THE EFFECT OF SOCIOECONOMIC STATUS AND GENDER ON HIGH SCHOOL STUDENT PERCEPTIONS ABOUT CAREER AND TECHNICAL EDUCATION

by

Briael Marie Chadwell

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University

2016

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2017

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ABSTRACT

This quantitative study examines the perceptions of career and technical education (CTE) among high school students based on their socioeconomic status and gender, and the interaction between the two. The study used a convenience sample of 207 students from four coastal South Carolina high schools. The data was collected using the Image of Vocational Education (IVE) survey. The data was analyzed using a two-way ANOVA. The results found that low socioeconomic status, middle socioeconomic status, high socioeconomic status all had positive perceptions of CTE; female and male had no differences in perception; and there is no interaction. The summary and discussion conclude that high school student perceptions of CTE are positive. Recommendations for further research include a qualitative study looking at individualized perceptions rather than overall perceptions as well as finding reasons why high school students are not enrolling in CTE courses.

Keywords: Career and Technical Education (CTE), student perceptions, gender, socioeconomic status, Kolb, vocational studies, Image of Vocational Education (IVE)

Dedication

I would like to dedicate this research to my family, friends, support groups, and God. Without my family, this would not have been possible. Thank you to my husband for giving me the time alone to complete the work necessary and the continual support I needed. Thank you to my parents for always being there unconditionally. Thank you to my daughters for putting a smile on my face when I needed it most. Thank you to all those who proofread, listened, gave words of confidence, provide expertise, and shared a hug when needed. And thank you to God for helping me persevere.

Acknowledgments

There are many people who made this research and dissertation possible. Dr. Kurt Michael, chair and mentor, provided several hours of instruction and leadership. Dr. Barbara Goggans assisted with proofreading and dissemination of materials. Dr. Patricia Canada provided encouragement and focus. Kristen Wang from the Online Writing Lab provided proofreading and editing assistance.

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List of Abbreviations

American Federation of Labor (AFL)

Career and Technical Education (CTE)

Family Affluence Scale (FAS)

Image of Vocational Education (IVE)

National Association for Manufacturing (NAM)

National Society for Promotion of Industrial Education (NSPIE)

Science, Engineering, Technology, & Mathematics (STEM)

World Health Organization (WHO)

CHAPTER ONE: INTRODUCTION

Overview

Since the 1800s, apprenticeship programs have been a valuable tool in building the skill set needed to be successful. In the early 1900s, researchers and policy makers continued to push vocational education. It has evolved into career and technical education to encompass 21st century skills and the ever-changing job market. The purpose of this study was to examine student perceptions of the educational program and determine whether socioeconomic status and gender affected perceptions. Chapter One will discuss the background related to the study and methodology. The problem statement will be presented and discussed, including recommended research from other studies. The purpose and significance of this study will also be discussed. Finally, the research questions will be presented, and definitions pertaining to this study will be stated.

Background

Career and technical education (CTE) policy and legislation is continually revisited and revised, yet public opinion has not been modernized. Since the late 1800s vocational education has been a hot topic for legislators and educators in the United States. The verbiage changed from vocational education to CTE to include 21st century skills and job skills of today. High school students continue to perceive CTE with a negative stigma, which can be tied to the people who influence their thoughts and the marketing used to promote the program. Although the words and policies have changed, students, parents, and others have not been clearly informed of the educational opportunities available to students.

CTE began in Europe with training for trades. In the seventeenth and eighteenth centuries, education was divided among social classes; lower classes were trained for manual

labor and trades (Gordon, 2014). The purpose for education was to prepare people for their future careers, which mainly entailed manual and career training. In European nations, the philosophers and educators on the forefront of vocational training were J. Rousseau and J. Pestalozzi. Rousseau was an advocate for experiencing education through kinesthetic learning. Pestalozzi believed in educating all children, not just upper class citizens. He also built upon Rousseau's ideas and created three concentrations in vocational education: "the principles of vocational training in agreement with those of other branches of education; his views on industry, its dangers, and means of overcoming them; and finally, his ideas on the education of the poor" (Gordon, 2014, p. 4). These two philosophers of Switzerland began the thinking that authentic learning could prepare children to learn a trade.

