

**Sample Dissertation: Empirical Research**

An Investigation of the Ethnic and Gender Differences in Self-Efficacy and its  
Relationship to College-Going Self-Efficacy at a Northern Colorado Charter School.

by

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Abstract of Dissertation  
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For many decades, policy makers have struggled in closing the academic achievement gap present in schools across America. Female and ethnic minority students tend to achieve lower scores on standardized tests despite schools' efforts. These groups of students also tend to attend and earn degrees at lower rates. Previous research has shown that there are differences in self-efficacy beliefs of these groups of students, which could contribute to differences in academic achievement and attainment.

The study used an empirical research method approach to investigate self-efficacy scores of students based on ethnicity and gender as well as the relationship between self-efficacy and college-going self-efficacy. In this study, 89 subjects from a charter middle school responded to three demographic questions and two research instruments: Bandura's Children's Self-Efficacy Scale, a questionnaire used to measure students' confidence on school-related tasks, and the College-Going Self-Efficacy Survey, a questionnaire used to measure students' confidence on college-related tasks.

The results of the one-way ANOVA test used to determine ethnic differences in self-efficacy suggest that significant differences exist in the self-efficacy scores between Hispanics and Non-Hispanic whites. Results from a *t*-test, also showed non-significant differences between the self-efficacy scores of females and males. However, a Pearson Correlation revealed a positive correlation between self-efficacy and college-going self-efficacy.

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## ACKNOWLEDGEMENTS

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## CHAPTER ONE

### Introduction

#### **Background of the Problem**

In the United States, citizens are blessed that all children have the right to receive equal access to education (National Education Association, 2015; United States, 1965). However, despite educational initiatives at the federal, state, and local levels and even though students should have an equal opportunity to education regardless of their gender or ethnic background, in reality, they do not (National Center for Educational Statistics, 2012; National Education Association, 2015). The disparities in academic performance by males and females as well as members from different ethnic groups are demonstrated in the National Assessment of Educational Progress (NAEP) which is a national continuing assessment of what America's students know and can do in various subject areas (National Center for Educational Statistics, 2012). Students who are female or non-Caucasian score below their fellow classmates across various academic content areas. According to the NAEP report (2015), students from ethnic groups other than Caucasian scored lower in science and math, with males scoring higher than females. While the trends in NAEP show that some of the gaps have narrowed over the last decades, a report by McKinsey and Company (2009) describes how the education achievement gap imposes a permanent economic recession on the United States as well as "lower earnings, poor health, and higher rates of incarceration" (McKinsey & Company, 2009, p. 5).

In the 2000 census, 30.8% of the United States population reported their race and ethnicity as something other than non-Hispanic white. This percentage rose to 36.2% in 2010, with the Hispanic population experiencing the largest growth at 43%, rising from

35.3 to 50.5 million in a decade (U.S. Census Bureau, 2011). The increase in the non-Caucasian population continues with the Hispanic, Asian, Native Hawaiian, American Indian, and African-American population growing anywhere from 1.2 to 3.0% between July 1, 2015 and July 1, 2016. A report on the Educational Attainment in the United States by Ryan and Bauman (2016) reported a higher number of foreign-born adults with less than a high school education at 28%, compared to 8% of native adults.

In terms of gender equity in education, the Women in the United States Profile Report of 2000 (Spraggins, 2000) suggested that women have closed the education gap across ethnic groups. In 2016, women held a lower level of education; more non-Hispanic white, Hispanic, and African-American women held a high school diploma as their highest level of education when compared to their counterparts (U.S. Census Bureau, 2016). However, women continue to take on traditional career occupations such as administrative support and service with a reported 79.3% of these employees being females.

The National Center for Education Statistics (2017) reported that schools continue to experience an increase in enrollment by non-Hispanic, white, ethnic students. Just over the last two decades, the enrollment of Hispanic students has doubled with growth in Hispanic student enrollment at all grade levels (U.S. Census Bureau, 2017). As of 2016, more males than females enrolled in high school, with a higher number of males enrolled across K-12 (U.S. Census Bureau, 2016). The National Education Association (2015) explained that closing the achievement gap among these groups is important to society, the economy, and is also a moral issue because students are entitled access to an equal education.

## **The Importance of Gaps in Academic Achievement and Educational Attainment**

In order to better understand the academic achievement and educational attainment gaps described in the previous section, research should investigate contributing factors that differ between students that belong to a minority group and those who do not. Over the course of time, educational social theorists have increasingly focused on investigating factors believed to account for and explain the existing differences in academic achievement among students of certain demographic subgroups (Pishghadam & Zabihi, 2011). Non-Hispanic white males have been known to have academic advantages over other demographic subgroups (Fram, Miller-Cribbs, & Van Horn, 2007). Recent evidence reaffirmed that white students academically outperform African-American and Hispanic students (Ream, 2005; Rowley & Wright, 2011). As schools become more diverse, the immersion of populations other than non-Hispanic white students remains a challenge (Allen, 2008).

Federal efforts to provide equal access to education date back to 1965 when, in response to President Lyndon Johnson's *War on Poverty*, Congress passed the Elementary and Secondary Education Act of 1965 (ESEA) (United States, 1965). The ESEA has since then been revamped by Bush's administration in 2001 into No Child Left Behind (NCLB) and revamped again in 2015 by Obama's administration into Every Student Succeeds Act (ESSA). One provision that these three acts have in common is the inclusion of standardized testing as the means to rate students' academic achievement. When comparing all students using a single scale in order to assess the academic achievement across groups, research shows that non-Hispanic white males continue to

outperform males of other ethnic groups as well as their female counterparts (Kolhaas, Lin, & Kwang-Lee, 2010; Rowley & Wright, 2011).

The existing levels of non-white student academic achievement not only impacts the students, but the United States as a whole. According to the McKinsey and Company report (2009), the underutilized potential of students has earned the United States lower rankings in math and science when compared to other industrialized countries. The effects stemming from academic achievement and educational attainment gaps on the U.S. economy were found to be staggering. As Hispanic and African-American population account for a larger percentage of the population, the gaps will cost the economy trillions of dollars (McKinsey & Company, 2009). Policy makers, scholars, school officials, and educators recognize the importance of closing the academic achievement and attainment gap, but in order to make informed decisions and implement research proven practices, the research needs to exist, and currently, it is limited.

### **Self-Efficacy Theory**

In the last three decades, evidence points to self-efficacy as an influential factor in students' lives, impacting academic achievement and other measures student success (Karaarslan & Sungur, 2011; Merritt & Buboltz, 2015). As an indicator of motivation and perseverance towards reaching a goal, self-efficacy has been a recurring predictor for students' academic success (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). For example, in Turcios-Cotto and Milan's (2013) study, Latino students were found to be less likely than other minorities to endorse or picture themselves continuing their education in the future as indicated by their levels of self-efficacy.

Self-efficacy theory has roots in Bandura's social cognitive theory (1986) which defines self-efficacy as a person's belief in one's abilities to succeed or accomplish tasks and goals. Research suggested that self-efficacy directly affects motivation and persistence and therefore the type of goals and expectations individuals will set for themselves (Bandura, 1997; Kim, 2014). The degree of self-efficacy drives students' goal orientation, which translates into effort and academic performance and serves as a predictor for academic attainment. Although self-efficacy is influenced by several factors (Bandura et al., 2001), researchers have found that self-efficacy can be enhanced and regulated and follows students throughout their educational career (Caprara et al., 2008).

The belief that one can be successful or unsuccessful at any task is the result of the components that make up self-efficacy. Bandura (1997) described self-efficacy as coming from four major sources: mastery experiences, social modeling, social persuasion, and psychological responses. Research supports Bandura's theory about the importance of successful or mastery experiences which strengthen self-efficacy (Cantrell et al., 2013; Fong & Krause, 2014; Lopez, Lent, Brown & Gore, 1997). A student who successfully completes tasks will have a boost in self-efficacy. According to Bandura (1994), observing a peer relatively similar to oneself be successful in similar tasks also causes a boost in self-efficacy. Research further asserts Bandura's (1997) concept of social persuasion is a significant influence in self-efficacy through giving individuals a boost in helping them to believe they possess the skills and abilities necessary to be successful in accomplishing a specific task (Chin & Kameoka, 2002; Wang & Pape, 2007). Therefore, receiving encouragement from others whether it be from parents, friends, or teachers helps individuals strengthen their self-efficacy. Furthermore, an

individual's attitude, if positive, can boost their degree of self-efficacy, while on the other hand, they may experience a decrease in self-efficacy in stressful situations (Bandura, 1994).

Self-efficacy has been recognized to influence a person's engagement decisions, efforts exerted to successfully complete a task or goal, and persistence (Bandura, 1986). Consequently, self-efficacy plays a pivotal role in an individual's goals and the approaches taken to accomplish these goals throughout their lifetime. As shown by their persistence to reach success, individuals with high levels of self-efficacy are more likely to engage in more challenging tasks and meaningful goals and to remain committed to attaining their goals (Bandura, 1989; Schunk, 1990; Zimmerman, Bandura, Martinez-Pons, 1992). What is more concerning are the implications of low levels of self-efficacy in students given the links to achievement. The beliefs that feed one's self-efficacy form in childhood, beginning with parental influence (Bandura et al., 2001) and can be enhanced and nurtured over time (Cantrell et al., 2013; Chin & Kameoka, 2002; Fong & Krause, 2014; Lopez et al., 1997; Wang & Pape, 2007).

However, Bandura's (1986) construct of self-efficacy established that self-efficacy is domain specific, and therefore assessing students' beliefs about specific tasks should be evaluated separately from their perceived self-efficacy scales. In his guide for constructing self-efficacy scales, Bandura provided the guidelines for researchers to develop self-efficacy scales, a challenge taken up by a few researchers such as Gibbons and Borders (2010). In order to evaluate students' beliefs about attending college, Gibbons and Borders (2010) developed a scale used to measure students' self-efficacy related to completing college-going tasks, such as getting accepted into college, finding

the means to pay for college tuition, and earning good grades. Self-efficacy is a concept that continues to be explored as new scales are developed and new links are found between self-efficacy and increased academic achievement (Buchanan & Selmon, 2008).

### **Current Self-Efficacy Research**

In studying self-efficacy, researchers have found a relationship between the degree of self-efficacy and academic success resulting from family influence in shaping students through social modeling, students' self-evaluation of perceived academic self-efficacy, and the role it plays in students' expectations for career and life success (Bandura, 1997; Kim, 2014; Roosa et al., 2012; Zimmerman et al., 1992). The increase in research, primarily in the area of academic achievement and attainment gap, has contributed to the advancement of Bandura's self-efficacy theory as the means to explore other explanations for the existing attainment gaps. Through exploration of the factors affecting the degree of self-efficacy, the sources of self-efficacy, and the role self-efficacy plays in the academic setting, the understanding of the theory itself has improved. Some of the existent research in self-efficacy affirms the pivotal role families play in the degree of self-efficacy attained because family impacts the sources from which self-efficacy is developed (Bandura et al., 2001). In some instances, parents' self-efficacy has been shown to influence their children's self-efficacy through observation of parents' failure and success experiences, encouragement, reinforcement, and through the attitude parents transmit on to the children (Martinez-Pons, 1996). Interventions have also been found to play a role in the degree of self-efficacy. Jensen (2013) reported a positive correlation between interventions and an increase in self-efficacy that affect

college-going beliefs. In another study, Hamel (2014) reported an increase in students' mean scores on the college-going scale after students attended a summer intervention program.

The ethnic differences in self-efficacy explored are primarily between Caucasian and African-American students and in a few instances, gender differences have been explored, but findings have not always been replicated (Bandura, 1997; Zimmerman & Bandura, 1994). As schools become more diverse, timely exploration of self-efficacy and the differences among minorities is crucial to the development of support programs needed to address the four sources identified by Bandura (1997) to develop one's self efficacy. Support systems and interventions, while proven effective in improving the degree of self-efficacy and positively influencing academic achievement and attainment, could potentially take different shapes and forms depending on the demographic subgroups (Crippen & Earl, 2007; Graham & Harris 1989; Zimmerman & Bandura, 1994). Other researchers point out the role that self-efficacy plays in making career choices and how self-efficacy ultimately affects life successes (Bandura et al., 2001). Self- efficacy therefore is important to society due to its influence over career choices as these affect the state of the workplace.

### **Statement of the Problem**

The academic achievement gap between non-Hispanic white students and African-Americans and Hispanics "is roughly 2-3 years of learning behind the average white student," a gap that grows as students near the age of entry into the workforce (McKinsey & Company, 2009, p. 18). For many decades, policy makers have struggled in closing the academic achievement gap present in schools across America. Despite the



growing interest in gap research, renewal of ESEA via the ESSA and increased funding, the gap still remains. White males continue to outperform both males of other ethnic groups and females of all ethnic groups (Kolhaas et al., 2010; Rowley & Wright, 2011). The problems presented by the academic achievement gaps between males and females as well as members of certain ethnic groups transcend scores on standardized tests and degrees earned. Such gaps between students of different ethnicities and gender have “deprived the U.S. economy of as much as \$2.3 trillion in economic output in 2008” (Auguste, Hancock, & Laboissiere, 2009, para. 1).

