not a lot of research with the middle-school-aged student. These are the years that students are trying to find their independence, and they are very malleable. Please read this form and ask questions before you agree for your son or daughter to be in the study.

This study is being conducted by Casandra C. Alldred, School of Education, Liberty University.

#### **Background Information:**

The purpose of this study is to discover if self-efficacy is related to academic achievement. The study also hopes to discover if gender affects self-efficacy and if the students' self-efficacy is affected by the student's socioeconomic status. Approximately 300 eighth-grade students are expected to participate in this research.

#### **Procedures:**

If you decide to allow your son/daughter to participate, the student will be asked to complete the Children's Perceived Self-Efficacy survey by simply checking a number that correlates with how that student feels about the question. There are 37 questions in the Children's Perceived Self-efficacy survey. The survey will be completed during the student's science class. The survey will take no longer than 20 minutes to complete. Students may ask the teacher questions at any time during the study. Students' seventh-grade Iowa Test of Basic Skills (ITBS) scores will be used to measure achievement. Students' free or reduced price lunch eligibility will be used to measure socioeconomic status. All the data will be confidential. Students do not have to know their socioeconomic status or their ITBS scores; this data is archival but the assistant principal will link the scores to the survey. At no time, will the researcher be able to identify the student with scores from the survey, ITBS, and socioeconomic status. Students will use their Georgia testing identification number when they complete the survey.

#### **Risks and Benefits of being in the study:**

The risks associated with participating in this study are minimal and are no more than your child would encounter in everyday life. The only perceived risk to the participant might be if a survey question triggered the participant to remember a negative experience with a teacher or subject area that resulted in some anxiety.

There are no direct benefits for your child for participating in this research other than the satisfaction of knowing that they have contributed to further research in the field. The benefits are that educators will learn more about the middle school student and what are some areas that self-efficacy might be affected by. More studies should be conducted with the middle school students. Students during this time are in transition and educators need to learn more about the middle school student.

**Compensation**

Students will be given a piece of candy for bringing in their consent forms promptly.

**Confidentiality:**

Any information obtained in connection with this research study that can be identified with the student will be kept confidential. The researcher will not know any names identified with any of the data collected for the study. The researcher will not be given student names but only their Georgia Testing Identification (GTID) number. In any written reports or publications, no one will be identified or identifiable and only group data will be presented. Only the raw data will be used in the created of a dissertation. The end results of the dissertation will be available upon request.

I will keep the research results in a locked file cabinet in at my house and only I and my advisor will have access to the records while I work on this project. After three years all data will be destroyed either by shredding of documentation or deletion of files.

**Voluntary nature of the study:**

Participation in this research study is voluntary. Your decision as to whether or not your child may participate will not affect your child's future relations with Casandra Alldred, Tomahawk Middle School, or Liberty University in any way. If your child decides to participate, he/she is free to stop at any time without affecting these relationships.

**Contacts and questions:**

If you have any questions, please feel free to contact me, Casandra Alldred, at xxxxxxxxxxxxxxxx. You may ask questions now, or if you have any additional questions later, I will be happy to answer them. If you would like to see the 37-question survey, I will be happy to e-mail it to you upon request. If you have other questions or concerns regarding the study and would like to talk to someone other than the researcher, you may also contact Dr. Mark Angle, academic advisor for Casandra Alldred at maangle2@liberty.edu

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional

Review Board, Dr. Fernando Garzon, Chair, 1971 University Blvd, Suite 1582,  
Lynchburg, VA 24515 or email at [fgarzon@liberty.edu](mailto:fgarzon@liberty.edu).

**Approval:**

Tomahawk Middle School Principal and Liberty's University's Institutional Review Board committee have approved this study.

You may keep a copy of this form for your records.

**Statement of Consent:**

You are making a decision whether or not your child may participate. Your signature indicates that you have read this information and your questions have been answered. Even after signing this form, please know that you may withdraw your child from the study at any time. The student also has the option to withdraw from the study at any time.

---

I consent to allow my child to participate in the study.

---

Signature of Parent/Guardian

Date

---

Print Parent/Guardian Name

---

Print Student Name

---

Signature of Researcher

Date

**IRB Code Numbers: 1498**

**IRB Expiration Date: 1-11-14**

## Appendix G: Assent Form for the Participant

### A STUDY OF EIGHTH GRADE STUDENTS' SELF-EFFICACY AS IT RELATES TO ACHIEVEMENT, GENDER, AND SOCIOECONOMIC STATUS

#### Assent Form

My name is Casandra Alldred. I am trying to learn about self-efficacy, this is the student's belief that he/she can accomplish a particular task. Middle-school age is when students are trying to become more independent. If I can learn more about how self-efficacy plays a role in the middle-school student's life, then maybe educators can learn how to make the greatest positive impact on the students' lives. If you would like, you can be in my study.