Other educators who followed the model set forth by Rousseau and Pestalozzi were J. Addams, J. Dewey, S. Chapman, B. Washington, C. Prosser, and D. Snedden. Addams believed that education should have a connection between school and work. According to Gutek (2001), Addams believed that students should be educated in vocational studies in order to build connections between school and work (p. 296). Dewey believed that the education system at the time focused too much on the liberal arts and did not adequately prepare people for authentic applications (Gordon, 2014). Chapman used Rousseau's model for the Hampton Institute, which Washington learned from and implemented in Alabama's Tuskegee Institute. Prosser believed that vocational training should be a part of mainstream education. Snedden advocated for students to be prepared and trained for the workforce. They all believed that education should not be for the upper class only and that education for all should be purposeful for all.

Educators and theorists alike believe that education is an experience. The theoretical framework that promotes CTE programs include constructivism, experiential learning theory,

and pragmatism. All three theories pertain to the idea that knowledge is gained through experience. Through experience, hands-on learning enables active learning thought kinesthetic and application. Not only are new experiences important, but also tapping into prior knowledge and practice helps to make the connections needed to learn. These beliefs and theories are associated with the apprenticeship system.

In early colonial America, the way of life was by learning a trade from a more experienced person. The apprenticeship program became a national tradition as blacksmiths, cobblers, carpenters, farmers, and ship builders were in high demand. Eventually, the move to manufacturing led to a lower demand for farming and farmers need to learn a new trade. The apprenticeship program ended with the industrial revolution and the focus moved back to farming. New land-grant acts allowed created agriculture colleges that promoted farming and education.

In the United States, apprenticeship and vocational programs began to seek federal involvement in the early 1900s. The American Federation of Labor (AFL) and National Association of Manufacturers (NAM) saw a need for training for the workforce. The AFL and NAM formed a taskforce to create training programs which involved Charles Richards of the Teachers' College at Columbia University and Samuel Gompers, leader of the AFL, to form the Mitchell Commission in 1908 (Smith, 1999). President Theodore Roosevelt found himself as part of the movement for vocational education. In 1907, in the National Society for the Promotion of Industrial Education, Bulletin No. 3, President Roosevelt advocated for industrial training. Smith (1999) summarized Roosevelt's input as "an education which provided industrial intelligence would add dignity to labor, provide protection against immigrant job competitors, and provide for workers and farmers formal educational programs" (para. 16). In 1917, the

Smith-Hughes Act was the first vocational policy to create curriculum for agriculture and manufacturing. As the country progressed, vocational studies expanded, and funding became more available. In 1963, a representative from Kentucky, Carl D. Perkins, began fighting for vocational studies including funding a program curriculum and a support system. Perkins initiated and helped pass several bills regarding vocational education through 2006. Today, CTE is currently going through legislation for funding and stricter standards of accountability. CTE is still part of the Perkins Act legislation and is now referred to as Perkins IV.

CTE has impacted secondary education in how the curriculum is built to prepare students for career-ready work, technical degrees, and applied health science studies. Students are given multiple opportunities in public education through CTE which includes 16 career clusters: agriculture, food, & natural resources; human services; transportation, distribution, & logistics; finance; architecture & construction; education & training; arts, A/V technology, & communications; health science; government & public administration; manufacturing; business, management, & administration; marketing, sales, & service; information technology; hospitality & tourism; science, technology, engineering, & mathematics; law, public safety, & security. Many students still believe that CTE is for students who are not going to college; however, CTE can earn students many credits and certificates before attending college in its traditional setting. According to Jackson and Hasak (2014), CTE provides students with an easier transition from high school to the workforce and college. In President Obama's fifth State of the Union Address (2014), he also saw a need for the improvement of CTE as he defines education as the need to "redesign high schools and partner them with colleges and employers that offer the real-world education and hands-on training that can lead directly to a job and career" (para. 42). Part of President Obama's speech focused on the need to be globally competitive in the economic

market. America's College Promise is one of the programs created by President Obama to train students for global competition.

The negative stigma has been studied throughout the program's existence. In 1964, R. C. Wenrich and R. J. Crowley studied the image of vocational education as perceived by different segments in the population through the University of Michigan and United States Office of Education. The survey found that teachers and counselors had negative attitudes toward CTE. Students still see CTE as a vocational "second-rate" program (Jackson & Hasak, 2014, p. 35). The negative stigma that has been associated with vocational education carried over to the early 1990s (Boesel, Hudson, Deich, & Masten, 1994; Withington, et al., 2012). Public opinion, educator and counselor perceptions, and student attitudes have conveyed a negative stigma overall.