A Nation at Risk (1983) sounded the alarm that the United States educational system was failing to educate students and therefore lagged behind that of other countries around the world. One of the solutions to the failure of public schools in the U.S. arising from the report by The National Commission on Excellence in Education was to add school choice in the form of charter schools (Peterson, 2016). As a form of school choice, charter schools give parents options for selecting the learning environment that is the most appropriate for their child’s education. Unlike private schools, charter schools are public and therefore must accept applicants of all demographics. With charter schools being the “fastest-growing choice option in the U.S. public education,” they are prone to experience similar challenges in closing the academic achievement gaps (National Alliance for Public Charter Schools, 2015, p. 2). Gaps also exist in high school graduation rates and thus are contributing to the academic achievement gaps. According to the NEA’s report by McLaughlin (2016), 30% of charter schools have been classified as having low graduation rates with the national average graduation rate being 15% lower than that of regular high schools.

Charter schools have been able to develop innovative curriculum, because unlike public schools, they are able to “structure their own curriculum and school environment” (Angrist, Cohodes, Dynarski, Pathak, & Walters, 2013, p. 7). As a result, although they may nationally have a lower high school graduation rate, the students who graduate from charter schools are more college-ready than their public-school counterparts. A study in Boston compared the SAT of students who applied for acceptance into one of the area charter schools. Students, who were selected based on a lottery system, scored significantly higher on their SAT than students who applied but were not selected (Angrist et al., 2013). The study showed that students attending a charter school were significantly more college-ready than their counterparts as demonstrated by the higher SAT scores compared to students who did not attend a charter school. The National Center for Education Statistics (2017) reported that schools are experiencing an increase in student ethnic diversity and an increase in females enrolling in school. Now the question is how the curriculum could equally and positively impact all students enrolled at these charter schools regardless of their demographics. As charter schools become more diverse, some demographic subgroups might need more support than others in order to be convinced of their potential. This may be by means of boosting their self-efficacy as well as by nurturing their academic potential in order to support the closing of the academic achievement gaps.

The present study investigated the potential effects of gender and ethnicity on self-efficacy and its relationship to college-going self-efficacy. Gender and ethnicity served as the independent variables for this study and perceived self-efficacy and college-going self-efficacy scores served as the dependent variables investigated in this study. A

relationship between gender and self-efficacy was expected because researchers often report that males tend to be more confident in academics than their counterparts (Meece, 1991; Pajares & Miller, 1994; Wigfield, Eccles, & Pintrich, 1996). Equivalently, a relationship between ethnicity and self-efficacy was expected because research shows that students who belong to a minority group hold a lower perceived level of competence in academics than students who do not belong to a minority group (Graham, 1994; Pintrich & Schunk, 1996; Schunk & Pajares, 2002).

Furthermore, with post-secondary goals and choices often made before students are upperclassmen in high school, middle school is the prime time for decisions and therefore this was the group of interest investigated (Hossler, Schmit, & Vesper, 1999). To gain a better understanding of students' beliefs and confidence in their abilities to succeed, this study used both Bandura's Self-Efficacy Survey (2006) and Gibbons & Borders' College-Going Self-Efficacy Survey (2010).

The specific questions addressed by the research and hypotheses are:

Research Question #1: Is there a significant difference in self-efficacy between Non-Hispanic white and Hispanic or Latino middle school students currently enrolled at a charter school?

$H_0$ : There is no significant relationship between Non-Hispanic white and Hispanic or Latino self-efficacy scores of students enrolled at a charter school.

$H_1$ : There is a significant relationship between Non-Hispanic white and Hispanic or Latino self-efficacy scores of students enrolled at a charter school.

Research Question #2: Is there a significant difference in self-efficacy between middle school male and female students currently enrolled at a charter school?

$H_0$ : There is no significant relationship between gender and self-efficacy scores of students enrolled at a charter school.

$H_1$ : There is a significant relationship between gender and self-efficacy scores of students enrolled at a charter school.

Research Question #3: Does a correlation exist between self-efficacy and college-going self-efficacy among currently enrolled middle school students at a charter school?

$H_0$ : There is no significant relationship between self-efficacy and college-going self-efficacy scores of students enrolled at a charter school.

$H_1$ : There is a significant relationship between self-efficacy and college-going self-efficacy scores of students enrolled at a charter school.

The study focused on the gender and ethnic differences in self-efficacy and its relationship to college-going self-efficacy. Education faces multiple challenges in providing the best curriculum and school environment to help students earn a high school diploma, to pursue a post-secondary degree, and to graduate. Knowing how self-efficacy varies between demographic subgroups was helpful in understanding how to help students build a higher sense of self-efficacy as well as to develop group-specific interventions to enable and foster self-efficacy (Bandura, 2006). In order to create experiences that cater to students' needs based on their demographics, more information was needed on how gender and ethnicity influence self-efficacy and the impact it has on college-going self-efficacy.

### **Purpose of the Study**

Students from ethnic and gender minority groups were the focus of this study which was to account for and explain the existing differences in academic achievement

and college attendance. These demographic groups have consistently shown lower academic performance and a lower number of students who pursue a post-secondary degree. This appears, in part, to be linked to self-efficacy (Allen, 2008; Castro & Rice, 2004; Karaarslan & Sungur, 2011). Research shows that non-Hispanic white males continue to outperform males of other ethnic groups as well as females of all ethnic groups (Kolhaas et al., 2010; Rowley & Wright, 2011). Furthermore, emerging research related to gender and self-efficacy shows differences in self-efficacy levels and academic performance between males and females (Greaven, Santor, Thompson, & Zuroff, 2000; Pintrich & De Groot, 1990). For various reasons, these students face challenges that prevent them from achieving their academic potential, thus continuing to feed the generational cycle of academic achievement and educational attainment gaps. According to Bandura, Barbaranelli, Caprara, and Pastorelli (1996), research shows that self-efficacy influences students' motivation to set and accomplish goals, which has been found to correlate with academic achievement and educational attainment. While students' demographics cannot be changed, interventions can help students develop a higher sense of perceived self-efficacy and college-going self-efficacy. This study explored perceived self-efficacy and college-going self-efficacy as a way to increase academic achievement to help close the existing gaps among demographic subgroups. Surveying students about their beliefs in their ability to succeed in academics and in college can contribute to the field of education through gaining a better understanding of the prominent beliefs among students of minority groups.

More research was also needed to assess the relationship between perceived self-efficacy and college-going self-efficacy. Some students may be confident in their ability

to succeed in their current academic setting; however, their efficacy may not necessarily transfer or coincide with their college-going self-efficacy. While a plethora of research exists in the area of self-efficacy, there is minimal research specifically focusing on gender and ethnic differences in self-efficacy of middle schoolers attending charter schools and how it affects college-going self-efficacy. With a fast-growing minority population, if self-efficacy and college-going self-efficacy is lower among members of minority groups, many implications arise for everyone in the school system. If such is the case, these minority groups require special interventions to help them improve their self-efficacy in order to increase academic achievement, complete higher educational attainment goals, and ultimately succeed in life and become contributing members of society. A report by McKinsey and Company (2009) stated that the academic achievement and educational attainment gaps between certain demographic subgroups affect society and the economy of the nation. The United States needs all students to become contributing members of the society by being well educated when they enter the workforce in order for the country to remain competitive and one of the leading nations in the world. While the nation's education system serves non-Hispanic white students well, students of minority groups are under-performing and therefore are in need of interventions catered to their unique needs.

### **Definitions of Terms**

For the purposes of the study at hand, the following definitions were used:

*Academic Achievement.* In this study, academic achievement referred to the extent to which the participants achieved educational goals established by the participants and/or family such as GPA (Castro & Rice, 2003) and pursuing a post-secondary

education institution. A GPA in good standing and enrollment in a post-secondary institution determined the academic achievement of the subjects. Academic achievement serves as an indicator of an individual's ability to perform successfully in educational settings (Salami, 2008).

*Academic Achievement Gap.* In this study, academic achievement gap referred to the disparities in academic performance between ethnic groups and gender (Martin, Spenner, & Mustillo, 2017).

*Attainment Gap.* In this study attainment gap referred to disparities in the highest level of education completed by members of different ethnic and gender groups (Sloat et al., 2007).

*College-Going Self-Efficacy.* In this study, college-going self-efficacy referred to the students' beliefs regarding their ability to be successful at completing college-going tasks such as getting accepted into college, finding the means to pay for college tuition, persistence, and earning good grades in college (Gibbons & Borders, 2010).

*Educational Attainment.* In this study, educational attainment referred to the highest level of education completed (Ojeda & Piña-Watson, 2014; Sloat, Makkonen, & Koehler, 2007; Strayhorn, 2010).

*Self-efficacy.* The perception of one's ability to accomplish a task, goal, or level of performance as influenced by prior experiences was referred to as self-efficacy (Bandura, 1986; Schunk, 1990). Self-efficacy or perceived self-efficacy referred to students' confidence in accomplishing a goal. Individuals are subconsciously evaluating their capacities to determine a commitment towards a task (Karaarslan & Sungur, 2011).

### **Limitations of the Study**

The major limitation of this study was the narrow focus of a group of middle school students attending a Northern Colorado Charter School, therefore, comparison statements could not be made between charter and public schools. The sample of students was not selected at random because a specific population of students was needed to adequately investigate the research questions. Instead, this study used convenience sampling, which is quite common in educational research, and, as such, the findings cannot be generalized. The population studied included students in grades 6 through 8 who reside in a rural area of the Colorado Front Range Corridor and attend a K-12 charter school which was chosen because the researcher had access to this population. Therefore, the findings can be generalized only to schools with similar demographics to this school. In addition, given 64% of the student population is Non-Hispanic white contributed to variance in sample size between Non-Hispanic white and Hispanic or Latino students. As a result, the Non-Hispanic student sample size is approximately three times larger than the Hispanic or Latino. Moreover, while the charter school has roughly a 1:1 ratio for males and females, 66.7% of the subjects identified themselves as female. Therefore, the variance in the sample sizes between Non-Hispanic whites and Hispanic or Latinos as well as males and females does not allow for generalization of the results from this sample to other populations.

Furthermore, there is a potential that the parents or legal guardian may discuss the resources in the self-efficacy handout included with the informed consent and thus influence the participants' perceptions. This can contribute to the potential for bias in self-reporting self-efficacy and college-going self-efficacy scores because students may



not always respond truthfully. Although semi-structured interviews may reveal greater insight into students' beliefs around ability in academics and college-going tasks, the researcher used the Likert-type surveys by Bandura (2006) and Gibbons & Borders (2010) to increase participation, facilitate statistical analysis, and very importantly, to minimize classroom disruption. To maintain objectivity and avoid bias towards one ethnic group or gender, the researcher ensured that all students within the sample population had equal opportunities and access to participate in the study, regardless of their demographics. Lastly, the researcher showed awareness of personal biases as a public educator and a member of a minority ethnic group and prevented possible biases from having an influence on this study by avoiding assumptions about the profession, beliefs about specific populations, and inclusion of personal experiences.

### **Summary**

The minority population in the United States is rapidly growing and demographic subgroups, other than non-Hispanic white males, tend to have lower levels of academic achievement and educational attainment (Graham, 1994; Pintrich & Schunk, 1996; Schunk & Pajares, 2002; U.S. Census Bureau, 2011). The gap between non-Hispanic white males and essentially all other students continues to rise and negatively impacts the nation as a whole (McKinsey & Company, 2009; NEA, 2015). Improving the education systems for students of certain demographic subgroups is one potential solution to closing the academic achievement and educational attainment gap. However, for these students to be successful, they need to believe in their ability to succeed. Self-efficacy and college-going self-efficacy needed to be understood in order to make research-driven decisions, changes, and interventions in the education system.

## CHAPTER TWO

### Review of the Literature

#### **Introduction**

With the establishment of public schools in the United States and implementation of the industrial-age factory model to education, schooling had been reserved primarily for white males with the intention of producing trained factory workers (Hiatt, 1994). However, during the Civil Rights Movement in the late 50s, early 60s, the Civil Rights Act of 1964 required that school districts receiving federal funding provide equal access to education to female and non-white citizens (Civil Rights Act, 1964). Even though the Civil Rights Act of 1964 supported the belief that all citizens have the right of access to equal education, academic achievement and educational attainment statistics say otherwise (NEA, 2015). While measures have been taken at the federal, state, and local levels to bring about education equality to all students, regardless of their demographics, a gap still exists in their academic achievement and educational attainment (NEA, 2015). In order to better serve students by providing them access to an education that caters to their unique needs, it is the responsibility of members in the field of education to investigate the differences between these demographic subgroups. In doing so, schools may then have the possibility of granting equal access to education for all students and of increasing the likelihood of success by closing the academic achievement and educational attainment gaps. The purpose of this review of literature is to provide some insight into the effect students' competence beliefs have on academic achievement and attainment gap, how self-efficacy influences behaviors and decisions, and how these in turn affect educational outcomes.