If you decide you want to be in my study, you will complete a 37-question survey. You will only have to check off a number that completes the survey questions.

There are no risks in participating in the study. You will not be penalized in any way by deciding not to participate. The benefits are that your opinions and answers matter, they will help represent middle school age students. Programs could be created just for the middle-school student because of your responses.

Other people will not know if you are in my study. I will put things I learn about you together with things I learn about other teens, so no one can tell what things came from you. When I tell other people about my research, I will not use your name, so no one can tell whom I am talking about.

Your parents or guardian have to say it's OK for you to be in the study. After they decide, you get to choose if you want to do it too. If you don't want to be in the study, no one will be mad at you. If you want to be in the study now and change your mind later, that's OK. You can stop at any time.

My e-mail address is xxxxxxxxxxxxxxxx. You can contact me if you have questions about the study or if you decide you don't want to be in the study any more.

I will give you a copy of this form in case you want to ask questions later.

#### Agreement

I have decided to be in the study even though I know that I don't have to do it. Casandra Alldred has answered all my questions.

\_\_\_\_\_  
Signature of Study Participant

\_\_\_\_\_  
Date

Signature of Researcher

Date



### Appendix I: Descriptive Statistics for Individual Self-Efficacy Items

Self-Efficacy Item	<i>n</i>	<i>Min.</i>	<i>Max.</i>	<i>M</i>	<i>SD</i>
<b>How well can you...</b>					
learn math?	152	1.00	6.00	4.34	1.20
learn social studies?	152	1.00	6.00	4.16	1.23
learn science?	152	1.00	6.00	4.65	1.08
learn literature	152	1.00	6.00	4.09	1.24
learn grammar?	152	2.00	6.00	4.26	1.31
learn geography?	152	1.00	6.00	4.28	1.23
learn foreign languages?	152	1.00	6.00	3.39	1.46
finish homework assignments by deadlines?	152	1.00	6.00	4.50	1.41
study when there are other interesting things to do?	152	1.00	6.00	2.82	1.43
concentrate on school subjects?	152	1.00	6.00	4.05	1.21
take class notes of class instruction?	152	1.00	6.00	4.10	1.45
use the library to get information for class assignments?	152	1.00	6.00	2.99	1.61
organize your school work?	152	1.00	6.00	3.82	1.46
plan your school work?	152	1.00	6.00	3.59	1.42
remember information presented in class and textbooks?	152	1.00	6.00	3.99	1.29
arrange a place to study without distractions?	152	1.00	6.00	3.72	1.55

motivate yourself to do school work?	152	1.00	6.00	3.86	1.40
participate in class discussions?	152	1.00	6.00	4.13	1.44
learn sport skills?	152	1.00	6.00	4.78	1.38
learn regular physical education activities?	152	1.00	6.00	4.91	1.26
learn the skills needed for team sports (for example, basketball, volleyball, football, soccer, swimming)?	152	1.00	6.00	4.95	1.39
resist peer pressure to do things in school that can get you into trouble?	152	1.00	6.00	4.69	1.32
stop yourself from skipping school when you feel bored or upset?	152	1.00	6.00	5.16	1.38
resist peer pressure to smoke cigarettes?	152	1.00	6.00	5.47	1.28
resist peer pressure to drink beer, wine or liquor?	152	1.00	6.00	5.35	1.29
stand firm to someone who is asking to do something unreasonable or inconvenient?	152	1.00	6.00	5.06	1.32
live up to what your <b>parents</b> expect of you?	152	1.00	6.00	4.81	1.23
live up to what your <b>teachers</b> expect of you?	152	1.00	6.00	4.54	1.29
live up to what your <b>peers</b> expect of you?	152	1.00	6.00	4.59	1.38
live up to what <b>you</b> expect of yourself?	152	1.00	6.00	4.84	1.44
make and keep female friends?	152	1.00	6.00	5.03	1.15
make and keep male friends?	152	1.00	6.00	5.21	1.01
carry on conversations with others?	152	2.00	6.00	5.06	1.08
work in a group?	152	1.00	6.00	5.01	1.18
express your opinions when other classmates disagree with you?	152	1.00	6.00	4.83	1.22
stand up for yourself when you feel you are being treated unfairly?	152	1.00	6.00	5.27	1.15
deal with situations where others are annoying you or hurting your feelings?	152	1.00	6.00	5.01	1.23

*Note. 1 = Not at all, 2 = Not too well, 3 = Okay, 4 = Pretty Well, 5 = Very well, 6 = Extremely Well*