The benefits of CTE outweigh the negative aspects that are associated with the stigma. It has been shown that the CTE program has decreased the dropout rate and increased the graduation rate (Stone & Lewis, 2012; McCaslin & Parks, 2002). Hyslop (2014) addressed the benefits to include 27% of students with licenses and certificates from CTE courses earn more than graduates with a bachelor's degree. Some students earn college credits from CTE programs which reduce college costs, especially for the 60% of students who require remediation (Jackson & Hasak, 2014). The career world is changing; 71% of the skilled labor force is projected to retire within the next 15 years (Johnson & Green, 2014). According to the United States Bureau of Labor Statistics (2014), only 21% of jobs will require a four-year degree. Currently, CTE is helpful to those who take advantage of the program; however, the program is ever-changing.

Career and technical education will continue to change as society becomes more technological and economic markets change. CTE needs to continue to be adaptable in training

people for 21st century learners (Lewis, 1998; Wonacott, 2003). Throughout history, CTE has progressed through the advocates, educators, and politicians who see the purpose and need for authentic learning for all people in order to prepare students for life after high school.

Problem Statement

Current research about socioeconomic status finds that low socioeconomic status is directly correlated with low academic performance (Kohr, Masters, Coldiron, Blust, & Skiffington, 1989; Mayo, 2007; Okpala, Okpala, & Smith, 2001; Parsley & Corcoran, 2003). The current reputation of CTE is one that caters to lower achieving students. Both Gaunt (2005) and Gaunt & Palmer (2005) narrowed in on one career center and recommended studies be completed on various types of schools with all students. St. Gean (2010) found opposite results of Gaunt; students had an overall negative perception of CTE. Serra (2013) recommended to study both CTE and non-CTE students to get a better overall understanding of student perceptions. The overall reporting has not examined socioeconomic status in combination with high school students' perceptions of CTE. Gender issues are common in all areas of school and the workplace. The National Women's Law Center (2005) found that "more than 30 years after Congress outlawed sex discrimination in education, the gender divide in career and technical education (CTE) has narrowed barely at all" (p. 2). The problem is that there is not enough research on whether socioeconomic status and gender affect student perceptions of career and technical education.

Purpose Statement

The purpose of this causal comparative study is to determine student perceptions of CTE based on low, middle, and high socioeconomic status as well as gender. This research may add to the body of knowledge and answer questions related to socioeconomic status and gender. The

research will determine whether there is a significant difference in student perceptions about career and technical education among low, middle, and high socioeconomic status and among males and females. The dependent variables include student perceptions which will be measured by the Image of Vocational Education (IVE) survey (Wenrich & Crowley, 1964). Student perceptions are who students believe CTE is designed to serve. The independent variables are socioeconomic status (low, middle, high) and gender (male and female). The independent variable of socioeconomic status will be determined by a self-report using the World Health Organization (WHO) family affluence scale (FAS). Gender will be a self-report. A two-way ANOVA will be used to compare the independent groups based on the dependent variable. The population is from four urban and rural high schools located in coastal South Carolina.

Significance of the Study

This study is significant as it builds on previous studies. In 1964, Wenrich and Crowley designed the Image of Vocational Education (IVE) survey in order to gain knowledge on the perceptions of various groups regarding vocational education. Wenrich and Crowley (1964) established that households favored vocational education while employers of the community did not. Gaunt and Palmer (2005) found that CTE students have a positive perception of CTE and that is why they enrolled in those courses, that friends and parents have the biggest influence on students, and how the program was marketed to students effected enrollment. Rossetti (1989) determined that female guardians hold the most influence for student enrollment into CTE courses. St. Gean (2010) found that there was a difference in perception between CTE and non-CTE students, female guardians influence students the most, and that student post-secondary school goals affected the choice to take CTE courses. Serra (2013) discovered limitations to his study due to the lack of analysis between CTE and non-CTE

students. Aliaga, Kotamraju, and Stone (2014) determined that guidance counselors had a considerable influence on students' perceptions based on counselors' own perceptions of CTE and how they marketed the program to students. Gammill (2015) found that the stigma of CTE is still present in educators and students, and that parents have a significant impact on students' choices.

This study examined the perspectives from all types of high school students and all grade levels. The information gathered at the testing location may be used to compare student perceptions across other high schools. This research may inspire others to study the effects of CTE and its image, and in doing so may help change the negative stigma CTE still possesses. This research may also offer insight into the disconnect between students and adult perspectives.