Explored in this literature review is the history of self-efficacy research and several studies related to academic achievement and educational attainment gap with emphasis on self-efficacy as a contributing factor.

### **Historical Background**

Over the last 10 years, self-efficacy has been studied as a contributor to academic achievement and educational attainment. Self-efficacy refers to a person's belief in their ability to be successful in performing any given task or skill to meet a goal and is very influential on the actual outcomes (Bandura, 1997). Bandura's (1977) theory of self-efficacy has been studied at various dimensions with studies upholding the definition of self-efficacy as an individual's belief in their ability to engage in a particular behavior most often tied to an expectation or goal. Bandura believed that self-efficacy was positively influenced by successful experiences and accomplishments, vicarious experiences with adults and peers in their lives, emotions, and persuasion. Furthermore, Bandura encouraged educators to continue to assess students' self-efficacy to make educational predictions and better serve the students. Because Every Student Succeeds Act (ESSA) ESSA expects all students to successfully learn the curriculum, regardless of ethnicity or gender, and in the United States all students are entitled to receive equal education, it is important to study how these expectations play a role in self-efficacy and its relationship to college-going self-efficacy.

### **Self-efficacy**

Throughout the last decade, several studies have been conducted with Bandura's (1986, 1989, 1994, 1997) foundation and understanding that factors other than skill mastery influence academic performance, more specifically, self-efficacy.

**Socioeconomic status.** Caprara et al. (2008) used a self-efficacy questionnaire to determine the relationship between perceived self-efficacy for self-regulated learning related to students' grades in high school and school dropout. The sample consisted of 412 children, of which 196 were males and 216 were females, all with families from various socioeconomic backgrounds. The parents' occupation and levels of education were used to determine the socioeconomic status variable for the study. The following assessments served as the measure of academic achievement: 1) at the end of junior high, students tested were in the four core areas, 2) at the beginning of high school, the students completed a "stringent examination system," and 3) at the end of high school, the students completed a national written and oral exam. All of these assessment data sources were used to identify any possible correlations between scores and socioeconomic status (Caprara et al., 2008, p. 527). In this study, Caprara et al. (2008) used growth models and means and standard deviation for self-regulatory efficacy and correlated these to high school grades and socioeconomic status. They found that female students exhibit higher self-regulatory efficacy and thus a lesser decline as they progress from junior high to high school. Also, they found socioeconomic status to be an indirect factor affecting high school performance as socioeconomic status impacted academic attainment which occurred throughout junior high. The study was unable to explain and account for the gender gaps in the results, thus calling for further research to promote the understanding of these gender gaps when exploring the effects of socioeconomic status on students' self-efficacy and academic achievement.

**Family influence.** To assess the influence of family background, involvement, and expectations in students' self-efficacy Kim (2014) used data collected through the

Educational Longitudinal study of 2002 to examine two hypotheses: (a) “that family background, including family income, parental advice about academic planning for postsecondary education, and parental expectations for their child’s postsecondary education will positively predict student academic self-efficacy,” and (b) “that students’ academic self-efficacy will positively predict career and life success expectations” (Kim 2014, p. 399). The sample consisted of 26 students selected from each of the 580 public schools and 172 private schools. The sample consisted of 15% Hispanic students and 50.7% female students. The study was conducted to determine how family background, involvement, and expectations influenced self-efficacy and in turn students’ career and life success expectations. According to Kim (2014), the findings supported the hypothesis that family background, involvement, and expectations served as a predictor of students’ self-efficacy. However, significant statistical findings indicated an additional path exists and needs to be included in the original model. The additional path linked parental advice and postsecondary expectations as well as income and postsecondary parental advice. While the researchers found parental factors to influence students’ self-efficacy and therefore students’ post-secondary plans and success, a number of limitations needed to be considered. Parental factors did not include the parents’ level of education or parental involvement. Also, the factors did not extend beyond the parents and therefore further inclusion of family factors should be considered. Lastly, the researchers acknowledged the limitation brought upon by the lack of inclusion of exploration in differences between gender and ethnicity. Therefore, future investigations addressing these limitations are necessary to gain a better understanding of parental and family factors on students and how these relationships differ among minority groups.

**Mastery experiences.** With the goal of examining the connection between mastery experiences of self-efficacy and the development of self-efficacy, Carlton and Krause (2014) began with a theoretical base of sources of self-efficacy consistent with Bandura's (1986,1989, 1994,1997) four sources that shape self-efficacy: 1) mastery experiences, 2) vicarious experiences, 3), social persuasions, and 4) physiological and affective states. The sample for the study consisted of 49 college students ranging from freshmen to seniors with varying GPAs and majors, with only 13 of the subjects being Hispanic. The variables identified in this study included mastery experiences, vicarious experiences, social persuasions, physiological states, and academic efficacy as the independent variables, and achieving and underachieving as the dependent variables. The independent variables used in the study were those outlined by Bandura's (1986, 1997) parameters as well as Usher and Pajares' studies (2006, 2008). Collection of data included journal entries, a section of the Nelson Denny Reading Test (NDRT), self-reported GPA, and a Likert-type survey to assess self-efficacy. Using Bandura's (1997) self-efficacy coding method, Carlton and Krause assessed the role of mastery experiences of self-efficacy and coded the responses to open-ended questions. Additionally, they utilized Miles and Huberman's (1994) organizational system for coding the journal entries after transcribing responses in order to search for responses that fit into the developed categories thus allowing them to find patterns and possible explanations. Using the means and standard deviation as the statistical analyses for self-efficacy and academic efficacy confirmed Bandura's (1977) concept of mastery of experiences as a source and significant contributor to self-efficacy (Carlton & Krause, 2014). The researchers suggested a need for student support by providing them with interventions to

assist them in tracking mastery experiences. Results also indicated that social persuasion showed differences among achieving and underachieving students, while the remaining sources of self-efficacy are relevant but not as significant. However, one limitation acknowledged by the researchers includes the lack of demographic inclusion in the study, thus calling for further exploration of these ideas to better understand self-efficacy and its sources to develop useful interventions in order to increase self-efficacy of students.

**Gender.** The impact of self-efficacy on the low number of female students becoming physicians and scientists was the focus of the work of Epstein and Fischer (2017) as they investigated self-efficacy as a possible contributing cause of gender differences in these fields. The sample consisted of “1,109 doctoral graduates, 538 medical doctoral students, and 571 life sciences doctoral graduates” with about 60% female participants in medicine and life sciences (Epstein & Fischer, 2017, p. 5). The researchers used the research on self-efficacy, academic career intentions, performance accomplishments, and work experience surveys to collect the data. Their data analysis included multivariate analysis and path analysis. The results showed gender differences in the number of articles published, conferences attended, working groups, the number of those who graduated with honors, self-efficacy, and the likelihood of pursuing an academic research career with females scoring lower on all these areas compared to males. Furthermore, a higher level of self-efficacy was found to be linked to grades and academic career intentions. Researchers acknowledged that these findings may not show similar distribution in other academic disciplines, thus suggesting that additional research is needed across other academic fields in order to gain a better understanding.

The studies mentioned in this section indicated that researchers carried out their research from a theoretical base consistent with Bandura's theory and his findings around self-efficacy as a predictor of academic achievement (Carlton & Krause, 2014; Epstein & Fischer, 2017; Kim, 2014). However, the review of the studies in this section also suggested the need for analyzing student self-efficacy based on Bandura's (1997) theory through the validated self-efficacy scales he developed. When there is a minimal inclusion or lack of consideration of gender and ethnic differences or when it is not at the core of the research, conflicting findings arise in the studies. In those studies which took gender and ethnicity into account, gaps to help better understand the self-efficacy differences and its relationship to college-going self-efficacy remained (Caprara et al., 2008; Epstein & Fischer, 2017; Kim, 2014). In successfully studying and applying the self-efficacy findings, it is important to narrow the focus group in order to truly understand the results and how these relate to specific subject groups.

### **Effects of Attitude on Academic Achievement and Educational Attainment**

Students at one point or another might hear from their teachers that they need to keep a positive attitude in order to be successful, and they are correct. Keeping a positive attitude has been linked to higher grades in school, thus helping students increase academic achievement (Larose, Robertson, Roy, & Legault, 1998; Ryan & Patrick, 2001; Whitin, 2007). It is not uncommon to observe different attitudes towards different subject areas, or even different topics within a class. Students who have a positive attitude are more likely to be motivated to learn about the subject or topic and such motivation helps students perform better in the unit or course (Ryan & Patrick, 2001). As students continue to have positive and successful learning experiences, they are able to maintain a positive



attitude. Positive or negative experiences in a class are therefore influential in the development of attitudes towards certain classes. For example, a student with positive learning experiences in science can help the student approach future science courses with optimism (Bloomer & Hodkinson, 2000). Entering a new course similar to one in which a student has already experienced success is likely to encourage the student to be actively engaged, take risks, and practice self-advocacy as needed. Therefore, if because of prior success and positive experiences, a student who loves science classes is likely to not only be successful, but also keep a positive attitude. This could motivate the student to achieve higher scores because he is willing to learn more about the subject (Larose et al., 1998; MacMillan, Widaman, Balow, Hemsley, & Little, 1992).

**Racial differences.** The link between attitude and achievement among African-American adolescents is not well developed in extant literature. To extend and expand understanding of this critical relationship, Mickelson (1990) worked with a sample that consisted of 1,193 high school seniors from eight public schools with 51% of the participants being females and 41% of the sample being African American. The independent variable used in this study was attitude towards education, which was gathered via questionnaires, and the dependent variable was students' achievement data obtained from school records. The analysis of the data included the use of multiple group confirmatory factor analysis and the mean of the scores to determine the reliability of the coefficients. The results indicated that concrete attitudes are related to high school grades and these attitudes can predict school achievement (Mickelson, 1990). Furthermore, Mickelson's (1990) study found significant racial differences exist in abstract attitudes

towards education; therefore, there is a need to explore the role attitude plays amongst students of different ethnicities.

**Ethnic differences.** Though self-efficacy has been found to differ between ethnic groups, there are other factors capable of influencing beliefs that affect one's self-efficacy. Therefore, beyond the relationship between ethnicity and student attitudes, investigating the more general concept of student perceptions and personal motivations as a predictor of student engagement is essential to understanding effects of student self-efficacy on learning. Patrick, Ryan, and Kaplan (2007) investigated the relationship between classroom engagement, student perception, and personal motivation beliefs. The population sample consisted of 602 students in fifth grade with 51% of the participants being females. Students completed a Likert-type survey to assess the students' perceptions of the classroom social environment, students' engagement, and students' motivation. To analyze the data collected, Patrick et al. (2007) used a structural equation modeling approach to identify any possible relationships between the variables. The findings suggested that there is a relationship between student motivation, perceptions, and engagement. Furthermore, student engagement was significantly related to academic achievement. While this study found a link between motivation and academic achievement, further exploration is needed to understand its effect on perceived self-efficacy and college-going self-efficacy.

**Gender differences.** Other aspects of self-efficacy have been studied and have contributed to the understanding of self-efficacy differences between males and females as well as explored self-efficacy revolving around specific disciplines. A recent study by Recber, Isiksal, and Koc (2018) investigated the role of self-efficacy and anxiety related

to mathematics achievement. The participants were 934 seventh grade students consisting of 51.5% public school students and 48.5% private school students, with 51.1% females and 48.9% males. Students' self-efficacy and attitudes were measured using the Mathematics Self-Efficacy Scale and the Mathematics Attitude Self-Efficacy Scale. To assess students' achievement in math, the students' Level Determination Examination math test scores were used. The researchers used a causal-comparative and correlational research design, using a two-way ANOVA analysis. Findings indicated that male self-efficacy scores and achievement scores were higher than that of females. Furthermore, females' levels of anxiety were higher than males, concluding that females and males differ significantly in their attitudes towards math and their beliefs about competence in this subject. However, female students demonstrated a more positive attitude than males, and therefore, "it is believed that it may be relatively easier to help them improve their self-efficacy beliefs and decrease anxiety levels" with the possibility of improving their math scores (Recber et al., 2018, p. 49). Although this study contributed to the knowledge of the effects of self-efficacy, attitude, and gender differences in the area of math, further studies are needed to investigate the role these play in college-going self-efficacy.

The studies mentioned in this section indicated a relationship between academic engagement and performance based on students' attitude and motivation towards their classes. However, the review of the studies in this section also indicated the need of taking this a step further into exploring self-efficacy and how it varies based on gender and ethnicity, as well as its relationship to college-going self-efficacy. Even though some studies included gender and ethnic groups, there is insufficient research exploring these

two variables with the middle school students residing in rural areas who attend a charter school being the population studied.

### **Post-secondary Goals and Attainment**

Self-efficacy has been found to be influential in students' decision-making process when selecting a career, as well as their educational aspirations (Bandura et al., 2001). Therefore, students with higher levels of self-efficacy can be expected to hold higher aspirations, thus selecting impressive and important careers. Because students as early as middle school begin making educational and career choices, a better understanding how efficacy influences their goals and, in the long-term, educational attainment is an area worth exploring (Destin & Oyserman, 2009; Hossler et al., 1999). The academic achievement and educational attainment gaps raise the question of whether certain demographic groups are not setting higher end goals or whether they are failing at those goals. Investigating these variables may be useful in gaining a better understanding of how to support these individuals to establish and fulfill their post-secondary goals.

**Motivation.** In an attempt to better understand the academic achievement and educational attainment gaps between ethnic groups, exploring the differences in motivation between ethnic groups has provided an insight as to the existing differences. In one study, researchers Prospero, Russel, and Vohra-Gupta (2012) studied the effects of motivation and amotivation on educational attainment and possible differences between Hispanic and non-Hispanic students. The participants in the first sample included 63 high school students composed of 79.4% females, 57.1% Hispanics, and 42.9% non-Hispanics. Participants in the second sample included 252 students enrolled in a community college and was composed of 63.5% females, 40.5% Hispanics, and 59.5%

non-Hispanics. Both samples completed a survey used to collect demographic information and 26 questions used to measure the students' educational motivation. GPA was also used to assess the students' educational attainment. The three data analyses used in this study included correlational analyses, standard multiple regressions, and comparison of means. The results showed that higher amotivation and extrinsic motivation contributed to lower GPAs (Prospero et al., 2012). Prospero et al. (2012) also found that although motivation decreases with age, Hispanic students have higher motivation than non-Hispanic students. While Prospero et al. (2012) contemplated the possibility that Hispanics may have higher motivation only once they have reached higher education environments, further research such as the inclusion of qualitative data collection should be considered in order to understand these findings.

**Aspirations and barriers.** Aside from motivation, the exploration of aspirations and perceived barriers have also shed light on the self-efficacy differences between ethnic groups. Another study by Gonzalez, Stein, and Huq (2013) studied the relationship between educational aspirations, college-going self-efficacy, and perception of barriers. The participants of this study included students enrolled in 7<sup>th</sup> to 10<sup>th</sup> grade, for a total of 190 participants. The demographics of this sample consisted of 34% Latino, with 19% of the students displaying limited English proficiency and 68% of the students qualifying for free/reduced lunch (Gonzalez et al., 2013). Researchers collected data via the College-Going Self-Efficacy Survey, the Perception of Barriers survey to assess career and educational goals, the Multidimensional Inventory of Black Identity, the Acculturation Rating Scale for Mexican Americans, as well as demographic questions. Data analyses included correlations, means, and standard deviations for the variables of this study.

Findings indicated that “college-going self-efficacy was significantly associated with educational aspirations” and that educational aspirations were “significantly and negatively associated with person-based barriers and age” (Gonzalez et al., 2013, p. 109). Furthermore, ethnicity was found to be a predictor of college-going self-efficacy. Researchers suggested that while college-going self-efficacy and educational aspirations are related, there is value in further research to understand these concepts separately.

**Decision-making.** In a different study conducted by Bandura et al. (2001), self-efficacy was found to play a role in making decisions. The participants in this longitudinal study included 272 children ranging in age from 11 to 15 years of which 142 were males and 130 were females (Bandura et al., 2001). Bandura’s perceived self-efficacy scale, as well as the perceived self-efficacy for academic achievement, efficacy for leisure and extracurricular activities, self-regulatory self-efficacy, parental perceived academic efficacy, the parental and children’s academic aspirations, children’s perceived occupational self-efficacy scale, and occupational choices scales were used (Bandura et al., 2001). Academic achievement was assessed based on mid-year assessments in core subject areas which were also used to determine the students’ academic attainment. The data collected by the scales were analyzed for reliability using the Squared Multiple Correlations (Bandura et al., 2001). The findings of this study provided that the “children perceived self-efficacy influences the types of occupations for which they believe they have the capabilities” (Bandura et al., 2001, p. 198). Moreover, students who scored higher in academic efficacy demonstrated higher academic achievement and educational aspirations. While this study did further the understanding of various forms of self-efficacy, their source, and the role these play on students’ achievement and attainment,

further research could address students' college-going self-efficacy and how it impacts these variables.

Although, the United States aims to provide equal education to all citizens, students from certain demographic subgroups face challenges in closing the academic achievement and educational attainment gaps (National Education Association, 2015; United States, 1965). Investing in support systems and interventions to help students nurture and foster efficacy to increase academic achievement and promote higher educational attainment is one approach to closing the gaps (Jensen, 2013). A study by Glessner, Rockinson-Szapkiw, and Lopez (2017) already demonstrated promising results from the implementation of interventions to increase middle school students' college and career self-efficacy. However, as they mentioned, additional studies that include diverse population samples are needed in order to generalize findings, as well as further research being needed to develop and expand interventions (Glessner et al., 2017). The more information that is made available through research regarding the gender and ethnic differences in self-efficacy and its relationship to college-going self-efficacy, the better educators can prepare to assist students in bridging the academic achievement and educational attainment gaps.

### **Theoretical Foundation**

The theoretical foundation for this study was Bandura's self-efficacy theory, first introduced with the publication of *Self-efficacy: Toward a Unifying Theory of Behavioral Change* (1977). In the two decades that followed, the self-efficacy principles were widely tested in various settings across many fields (Bandura, 1983; Davis & Yates, 1982; Lee, 1984; Moe & Zeiss, 1982). In 1997, Bandura elaborated on the theory of self-efficacy

and published *Self-efficacy: The Exercise of Control*, addressing the origin of beliefs and their possible effects. Given its vast number of applications, self-efficacy has received increasing attention, particularly in the field of education and studies related to academic medication, which are exploring the link between self-efficacy and career choices (Graham & Weiner, 1996; Lent & Hackett, 1987; Pintrich & Schunk, 1996). Bandura's (1997) studies have also revealed how self-efficacy influences goal-setting based on an individual's likelihood of accomplishment or failure. Various studies have investigated the role of self-efficacy in academic settings while using Bandura's self-efficacy theory, thus reaffirming the validity and reliability of his procedures and measures (Bandura, 1997; Bandura et al., 2001; Chin & Kameoka, 2002; Pajares, 1996; Schunk, 1990; Zimmerman et al., 1992). As the educational research revolving around various forms of self-efficacy has gained momentum, Bandura published the *Guide for Constructing Self-Efficacy Scales* in 2006. Since the guide was published, researchers have continued to explore areas outside the realm of the original focus of those initial studies (Buchanan & Selmon, 2008; Caprara et al., 2011; Carlton & Krause, 2014; Fong & Krause, 2014; Karaarslan & Sungur, 2011; Kim, 2014; Usher & Pajares, 2008; Wang & Algozzine, & Porfeli, 2015). By using Bandura's guide, researchers have been able to develop their own specific scales such as the college-going self-efficacy scale (Gibbons & Borders, 2010).

### **Summary**

Overall, this chapter reviewed the emergence and focus factors affecting academic achievement and educational attainment with self-efficacy as one of the major influences. Self-efficacy, with attitudes and motivation within the same realm of



concepts, has been found to influence a) academic achievement, b) educational attainment, c) aspirations, d) goal setting and accomplishment, and e) GPA, among other factors as well. The researchers described these factors as critical areas of focus to study. The literature review included researchers' definitions of the independent and dependent variables of interest in this study, as well as the use of the instruments used in this research. The definitions explored by the researchers are worthy of further consideration because these factors have not yet fully been understood to the degree that decision makers and educators can make informed decisions as to how to close the academic achievement and educational attainment gaps. The review also revealed that the independent variables of interest serve as predictors of academic achievement and success. However, the findings of the reviewed studies indicate that there are mixed results, regarding which minority groups' academic achievement is influenced to a larger degree by these factors. Also, mixed findings, or the unavailability to replicate findings comparing males and females, calls for further research. The methodology and experimental design of the reviewed studies indicate the importance of using scales. Many of the scales and questionnaires previously used to investigate similar variables by other researchers have inspired others to explore the relationship between the variables of interest using the same scales or adaptations of such scales (Gibbons & Borders, 2010; Recber et al., 2018).

While all the reviewed studies indicated that self-efficacy, to some degree, had a similar influence on both academic achievement and educational attainment, little is understood regarding the gender and ethnic differences in self-efficacy and its effect on college-going self-efficacy. Although studies revealed that minorities, in some instances,

have higher self-efficacy, certain demographic subgroups have shown the lowest level of academic achievement and educational attainment compared to non-Hispanic white males. The purpose of this research therefore focused on identifying gender and ethnic differences in self-efficacy. The study also sought to answer whether there is a significant relationship between self-efficacy and college-going self-efficacy.

## CHAPTER THREE

### Methodology

#### **Overview of the Study**

This study was centered around middle school students attending a charter school located in a rural area of the Colorado Front Range Corridor. Research in this setting was needed for the purpose of better understanding the gender and ethnic differences in self-efficacy and the impact of those differences on college-going self-efficacy. In this section, the researcher's sampling method, participants' demographics, and the informed consent process are described. In addition, the instruments, Bandura's Self-Efficacy Survey and the College-Going Self-Efficacy Survey (Gibbons & Borders, 2010), used in the survey are described in detail, including survey validity and reliability. Students' self-efficacy and college-going self-efficacy were studied using these two surveys as the quantitative measures for data collection and then were used to gain a better understanding of self-efficacy and college-going self-efficacy beliefs held by different demographic subgroups. Data collected from this study could potentially add to the field of knowledge regarding interventions and support programs for students of certain demographic subgroups. By exploring the self-efficacy and college-going self-efficacy beliefs of minority students, individuals involved in the education decision-making processes could make informed decisions in order to help minority students in the areas of academic achievement and educational attainment.

The percentage of minority groups making up the population of the United States continues to rise (U.S. Census Bureau, 2016). The trends in academic achievement and educational attainment among minorities are similar, regardless of their demographic

subgroup. Minority students, even when they successfully graduate from high school, enroll and graduate with a post-secondary degree at lower rates (Haveman & Smeeding, 2006). In order to set and meet higher academic goals in academic achievement and educational attainment, students need to hold high levels of self-efficacy. This study collected data about perceived self-efficacy and college-going self-efficacy that could be of potential use to decision makers regarding interventions and support systems that could help more students of certain demographic groups that currently lag behind non-Hispanic whites.

## **Research Methods**

### **Subjects**

The target population was middle school age students enrolled in a charter school located in a rural area of the Colorado Front Range Corridor. The charter school serves approximately 1,764 students in K-12 with 496 students enrolled in middle school grades 6-8 (M. Ramirez, personal communication, January 19, 2018). The study was completed in the third trimester of the school year 2017-2018. Approximately 64% of the student population are non-Hispanic white students. A typical school in the area is composed of approximately 36% non-Hispanic white students while this charter school is a bit more similar to a typical school in the state of Colorado which is made up of approximately 56% non-Hispanic white students. The charter school has roughly a 1:1 ratio for males and females, whereas the city and state school average ratio have slightly fewer females at approximately 48% (StartClass, 2018). Therefore, this charter school is not

representative for the majority of students in the same town, but it is more similar to the state demographics.

The sample size, based on the calculation of a representative sample size using the parameters of 5% margin of error with a confidence level of 95% for population size of 496, is 217 students. However, while 217 is the minimum number of students needed to complete the surveys, the informed consent forms were sent to all students enrolled in middle school, grades 6-8, to ensure that the two criteria were met for the data analysis. A convenience sample of middle school students enrolled in a charter school in grades 6-8 was surveyed. The selection was based on the researcher's access to this population sample. Recruitment of subjects for this study occurred during the middle school advising period to help minimize interruption of classroom instruction.

### **Instruments**

**Demographic questions.** Along with the self-efficacy and college-going self-efficacy surveys made available for completion on Google forms, **three** demographic questions were included at the beginning of the Google form (Appendix A). Students were asked their grade, ethnicity, and gender, which served as the independent variables when the data were analyzed for significant gender and ethnicity differences in self-efficacy.