Research Question

RQ1: Is there a difference in the perceptions about career and technical education among male and female high school students who are from varying socioeconomic status?

Null Hypotheses

$H_0$1: There is no significant difference among the high school student perceptions about career and technical education of low, middle, or high socioeconomic status.

$H_0$2: There is no significant difference between high school student perceptions about career and technical education of males and females.

$H_0$3: There is no interaction among high school student perceptions about career and technical education of male and female students of low, middle, and high socioeconomic status.

Definitions

1. *Career and Technical Education (CTE)* – Educational program that prepares students to be career and college-ready with skills necessary to be successful (ACTE, 2015).
2. *Perception* – One's emotional response, an abstract concept (Kolb, 1984).
3. *STEM* – Science, technology, engineering, and mathematics; integral part of preparing the nation to be globally competitive and a major focus of educational reform (STEM Education Coalition, n.d.).
4. *Vocational studies* – Studies relating to careers and the initial title for CTE studies (Barlow, 1992). Vocational studies and vocational education are used synonymously as well as CTE.
5. *21st Century Skills* – a combination of core subjects and skills including learning and innovation; information, media, and technology; and life and career (Partnership for 21st Century Learning, n.d.).
6. *Low Socioeconomic Status* – low socioeconomic status is typically based on the amount of free and reduced lunch in the building, where the family income is near the poverty line (APA, 2017).
7. *Medium Socioeconomic Status* – middle socioeconomic status typically refers to the section of society that falls between the poverty line and elevated levels of income (APA, 2017).
8. *High Socioeconomic Status* – high socioeconomic status represents the upper level of income that varies by area of residence (APA, 2017).

9. *Socioeconomic Status (SES)* – also referred to as the Family Affluence Scale by the World Health Organization, it determines the social standing of a group based on occupation, education, and income (APA, 2017).

CHAPTER TWO: LITERATURE REVIEW

Overview

Chapter Two will provide a background of career and technical education from the apprenticeship to 21st century skills. The chapter will present and discuss the related theoretical framework including Kolb's Experiential Learning Theory, constructivism, and the Adult Learning Theory. The history, theoretical framework, progression, and current status of CTE are connected and important to the study.

Introduction

As students work throughout their years in K-12 education, they look forward to a successful future. Students aim to attend universities, technical colleges, join the armed forces, or go into the workforce immediately after high school. A little more than half of students enroll in college as a postsecondary option; in 2013, 65.9% of high school graduates enrolled in two- and four-year colleges (National Center for Education Statistics, 2014). School systems try to prepare students to be competitive in the workforce and college by implementing 21st century skills and courses of specific focus (Gordon, 2014; Jackson & Hasak, 2014; Partnership for 21st Century America, n.d.). Career and technical education (CTE) is a program that combines core courses, career-specific elective courses, and a skill set of communication, collaboration, and technological training.

The history of CTE in the United States dates to the late 1800s when politicians and educators believed that school should also train students for the careers of agriculture and manufacturing in order to be prepared to be successful in the workplace. Career and technical education used to be a dumping ground for students; low-level students were placed in the vocational track. The transformation of CTE is "eliminating vocational education that consisted

of low-level courses, job training, and single electives and replacing it with academically rigorous, integrated, and sequenced programs of study that align with and lead to postsecondary education" (American Institute for Research, 2013, p. 2). The dynamics of CTE have evolved throughout many political changes and a progressive economy. Goals of CTE have evolved from only agriculture, business, and manufacturing to a more inclusive group of occupations involving all sectors of the United States economy. CTE now consists of 16 career clusters. Through each of the 16 clusters, there are over 79 specific pathways. Of the 16 clusters Health Sciences and Human Services saw a dramatic increase while Business and Manufacturing saw a decline in involvement of students (United States Department of Education, 2014, p. xviii). The different secondary institutions that provide CTE courses include career centers, technical academies, career academies, whole-school inclusion, as well as dual enrollment opportunities.

According to the U.S. Department of Education (2014) in a 2009 high school transcript study, 85% of high school students had taken at least one CTE course, and of those 19% were completers in one field with three or more credits. A CTE completer is defined as a student who takes three or more courses in one concentration and earns a certificate of completion. Some completers may earn certification in fields such as welding.