**Children's self-efficacy scale.** Self-efficacy scales created by Bandura and guidelines for making scales published in 2006 have been used in many studies with students all over the world. The Children's Self-Efficacy Scale (Appendix B) was used to measure confidence based on students' belief in whether they possess the skills and abilities to carry on a task or activity (Bandura, 1997). Adaptations of the original scale

have been widely used to provide information about self-efficacy in the area of science, using web-based learning and self-efficacy, goal setting as influenced by self-efficacy, as well as other information (Crippen & Earl, 2007; Karaarslan & Sungur, 2011; Schunk, 1990; Zimmerman et al., 1992). The scale is composed of 55 items which address self-efficacy in the areas of: a) enlisting social resources, b) academic achievement, c) self-regulated learning, d) leisure time skills and extracurricular activities, e) regulatory efficacy, f) meeting others' expectations, g) social self-efficacy, h) self-assertive efficacy, and i) enlisting parental and community support. For each item, the participants rated their degree of confidence in accomplishing each task. A scale from 0 to 100 with 0 indicating *cannot do at all* and 100 indicating *highly certain can do* was used to measure students' perceived ability to complete each of the tasks listed. Scales using more than a few steps are preferred because this increased reliability given that participants tend to "avoid the extreme positions" (Bandura, 2006, p. 312). An example of an item included in the scale questionnaire is the student's ability to "live up to what my parents expect from me" (Bandura, 2006, p. 326). Bandura addressed the reliability of his scales, as well as those built using his *Guide for Constructing Self-Efficacy Scales* by addressing that internal consistency and reliability should be calculated using Cronbach's alpha, and items should be removed or updated until a high coefficient is achieved (Bandura, 2006). In terms of validity, Bandura stated that, "there is no single validity coefficient" because "construct validation is an ongoing process" (Bandura, 2006, p. 319). However, stability and internal consistency across individual studies have been examined and found acceptable based on Henson's (2001) guidelines of the alpha coefficient. Multiple studies with various population samples and settings have demonstrated an acceptable

consistency level of reliability and validity in items from the Children's Self-Efficacy Scale (Bandura et al., 1996, 2001; Pastorelli et al., 2001). Permission granted to utilize the self-efficacy survey is found in Appendix C.

**College-going self-efficacy scale (CGSES).** The CGSES (Appendix D) is an instrument designed to measure students' self-efficacy when completing college-going tasks such as getting accepted into college, finding the means to pay for college tuition, and earning good grades in college. This instrument consists of 30 questions and includes two sections: 14 attendance questions and 16 persistence questions. The attendance section evaluates students' self-efficacy in terms of readiness, family support, college selection, and financing a college education. On the other hand, the persistence section evaluates the students' beliefs regarding their ability to network, their success in classes, and use of their degree after college graduation. All of the questions in the CGSES follow a 4-point Likert-type scale ranging from 1 = *not sure* to 4 = *very sure*. The possible composite score ranges from 30 to 120 with higher scores indicating a higher self-efficacy for post-secondary success. Reliability and validity for the CGSES were established in three phases: initial reliability readability including clarity of items, reliability and factor analysis, and test-retest reliability (Gibbons & Borders, 2010). In the first phase, middle school students in sixth to eighth grade completed the CGSES to identify areas of concern and to be used later to improve the survey. Findings indicated that one descriptor should be removed given a low correlation with other descriptors, and its removal resulted in a higher Cronbach's coefficient. In the second phase, the updated survey was completed by seventh grade students to analyze internal consistency and "determine if a single score or subscores best reflected the content" (Gibbons & Borders,

2010, p. 237). To increment the evidence of reliability, in the third phase a smaller group of seventh grade students completed the survey to investigate reliability over time. A Cronbach's alpha of .88 indicated a "high level of consistency over time" (Gibbons & Borders, 2010, p. 240). At the completion of the three phases, Gibbons and Borders concluded that the CGSES was reliable and valid. Permission granted to utilize the college-going self-efficacy survey is found in Appendix E.

### **Ethical Concerns and Data Security and Privacy**

To uphold ethical standards when collecting the data via Bandura's Children's Self-Efficacy Survey and Gibbon and Border's College-Going Self-Efficacy survey, all information gathered was anonymous. The surveys used have undergone reliability and validity checks and therefore the questions do not display bias, are not opinionated, or misleading. Furthermore, the participants had the right to skip items in the surveys and to withdraw from the study at any point.

Privacy was addressed in this study by respecting student rights and obtaining informed written consent from the parents or legal guardians since the target population were not adults (Appendix F). Also, written consent was obtained from the director of the K-12 charter school, as well as from the middle school principal. All data remained strictly confidential throughout the study. The informed consents were kept in a locked cabinet. To protect the identity of the participants, no identifiable data were collected during the surveys and no e-mail addresses were collected by the Google Form during the completion of the surveys. Following the completion of the surveys, data remained confidential and the steps taken to keep these records sealed and only accessed by the researcher were explained in the informed consent. The researcher maintained all



pertinent information under a password-protected device. Additionally, access to the Google Form where the surveys and responses were housed was password protected.

At the conclusion of the study, once data were analyzed and results were available, the true nature of the study and the results were made available to the subjects and their parents or legal guardians. A method of communication with the researcher was also included in the results, which was given to the participants, parents, and legal guardians and provided them the opportunity to address any misconceptions about the nature of the study. Lastly, all data and other pertinent information related to the study will be kept for five years after the completion of the study.

### **Procedures**

Institutional consent from the California Coast University Institutional Review Board (IRB) was obtained prior to conducting the proposed research. Once the proposal was approved, the researcher secured access to the sample population by formally contacting the director of the charter school and principal via e-mail to obtain institutional consent from the charter school (Appendix G). The researcher shared both surveys and discussed the research procedures. Since this was a convenience sampling study, the researcher was informed by the principal of a teachers' meeting held to explain to teachers the reason for the study and to request their assistance in recruiting students for the sample.

The researcher put together packets in yellow envelopes that included the informed consent letter to inform the participant and parents of the reason for the study (Appendix F) and teacher guidelines (Appendix H). The parental consent granted permission for students to take part in answering the academic and college-going self-

efficacy surveys. Furthermore, the consent form clearly indicated that parents and students had the opportunity to decline participation, withdraw at any stage of the research, or abstain from answering questions, and were encouraged to ask questions if clarification is needed. The purpose of the resource handout included with the informed consent was to educate the participants to ensure they understood what was asked of them throughout the research. Through the informed consent process, participants were informed of the purpose and background of the research, the procedures, expected time required to complete the instruments, possible risks and discomfort, benefits, and confidentiality. The informed consent also ensured that participants understood the consent they had provided, by indicating their choice of participation and signing the informed consent form. Lastly, to encourage participation in the study, the packet informed the parents and students of the opportunities to win college gear, USBs, headphones, and gift cards for Barnes and Noble.

The parents had two weeks to educate themselves about the research and consider whether they wanted the student to participate. The teachers collected the parental consent forms and stored the permissions slips in a secure location to maintain confidentiality until these were picked up by the researcher. As the parental consent forms were submitted and picked up, the researcher kept track of students who had opted to participate by marking a check mark on a class roster. Once the researcher collected the permission slips, these were stored in a locked cabinet for confidentiality purposes. The information collected via the informed consent was not shared with any third parties. The administration of the surveys took place during their advising period to avoid interruption of classroom instruction.

The day of the survey, the teacher read the script to the students who were participating and then distributed Chromebooks, as necessary. Participants completed the surveys on Google Forms in an estimated time of 30 minutes but had all block if necessary. The surveys were structured to provide the participants with the opportunity to opt out of a question by having the option to skip a question or selecting not applicable to avoid false positives. Since no personal identifiable data were collected the day of the survey, to maintain confidentiality and anonymous responses the teachers handed out a ticket stub that was used for the raffle at the end of the school day. Furthermore, the records of this study were kept private and under password protected devices throughout the investigation and kept for five years after the completion of the study.

## CHAPTER FOUR

### Results

The purpose of this research was to understand whether there were differences in students' educational beliefs that could help explain the differences in academic achievement and education attainment among females and males as well as different ethnic groups. The researcher collected data about students' self-efficacy and college-going self-efficacy in an effort to understand students' beliefs about their ability to complete academic-related tasks and goals. The subjects took a self-efficacy survey in which they rated their degree of confidence in completing the tasks presented in a set of statements. Responses were scored on a scale of 0-100 according to the design of the scale. Subjects also took a survey in which they ranked the level of agreement with various statements about college. The survey responses were scored on a scale of 1-4 according to a Likert Scale. This chapter presents the findings of the study and reports the data analyses.

The results of the study are presented as follows: description of the sample, the results of the tests for ethnic differences in self-efficacy, the results of the tests for gender differences in self-efficacy, and the analyses relating to each of the three research questions.

#### **Description of the Sample**

The population from which the sample was drawn were all middle school students at a charter school located in a rural area of the Colorado Front Range Corridor, during the third trimester, 2018. The sample consisted of 89 subjects of which 34 were in sixth grade, 28 in seventh grade, and 27 in eighth grade. Table 1 represents the distribution of

subjects by grade level. The sample included 56 females and 28 males. Table 2 represents the distribution of subjects by gender. Of the subjects, 27.38% indicated to be other than non-Hispanic white students. Table 3 represents the distribution of subjects by ethnic group.

Table 1

*Distribution of Subjects by Grade Level*

	<i>N</i>	%
6 <sup>th</sup> grade	34	30.20
7 <sup>th</sup> grade	28	31.46
8 <sup>th</sup> grade	27	30.34
TOTAL	89	100

Table 2

*Distribution of Subjects by Gender*

	<i>N</i>	%
Females	56	66.67
Males	28	33.33
TOTAL	84	100

Note. Data for 5 subjects classified as “prefer not to say” are excluded.

Table 3  
*Distribution of Subjects by Ethnic Group*

	<i>N</i>	%
Non-Hispanic White	61	72.62
Hispanic or Latino	18	21.43
Native American or American Indian	3	3.57
Asian or Pacific Islander Asian	2	2.38
TOTAL	84	100

Note. Data for 5 subjects classified as “prefer not to say” are excluded.

Though the intended sample size was 217 which was calculated using the parameters of 5% margin of error with a confidence level of 95% for the population size of 496, the actual sample size of the study was 89. While the confidence level remains the same, the margin of error changes from 5% to 9%. Therefore, the range of values above and below the actual results slightly change by 4%.

### **Research Question #1**

Is there a significant difference in self-efficacy between Non-Hispanic white and Hispanic or Latino middle school students currently enrolled at a charter school?

Overall subjects obtained a mean self-efficacy score of 4203.99 ( $SD = 753.50$ ). Non-Hispanic whites obtained a mean score of 4323.77 ( $SD = 734.89$ ) and Hispanics a mean score of 3798.06 ( $SD = 687.72$ ). Table 4 represents the mean score distribution of self-efficacy by ethnic group.

Table 4

*Mean Score Distribution of Self-Efficacy by Ethnic Group*

	Mean Score (Mean $\pm$ SD)
Non-Hispanic White	4323.77
Hispanic or Latino	3798.06
Mean of All Subjects	4203.99

Table 5 represents the means and standard deviations of self-efficacy by ethnic group. A one-way ANOVA was used to test for the difference between the means of ethnic groups. The self-efficacy means were found to be significantly different.

Table 5

*Means and Standard Deviations of Self-Efficacy Scores by Ethnic Group*

	<i>N</i>	<i>M</i>	<i>SD</i>
Non-Hispanic White	61	4323.77	734.89
Hispanic or Latino	18	3798.06	687.72
TOTAL	79	4203.99	753.50

Note. Data for 5 subjects classified as “prefer not to say” are excluded.

A one-way ANOVA was conducted to determine if a significant difference existed between the means of the independent variable, in this case, ethnicities. The ANOVA test was used to evaluate the following research question:

RQ1: Is there a significant difference in self-efficacy between middle school students between Non-Hispanic white and Hispanic or Latino ethnic groups currently enrolled at a charter school?

$H_0$ : There is no significant relationship between Non-Hispanic white and Hispanic or Latino self-efficacy scores of students enrolled at a charter school.

$H_1$ : There is a significant relationship between Non-Hispanic white and Hispanic or Latino self-efficacy scores of students enrolled at a charter school.

The data analysis came from students with a self-efficacy score (SES) score and responded Non-Hispanic white and Hispanic or Latino to the ethnic demographic question ( $N = 79$ ). The data were analyzed using Microsoft Excel Toolpack. The ANOVA test revealed a significant difference between the two ethnic groups: Non-Hispanic white ( $M = 4323.77$ ,  $SD = 734.89$ ) and Hispanic or Latino ( $M = 3798.06$ ,  $SD = 687.72$ ). In order to reject the null hypothesis, the F-value needed to be higher than the F-critical value and the  $p$ -value needed to be less than .05. There was a significant difference on the self-efficacy score by ethnicity at the  $p \leq .05$  level for the three conditions [ $F(1,77) = 7.313$ ,  $p = 0.008$ ], therefore the null hypothesis was rejected. Table 6 represents the one-way ANOVA summary table for the self-efficacy test of differences in means between both ethnic groups. See SES Means by Ethnic Group in Figure 1.

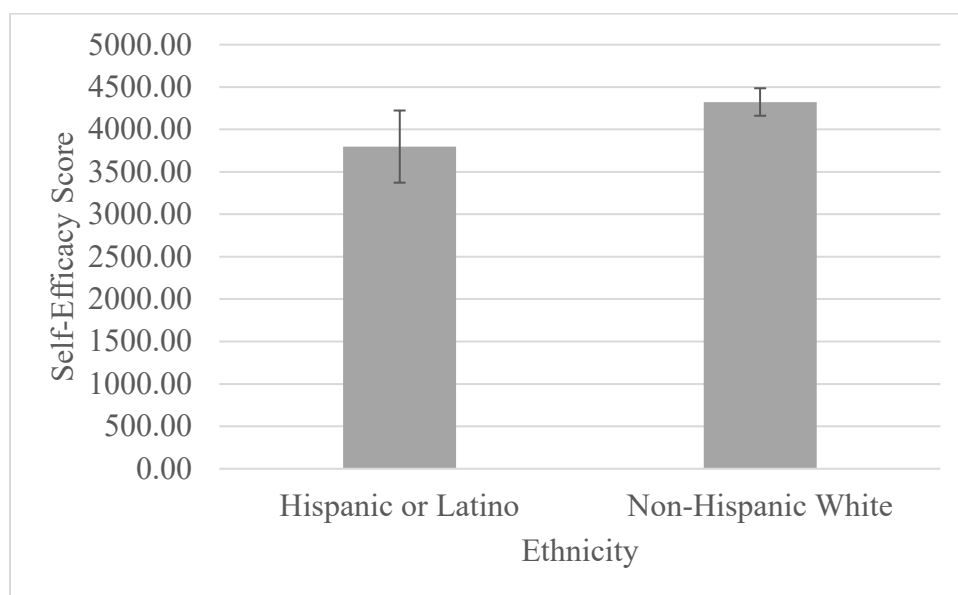


Table 6

*One-Way ANOVA Summary Table for Differences in Self-Efficacy Between Ethnic Groups*

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F critical</i>
Between Groups	3841279.256	1	3841279.256	7.313	0.008*	3.965
Within Groups	40443677.731	77	525242.5679			

\* $p < .05$



*Figure 1.* SES means by ethnic groups. This graph illustrates the SES means and standard error of measurement (SEM) for each of the participating ethnic groups.

Because the data were found to be statistically significant, a post hoc test was conducted to compare the variables with each other. The Post hoc comparisons using the Fisher's Least Significant Difference (LSD) indicated that the mean scores of Non-Hispanic whites ( $M = 4323.77$ ,  $SD = 734.89$ ) and Hispanics ( $M = 3798.06$ ,  $SD = 687.72$ )

were significantly different. The calculations showed that the  $|\text{Non-Hispanic white Self-Efficacy Mean} - \text{Hispanic Self-Efficacy Score Mean}| \geq \text{LSD}_{1,2}$ . Table 7 shows the mean differences compared to the LSD value at  $\alpha = .05$ .

Table 7

*Fisher's Least Significant Difference (LSD) for Self-Efficacy Between Ethnic Groups*

	LSD	$ \text{M G1} - \text{M G2} $	$ \text{M G1} - \text{M G2}  \geq \text{LSD}_{1,2}$
Hispanic or Latino v. Non-Hispanic White	319.36	525.72	TRUE

Taken together, these results suggest that ethnicity does really have an effect on students' self-efficacy scores. Specifically, the results suggest that Non-Hispanic whites tend to have higher levels of self-efficacy than Hispanics or Latinos.

### **Research Question #2**

Is there a significant difference in self-efficacy between middle school male and female students currently enrolled at a charter school?

Female subjects obtained a mean self-efficacy score of 4198.61 ( $SD = 774.34$ ) and male subjects obtained a mean score of 4165.21 ( $SD = 770.73$ ). Before data were analyzed, an F-test was used to determine if the variance between the female and male population was equal. The variances of the two population were found to be equal.

Therefore, a t-test two-sample with equal variance assumption was used to determine if a significant difference in self-efficacy between males and females existed.

Table 8 represents the means and standard deviations of self-efficacy by gender. Table 9 represents the mean score distribution of self-efficacy by gender across ethnic group.

Table 8

*Means and Standard Deviations of Self-Efficacy by Gender*

	<i>N</i>	<i>M</i>	<i>SD</i>
Females	56	4198.66	774.34
Males	28	4165.21	770.73
TOTAL	84	4187.51	768.64

Table 9

*Mean Score Distribution by Gender and Ethnic Group*

	<i>F</i>	<i>N</i>	<i>M</i>	<i>N</i>
Non-Hispanic White	4304.05	40	4372.67	21
Hispanic or Latino	3855.50	13	3882.25	5
Native American or American Indian	3481.00	1	3651.00	2
Asian or Pacific Islander	4444.50	2	-	-
Mean	4198.66		4165.21	

Before the data were analyzed to test the research question, an F-Test Two Sample for Variances was conducted to test and confirm that the variances in the groups were equal. The *p*-value for this data was .50, which revealed that the female and male samples needed to be addressed as homogenous groups. Since the results showed a value

of  $p \geq .05$ , the null hypothesis was not rejected and equal variance was assumed between the two groups. Table 10 shows the summary of the F-Test Two-Sample for Variances by Gender findings.

Table 10

*F-Test Two-Sample for Variances by Gender*

	<i>Females</i>	<i>Males</i>
Mean	4198.661	4165.214
Variance	599596.228	594024.101
Observations	56	28
Df	55	27
F	1.009	
P(F<=f) one-tail	0.504	
F Critical one-tail	1.575	

Once normality and homogeneity of the samples were established, a t-test was conducted to assess the relationship between SES scores and students' gender. The t-test was used to evaluate the following research question:

RQ2: Is there a significant difference in self-efficacy between middle school male and female students currently enrolled at a charter school?

$H_0$ : There is no significant relationship between gender and self-efficacy scores of students enrolled at a charter school.

$H_1$ : There is a significant relationship between gender and self-efficacy scores of students enrolled at a charter school.

The data analysis was derived from the students with an SES score and responded to the gender demographic question ( $N = 84$ ). A t-test with two-tails was conducted using Microsoft Excel to evaluate if a significant difference in the means of the two groups

existed. There was not a significant difference in the self-efficacy scores between female ( $M = 4198.66$ ,  $SD = 774.34$ ) and male ( $M = 4165.21$ ,  $SD = 770.73$ ) conditions;  $t(56,28) = 0.187$ ,  $p = 0.852$ . For this analysis,  $[df] = 82$  and  $\alpha = .05$ , the critical t-value was 1.664. In order to reject the null hypothesis, the t-value needed to surpass the critical t-value and the  $p$ -value needed to be lower than .05. As listed in Table 11, the calculated t-value was 0.187 while the critical was 1.664 and the  $p$ -value calculated was .852. Therefore, the data failed to reject the null hypothesis. The self-efficacy scores of females and males were not significantly different from each other. While the means of self-efficacy scores indicated a lower mean for males, the difference was not statistically significant. Table 11 represents the summary of the two-tail t-test Two-Sample Variances in self-efficacy of males and females. See SES Distribution and Variability by Gender in Figure 2.

Table 11

*t-Test: Two Sample Assuming Equal Variances Between Females and Males*

	<i>Females</i>	<i>Males</i>
Mean	4198.661	4165.214
Variance	599596.228	594024.101
Observations	56	28
Pooled Variance	597761.503	
Hypothesized Mean Difference	0	
df	82	
t Stat	0.187	
P(T<=t) one-tail	0.426	
t Critical one-tail	1.292	
P(T<=t) two-tail	0.852	
t Critical two-tail	1.664	

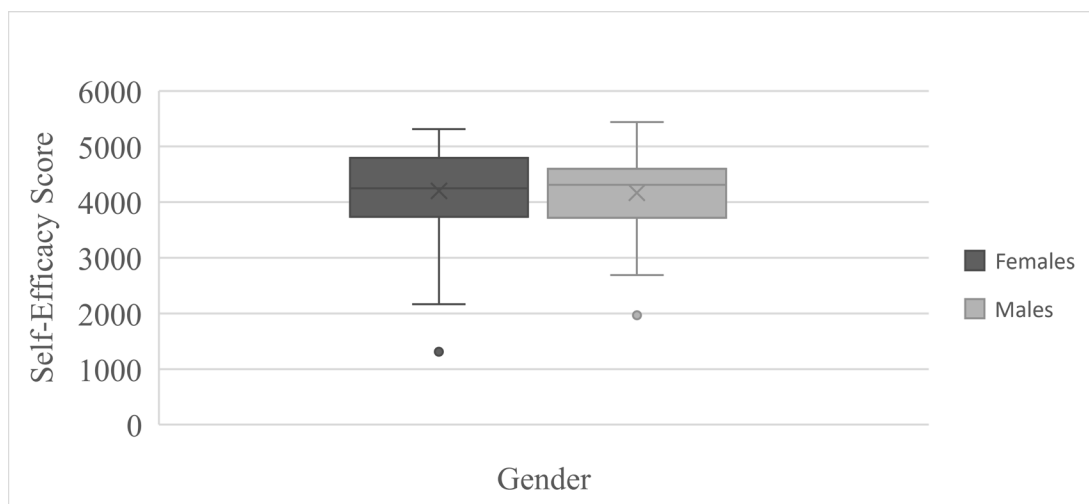


Figure 2. SES means by gender. This graph illustrates the SES distribution and its variability for females and males.

### Research Question #3

Does a correlation exist between self-efficacy and college-going self-efficacy among currently enrolled middle school students at a charter school?

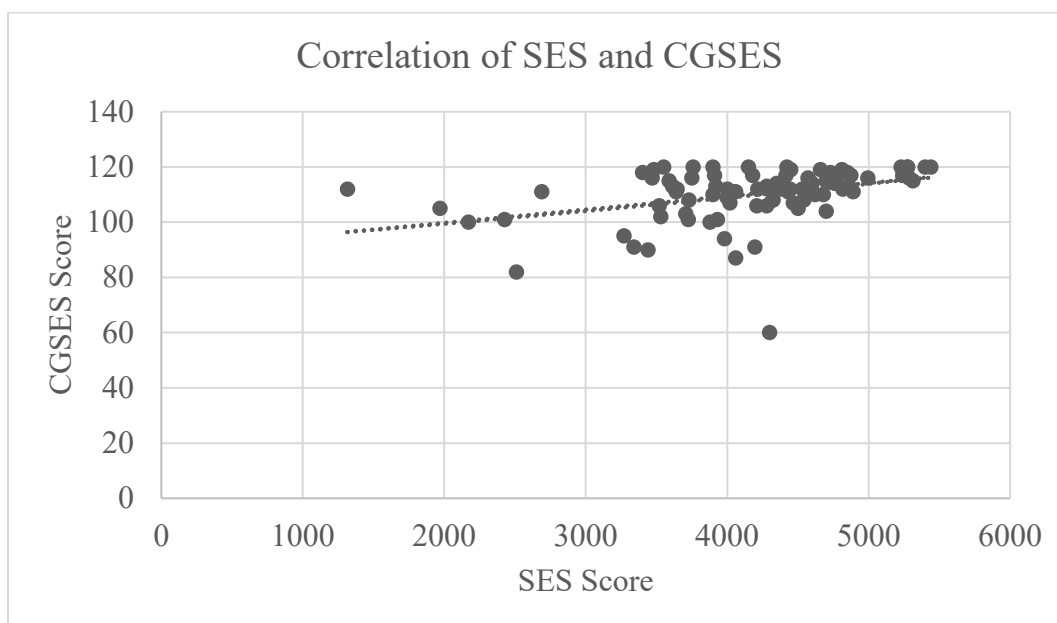
A Pearson Correlation was conducted to assess the relationship between general self-efficacy and their beliefs about college by using students' survey scores on the SES and college-going self-efficacy (CGSES). This correlational test was used to evaluate the following research question:

RQ3: Does a correlation exist between self-efficacy and college-going self-efficacy among currently enrolled middle school students at a charter school?

$H_0$ : There is no significant relationship between self-efficacy and college-going self-efficacy scores of students enrolled at a charter school.

$H_1$ : There is a significant relationship between self-efficacy and college-going self-efficacy scores of students enrolled at a charter school.

The data analysis came from students with both SES and CGSES scores ( $N = 88$ ) and was analyzed using Microsoft Excel Analysis Toolpack. The correlation test revealed a positive correlation ( $r = .38$ ) between the students' scores on the SES ( $M = 4176.55$ ,  $SD = 775.96$ ) and CGSES scores ( $M = 110.24$ ,  $SD = 9.85$ ). A correlation of 0 would have represented no relationship between the SES scores and the CGSES scores. In order to reject the null hypothesis a positive or negative r-value was needed to establish the strength of the relationship. The value produced by the Pearson Correlation was  $r = .38$  with a  $p < .001$ ; therefore, the null hypothesis was rejected. There was a relationship between the students' self-efficacy scores. See the Correlational Scatterplot in Figure 3.



*Figure 3.* Correlation of scores on SES and CGSES. This figure illustrates the positive correlation between students' SES scores and CGSES scores.

After establishing that a relationship existed between SES and CGSES, [ $r = .379$ ,  $N = 88$ ,  $p < .001$ ], the r-value was used to calculate Cohen's standardized effect size to

indicate the magnitude of the effect of SES and CGSES on each other. The value produced by the standardized mean difference calculation was  $d = .8216$ . According to Cohen's standard a value of .80 or higher indicates a strong or a high association between the two variables investigated. The effect size for this analysis ( $d = .8216$ ) was found to exceed Cohen's convention for a large effect ( $d = .80$ ) thus suggesting that a strong relationship exists between SES ( $M = 4176.55$ ,  $SD = 775.96$ ) and CGSES ( $M = 110.24$ ,  $SD = 9.85$ ).



## CHAPTER FIVE

### Summary and Discussion

The purpose of this research was to investigate what middle school students of a charter school in a rural area of the Colorado Front Range Corridor believe about their ability to succeed academically in an effort to identify areas in need of improvement and intervention. The differences in self-efficacy scores of Non-Hispanic white and Hispanic or Latino ethnic groups as well as females and males were assessed to gain a better understanding why these demographic groups have lower educational achievements and attainments. The relationship between self-efficacy and college-going self-efficacy was assessed to gain a better understanding of how students' school beliefs correlate with their beliefs to be successful in college.

The discussion of the results of the study are presented as follows: the results of the tests for ethnic differences in self-efficacy, the results of the tests for gender differences in self-efficacy, and the analyses relating to each of the three research questions.

#### **Research Question #1**

Is there a significant difference in self-efficacy between Non-Hispanic white and Hispanic or Latino middle school students currently enrolled at a charter school?

The one-way ANOVA test indicated that the ethnicity of middle school students had .008 level of significance on students' self-efficacy scores. Significance was indicated by a value of .05 or less. The results suggest that there is a significant difference between students' ethnicity and self-efficacy scores. Fisher's Least Significant Difference

(LSD) post-hoc test revealed that when comparing Non-Hispanic white and Hispanic or Latino self-efficacy scores, a statistical difference exists. The LSD test also showed a statistical difference between Non-Hispanic white and Hispanic Latino self-efficacy scores.

Findings from this study support previous self-efficacy research, specifically the existence of significant ethnic differences in attitude beliefs. Mickelson's study found that significant racial differences exist in attitudes towards education between African-Americans and their counterparts (Mickelson, 1990). The fact that Non-Hispanic white students scored higher in the self-efficacy scale was consistent with previous findings that an academic achievement gap exists between minority groups, given that it is a predictor of success (Kolhaas et al., 2010; National Center for Educational Statistics, 2012; Rowley & Wright, 2011).

### **Research Question #2**

Is there a significant difference in self-efficacy between middle school male and female students currently enrolled at a charter school?

A t-test revealed that there was not a significant mean difference between males and females regarding their self-efficacy scores. Contrary to other self-efficacy research conducted, females ( $M = 4198.66$ ) slightly outperformed males ( $M = 4165.21$ ) when these two groups were compared. Even though there was not a statistical significance between the self-efficacy scores of females and males, individual statements on the self-efficacy table reflected differences in beliefs for several items, such as items related to dance skills, music skills, and plays. Though Caprara et al. (2008) showed that female students exhibited higher self-efficacy, there continues to be a lack of consistency in

findings revolving around mean differentials in self-efficacy by gender as shown by studies in which males outperform females in self-efficacy beliefs (Recber, Isiksal, & Koc, 2018). Such differences in findings might be an indication of differences in distribution in self-efficacy scores (Epstein & Fischer, 2017). not only across disciplines but perhaps across levels of education

### **Research Question #3**

Does a correlation exist between self-efficacy and college-going self-efficacy among currently enrolled middle school students at a charter school?

The Pearson Correlation revealed a positive correlation between the SES and the CGSES scores [ $r(87) = .38, p < .001$ ]. This showed that students' current self-efficacy level was correlated with their beliefs for their future in college. Therefore, students who showed to be more confident engaging in middle school-related tasks in general had more confident beliefs in their ability to succeed in college.

### **Conclusions**

Educators and those in school decision-making positions as well as educators need to better understand students' education beliefs and the factors influencing these beliefs in order to design lessons and intervention programs around students' needs. The data collected using the SES suggested that there is a correlation between ethnicity and self-efficacy scores. On the other hand, scores from the SES and CGSES suggested that there is a correlation between self-efficacy scores and college-going self-efficacy. Even though a significant difference in means exists between Non-Hispanic white and Hispanic or Latino ethnic groups, and a correlation exists between the two types of self-efficacy, it does not imply causation. However, the findings hold potential in helping

more students from underrepresented groups to improve their self-efficacy scores. With higher self-efficacy scores, students may be able to view obstacles as challenges they can overcome rather than a stop to their goals (Bashant, 2016). Hossler, Schmit, and Vesper's (1999) research indicated that post-secondary goals and choices are often made before students are upperclassman in high school. Therefore, middle school is the prime time in helping students' general self-efficacy beliefs as well as self-efficacy beliefs about college. If students believe in their ability to succeed in educational goals, they may be more likely to pursue a post-secondary education.

The self-efficacy surveys also revealed how students view the factors that contribute to their education. An individual analysis of all survey statements showed that students' academic achievement portion of the self-efficacy which assesses students' belief in their ability to learn multiple disciplines such as algebra, science, and social studies was higher than their belief in obtaining academic and social support. Further examination of these statements across Non-Hispanic white and Hispanic or Latino ethnic groups further illuminated beliefs regarding specific areas that need to be addressed to help minority students overcome educational barriers. For instance, Hispanic or Latino students showed a lower score in enlisting social resources, enlisting parental, and community support, and academic achievement than Non-Hispanic white students. Because family involvement, social persuasions, and psychological and affective states have been linked to self-efficacy scores and achievement, these are areas that need to be addressed to help students as they face challenges with the appropriate resources to overcome these challenges (Carlton & Krause, 2014; Kim, 2014). Educators perhaps may assume that students view their abilities to accomplish a task or a goal in a certain way,

but students need the opportunity to express their true beliefs so that educators can better understand students.

Another area of concern was that not only were the Leisure Time Skills and Extracurricular Self-Efficacy among the lowest scoring categories among all subjects, but also lower for Hispanic or Latino students. According to the universities nearby the charter school where data collection took place, the office of admissions emphasized that extracurricular activities play a part in college admissions and scholarships because these reveal qualities about the applicants in ways that a transcript cannot (Northridge Counseling Department, personal communication, January 10, 2018). Therefore, if organizations, colleges, and universities are looking at students' engagement in extracurricular activities to make decisions regarding scholarships and acceptance, then these students are less competitive candidates than those who are actively engaged. Administrators and teachers can use the data from assessing self-efficacy to design interventions that cater to students' individual needs such as offering and promoting extracurricular activities that benefit and are of interest to the students based on their background.

### **Implications for Future Research**

The findings of the present study suggest several directions for future self-efficacy and college-going self-efficacy:

The results of the self-efficacy scores by gender found in the present investigation are consistent with those reported on similar samples comparing the self-efficacy beliefs of minority groups. Also, a positive correlation was found between self-efficacy scores and college-going self-efficacy scores. However, generalization is limited to charter

schools in rural areas of the Colorado Front Range with similar demographics; therefore, further research is needed about students in other schools of choice as well as public schools to see if findings can be generalized to a larger group of students. In addition, if students in this study had a difference in self-efficacy level as middle schoolers, it would be beneficial to conduct a longitudinal study in which students are tracked throughout middle school and high school to assess changes in both self-efficacy and college-going self-efficacy. Further studies that collect longitudinal data could help account for the differences in self-efficacy among students of various ethnic groups as well as understand the changes that contribute to the differences in self-efficacy scores.

Though Hispanic or Latino students showed a significant lower self-efficacy mean, some students are resilient despite the barriers they encounter and are able to reach educational goals and overcome challenges (Richardson, 2008). Therefore, a self-efficacy case study would be beneficial to investigate what leads to the educational success of underrepresented minorities. An analysis of these variables would allow researchers to investigate how self-efficacy changes over time and how students are able to overcome predisposed obstacles based on their ethnic background.

Similarly, a study that is inclusive of other demographics such as African-Americans, Asian or Pacific Islanders, and Native Americans could further identify any possible self-efficacy score differences based on ethnicity. Such investigation could help fill in the gaps in knowledge revolving around self-efficacy and its interconnectedness with academic performance. Understanding the disparities between ethnic groups can help educators better serve students as the demographics continue to shift in schools.

Another interesting aspect of this study that could be used to better understand the academic achievement and attainment differences between ethnic groups would be to compare schools with diverse and non-diverse staff and explore if this has an effect on minority students' self-efficacy and college-going self-efficacy scores. According to Bandura (1994), self-efficacy can be influenced by others who are similar to oneself and attempted a similar task. Perhaps having a diverse staff can contribute to the sharing of their own challenges and obstacles they overcame while boosting the self-efficacy of students with similar backgrounds or attempting to embark in a similar challenge. Though social persuasion is known to have a significant influence in self-efficacy, it would be interesting to explore if social persuasion from teachers to students with similar backgrounds has a higher impact in students' self-efficacy than social persuasion from teachers with different backgrounds than the students. Furthermore, it would be interesting to investigate the role of diverse staff not only in self-efficacy as a whole, but how it impacts the students' scores in the areas of enlisting social resources, parental, and community support which were areas of concern in this study.

Even though no research was found to study a similar sample with the same instruments, the distribution of self-efficacy scores of females and males found in the present study is discrepant from those reported in studies assessing various forms of self-efficacy. The scores found in the present investigation show no significant difference in self-efficacy scores of females and males. Conducting further studies investigating the differences in self-efficacy is necessary to better understand which variables impact self-efficacy scores. In the present study, middle school students of a charter school were studied; future studies can compare the results of a larger sample either from the same

campus or various charter schools. Also, it is suggested that future studies may consider focusing on a core area such as math or science to uncover any possible differences in self-efficacy across core areas by gender. Other future research could be to investigate a possible relationship between self-efficacy scores between females and males at different grade levels to explore how self-efficacy changes over time.



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Appendix A  
Demographic Questions

## Demographic Questions

What grade are you in?

- 6th
- 7th
- 8th

What is your gender identity?

- Female
- Male
- Prefer not to say
- Other: \_\_\_\_\_

What is your ethnicity?

- Non-Hispanic White
- Hispanic or Latino
- Black or African American
- Native American or American Indian
- Asian or Pacific Islander
- Prefer not to say
- Other: \_\_\_\_\_

Appendix B  
Children's Self-Efficacy Scale

## Children's Self-Efficacy Scale

This questionnaire is designed to help us get a better understanding of the kinds of things that are difficult for students. Please rate how certain you are that you can do each of the things described below by writing the appropriate number. Your answers will be kept strictly confidential and will not be identified by name.

*Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:*

0	10	20	30	40	50	60	70	80	90	100
Cannot do at all					Moderately can do					Highly certain can do
										<b>Confidence (0-100)</b>
<b>Self-Efficacy in Enlisting Social Resources</b>										
Get teachers to help me when I get stuck on schoolwork										_____
Get another student to help me when I get stuck on schoolwork										_____
Get adults to help me when I have social problems										_____
Get a friend to help me when I have social problems										_____
<b>Self-Efficacy for Academic Achievement</b>										
Learn general mathematics										_____
Learn algebra										_____
Learn science										_____
Learn biology										_____
Learn reading, writing, and language skills										_____
Learn to use computers										_____
Learn a foreign language										_____
Learn social studies										_____
Learn English grammar										_____
<b>Self-Efficacy for Self-Regulated Learning</b>										
Finish my homework assignments by deadlines										_____
Get myself to study when there are other interesting things to do										_____
Always concentrate on school subjects during class										_____
Take good notes during class instruction										_____
Use the library to get information for class assignments										_____
Plan my schoolwork for the day										_____
Organize my schoolwork										_____
Remember well information presented in class and textbooks										_____
Arrange a place to study without distractions										_____
Get myself to do school work										_____

**Self-Efficacy for Leisure Time Skills and Extracurricular Activities**

- Learn sports skills well \_\_\_\_\_
- Learn dance skills well \_\_\_\_\_
- Learn music skills well \_\_\_\_\_
- Do the kinds of things needed to work on the school newspaper \_\_\_\_\_
- Do the things needed to serve in school government \_\_\_\_\_
- Do the kinds of things needed to take part in school plays \_\_\_\_\_
- Do regular physical education activities \_\_\_\_\_
- Learn the skills needed for team sports (for example, basketball, volleyball, swimming, football, soccer) \_\_\_\_\_

**Self-Regulatory Efficacy**

- Resist peer pressure to do things in school that can get me into trouble \_\_\_\_\_
- Stop myself from skipping school when I feel bored or upset \_\_\_\_\_
- Resist peer pressure to smoke cigarettes \_\_\_\_\_
- Resist peer pressure to drink beer, wine, or liquor \_\_\_\_\_
- Resist peer pressure to smoke marijuana \_\_\_\_\_
- Resist peer pressure to use pills (uppers, downers) \_\_\_\_\_
- Resist peer pressure to have sexual intercourse \_\_\_\_\_
- Control my temper \_\_\_\_\_

**Self-Efficacy to Meet Others' Expectations**

- Live up to what my parents expect of me \_\_\_\_\_
- Live up to what my teachers expect of me \_\_\_\_\_
- Live up to what my peers expect of me \_\_\_\_\_
- Live up to what I expect of myself \_\_\_\_\_

**Social Self-Efficacy**

- Make and keep friends of the opposite sex \_\_\_\_\_
- Make and keep friends of the same sex \_\_\_\_\_
- Carry on conversations with others \_\_\_\_\_
- Work well in a group \_\_\_\_\_

**Self-Assertive Efficacy**

- Express my opinions when other classmates disagree with me \_\_\_\_\_
- Stand up for myself when I feel I am being treated unfairly \_\_\_\_\_
- Get others to stop annoying me or hurting my feelings \_\_\_\_\_
- Stand firm to someone who is asking me to do something unreasonable or inconvenient \_\_\_\_\_

**Self-Efficacy for Enlisting Parental and Community Support**

- Get my parents to help me with a problem \_\_\_\_\_
- Get my brother(s) and sister(s) to help me with a problem \_\_\_\_\_
- Get my parents to take part in school activities \_\_\_\_\_
- Get people outside the school to take an interest in my school (for example, community groups, churches) \_\_\_\_\_

## Appendix C

### Permission to Use Self-Efficacy Scale

**Re: Self-Efficacy Scale Permission Request**

Professor

Sun 9/10/2017, 9:54 PM

You;

Permission granted, AB

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**From:** CCU Student

**Sent:** Friday, September 8, 2017 6:46 AM

**To:** Professor

**Subject:** Self-Efficacy Scale Permission Request

Good morning Professor,

My name is CCU Student, a high school science teacher in Colorado who is currently working on her dissertation proposal. I was fascinated to learn about self-efficacy throughout my coursework that I decided to incorporate it onto my research. I would be ecstatic if I would be granted permission to use one of the self-efficacy scales that you developed. I'm new to the realm determining when permission is required, therefore I felt it was best to contact you directly with this request. I'll be more than happy to share more about my study if it is important in the decision making.

Thank you in advance! Have a wonderful day!

Sincerely,

CCU Student



## Appendix D

### College-Going Self-Efficacy Scale

This questionnaire is designed to help us get a better understanding of “how sure you are about being able to do” specific college related tasks. Please indicate to what extent you

agree or disagree with each statement. Your answers will be kept strictly confidential and will not be identified by name.

The College-Going Self-Efficacy Scale (CGSES) Gibbons (2005)	Really agree 1	Kind of agree 2	Kind of disagree 3	Really disagree 4
1. I can find a way to pay for college.				
2. I can get accepted to college.				
3. I can have family support for going to college.				
4. I can choose a good college.				
5. I can get a scholarship or grant for college.				
6. I can make an educational plan that will prepare me for college.				
7. I can make my family proud with my choices after high school.				
8. I can choose college courses that best fit my interest.				
9. I can pay for college even if my parents cannot.				
10. I can get good grades in my high school math classes.				
11. I can get good grades in my high school science classes.				
12. I can choose the high school classes needed to get into a good college.				
13. I can know enough about computers to get into college.				
14. I can go to college after high school.				
15. I could pay for each year of college.				
16. I could get A's and B's in college.				
17. I could get my family to support my wish of finishing college.				
18. I could take care of myself in college.				
19. I could fit in at college.				
20. I could get good enough grades to get or keep a scholarship.				

21. I could finish college and receive a college degree.				
22. I could care for my family responsibilities while in college.				
23. I could set my own schedule while in college.				
24. I could make friends at college.				
25. I could get the education I need for my choice of career.				
26. I could get a job after I graduate from college.				
27. I would like being in college.				
28. I could be smart enough to finish college.				
29. I could pick up the right things to study at college.				
30. I could do the classwork and homework assignments in college classes.				

Appendix E

Permission to Use College-Going Self-Efficacy Scale

**Re: Permission to use your college-going self-efficacy survey**

Professor and PhD Program Coordinator  
Thu 12/28/2017, 12:45 PM

You;

Hi CCU Student,

You are welcome to use the CGSES. It is attached. Good luck on your study.

Professor and PhD Program Coordinator  
Counselor Education  
University of Tennessee

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**From:** CCU Student

**Sent:** Wednesday, December 20, 2017 11:27 PM

**To:** Professor and PhD Program Coordinator

**Subject:** Permission to use your college-going self-efficacy survey

Dear Professor and PhD Program Coordinator,

I'm currently a high school teacher who is working on her dissertation. I'm in the proposal phase of my dissertation for an Ed.D. in Organizational leadership.

My dissertation focus is both perceived self-efficacy and college-going self-efficacy and I'd like to request permission to utilize your survey.

If you have any questions please do not hesitate to contact me.

Sincerely,

CCU Student

Appendix F  
Informed Consent Form

Consent to Participate in a Research Study  
Parent Information Letter

Please read this form and the informational handout carefully and ask any questions you may have before deciding whether or not to participate in this research study.

Researcher Name: CCU Student

Title of the Study: An investigation of the ethnic and gender differences in self-efficacy and its relationship to college-going self-efficacy at a Northern Colorado charter school.

### **Introduction**

- I'm a teacher in Weld County and I am working on my doctorate degree.
- Students are being asked to participate in a research study about self-efficacy by completing two surveys.
- Self-efficacy is the belief in yourself that you can or cannot successfully complete a certain task or meet a goal. For example, solving a math problem, writing a lab report, learning a dance routine, playing a musical instrument, etc.

### **Purpose of the research:**

- To study the perceived self-efficacy and college-going self-efficacy beliefs by students from all backgrounds.
- Survey responses will be used to identify interventions that might be used to promote academic and college-going self-efficacy.

### **What you will do in this research?**

- Students will take two surveys about their beliefs surrounding academics and college. Both of the surveys will be completed in no more than 30 minutes.

### **Risks:**

- There are minimal risks expected.
- Students' self-efficacy could potentially be impacted by bringing this topic to their attention.

### **Benefits:**

- There are no benefits for completing the surveys.
- Survey results could help decision makers develop and implement interventions that promote academic and college-going self-efficacy.

### **Compensation:**

- Participants will receive a ticket stub for a raffle at the end of the data collection.

**Confidentiality and Privacy:**

- Both surveys are anonymous. No identifiable data will be collected during the survey.
- All signed consent forms will be kept in a locked cabinet for privacy.
- Information collected via the permission form will not be shared with any third parties.
- The records of this study will be kept private and under password protected devices throughout the investigation.

**Participation and withdrawal:**

- Taking part in this study is completely voluntary, and you may decline to participate or withdraw from the study without penalty.
- Student's grades will not be affected based on participation or lack thereof.
- You may withdraw by informing the researcher, or your teacher, that you no longer wish to participate.
- You may also skip any question during the surveys.

Please ask any questions you have now. If you have any questions later, you may contact the researcher CCU Student.

Statement of Consent: I have read the above information and have received answers to any questions I asked. I consent to take part in this study.

***Please sign and return this form to your advisor before April 13<sup>th</sup>.***

Student's Name: \_\_\_\_\_ Grade: \_\_\_\_\_

- I give my child permission to complete the surveys.
- I do not give my child permission to complete the surveys.

Parent/Guardian Signature \_\_\_\_\_

This consent form will be kept by the researcher for at least five years beyond the end of the study.



# What is self-efficacy?

Self-efficacy is the belief in yourself that you can or cannot successfully complete a certain task or meet a goal. For example, solving a math problem, writing a lab report, learning a dance routine, playing a musical instrument, etc.



## Self-Efficacy Online Resources

Self-Efficacy: Up to the Challenge  
Colorado Department of Education  
<https://goo.gl/Fd1arw>



Self-Efficacy Teaching Tip Sheet  
American Psychological Association  
<https://goo.gl/9tEfiZ>



Self-Efficacy Theory Video  
Dr. Brett D. Jones Virginia Tech.  
<https://goo.gl/t23hxy>



Importance of Self-Efficacy Video  
Transforming Education Organization  
<https://goo.gl/CwF8SZ>



What Influences Self-Efficacy?  
University of Connecticut  
<https://goo.gl/KWrgxq>



Self-Efficacy Toolkit  
Transforming Education Organization  
<https://goo.gl/HQ9ELH>



Appendix G

Letter of Institutional Consent

Appendix H  
Teacher Packet

### Introduction Letter for Teachers

The week of April 16 during advising class, you will be administering the Self-Efficacy Survey that consists of three sections: a) demographic questions, b) Children's Self-Efficacy Scale, and c) College-Going Self-Efficacy, to all students eligible for participation.

This packet contains the informed consent forms that you will hand out to your students. The informed consent form explains the purpose, expectations, security, and privacy of this survey. The informed consent form also gives parents/guardians the opportunity to grant students permission to participate as well as to opt out of the survey.

Students will have two weeks to return the informed consent form. Please print a classroom roster and indicate on your roster when the forms get turned back. Place the roster and the permission slips inside the yellow envelope labeled *Permission Slips*. Please store the permission slips envelope in a secure location to maintain confidentiality until these are picked up by the researcher on April 13<sup>th</sup>.

The day of the survey, refer to the roster of participating students and read the script to the students who are participating. Although students may complete the survey on their cell phones, if possible please have a set of Chromebooks available as well as the hard copies of the surveys included in this packet on the day of the survey. Please place any survey completed on a hard copy back in the envelope labeled *Surveys* and seal it. The surveys will be completed in an estimate time of 30 minutes. There is also a set of ticket stubs that need to be handed out to be used for a raffle at the end of the school day. Please tear the ticket in half and give the participant one ticket stub while placing the other half in the envelope labeled *Raffle*. Place the Surveys and Raffle envelopes inside the envelope labeled *Survey Materials* and return it to the front office after school. The researcher will be there to collect the envelopes and to conduct the raffle.

If you have any questions: Please ask any questions you have now. If you have any questions later, you may contact the researcher.

## Survey Administration Script

[Read the script to class and follow the instructions]

You are about to take the self-efficacy survey. Self-efficacy is the belief in yourself that you can or cannot successfully complete a certain task or meet a goal. For example, solving a math problem, writing a lab report, learning a dance routine, playing a musical instrument, etc. This survey is to study the perceived self-efficacy and college-going self-efficacy beliefs by students from all backgrounds. Your answers are very important and can help identify interventions to promote academic and college-going self-efficacy.

This survey is completely anonymous, meaning the answers you give will be kept private. No one will know what you answer, so please do not include your name in any section of the survey. You have the entire class period to complete the survey. Completing the survey is voluntary. You may choose not to answer some, or all of the questions. There are no wrong answers. Please be completely truthful as it will affect the accurate outcome of the study. If you do not want to answer any question, just leave it blank. Whether or not you answer the questions will not affect your grade in class.

I will now handout the QR codes and link to the survey, as well as a ticket stub to be used for the raffle at the end of the school day.

You may access the survey by:

- Using your cell phone to scan the QR code
- Use a Chromebook and type the link that is printed on the handout

OR

- Ask me for a hard copy of the survey

Please read each question all the way through, as well as the instructions for each of the three sections of the survey to help you understand what the questions are asking. If you don't understand a question, skip it. Do not ask me or your neighbor for help. Do your best and answer honestly.

Respect the privacy of your classmates. Please do not ask anyone for help or talk while others are still taking the survey. I will not walk around the classroom while you are taking the survey and I will not read any survey answers to protect your privacy. I will stay at the front of the classroom.

When you have completed your survey exit the website OR place the hard copy survey in the large yellow envelope and read quietly or work on other class work at your desk to allow everyone to finish in silence. When all hard copy surveys have been collected, I will seal the envelope in front of you to ensure privacy.

Thank you in advance for your participation.

QR Code and Link to Survey

<https://goo.gl/forms/Qc81KRdBSQ5IexDy1>