Research in the past decade has focused on CTE regarding ethnicity, gender, and achievement, but has not looked at socioeconomic status (Gaunt, 2005; Gaunt & Palmer, 2005; McGillicudy, 1989; Serra, 2013; St. Gean, 2010; Wenrich & Crowley, 1964; Wenrich & Wenrich, 1974; Vos, 1980). Students from minority backgrounds have been more apt to study in CTE concentrations and attend career and technical schools. The field is filled with many males, but that is starting to change. The main proponent to students enrolling in CTE courses is the influences in their lives and the sociopolitical environments in which they live.

The social implications of CTE are rooted in its history and have been part of the restructuring of education as a whole. The current focus of political debate in education is preparing students for tomorrow through career and technical education. The literature and research shows the importance of CTE and how it is a dynamic and ever-changing field in education.

Theoretical Framework

CTE is based on constructivism in that learning occurs within an experience. Per Doolittle and Camp (1999), cognitive constructivism "recognizes that individuals construct unique mental models based on differing experiences" (p. 7). This construct is the basis for current theories. The constructivist ideas were built on the social efficiency doctrine created by Prosser (1925) and Snedden (1910) who were the fathers of vocational education. The social efficiency doctrine defined six areas that vocational learning would come from: (a) socioeconomic stratification, (b) probable destiny, (c) psychometrics which determined probably destiny through a test, (d) social control which meant that people would adhere to the social norms, (e) rigid pedagogy and (f) behaviorism defined by Thorndike (1932) regarding stimulus, response, reward. These constructs of the 1920s found that vocational training would do better in a hands-on environment.

The theoretical constructs have developed and defined CTE. CTE's long history in applied knowledge, authentic learning, intrinsic motivation, and training lead to theories of Kolb and Knowles. The specific theory that the CTE is center around is Kolb's Experiential Learning Theory as well as Knowles' (1984) Adult Learning Theory. Experiential Learning Theory explains how authentic experiences stimulate and enhance learning. Knowles' Adult Learning Theory connects the adult learner to hands-on learning as the most effective way in applying

knowledge especially in a trade. These two major theories illustrate the reason for CTE and its progression throughout time.

Kolb's Experiential Learning Theory

The leading theory in experiential learning is that of Kolb (1984) defined as the Experiential Learning Theory (ELT) which states that learning can only happen through experiences. According to Kolb, Boyatzis, and Mainemelis (2011), "ELT model suggests that learning requires abilities that are opposites, and that the learner must continually choose which set of learning abilities he or she will use in a learning situation" (p. 228). Kolb (1971) first found that learners are grouped into four categories: diverging, assimilating, converging, or accommodating. These are based on how they perceive learning experiences in relationship to concrete experiences, active experimentation, abstract conceptualization, and reflective observation. Diverging learners are focused on people as they prefer concrete experiences and reflective observation; they prefer group work and are more open-minded (Kolb, Boyatzis, & Mainemelis, 2011). Assimilating learners prefer abstract conceptualization and reflective observation which entails more focus on information and processing (Kolb, Boyatzis, & Mainemelis, 2011). Converging learners are problem solvers who learn through abstract conceptualization and active experimentation (Kolb, Boyatzis, & Mainemelis, 2011). Accommodating learners are kinesthetic learners who act on hunches; they are concrete experience and active experimentation learners (Kolb, Boyatzis, & Mainemelis, 2011). Although ELT describes four learners, previous experiences influence learning as well.

Kolb (1984) stated, "Knowledge results from the combination of grasping and transforming experience" (p. 228). ELT relies on personality types, early educational

experiences, and career choice (Kolb, Boyatzis, & Mainemelis, 2011). A combination of life decisions and experiences help create a learner and his or her preferences.

According to Kolb, Boyatzis, and Mainemelis (2011), ELT has been used in many different educational arenas focusing on learning styles, curriculum, teaching methods, and career focus. In education, the learners who experience and learn through abstract processes create through doing. The focus of the theory in current research studies uses ELT regarding "integrated learning," which focuses on how a learner will go through a process where she is "experiencing, reflecting, thinking, and acting –which is a recursive process that is responsive to the learning situation" (Kolb, Boyatzis, & Mainemelis, 2011, p. 240). Career education and CTE studies allow the individual to explore the career world which Atkinson and Murrell (1988) describes as "a process of learning about the self and the world of work" (p. 375). Kolb (1984) defined experiential learning as (a) a continuous learning process grounded in seven experiences, (b) a process requiring the resolution of conflicts between dialectically opposed modes of adapting to the world, (c) a holistic process of adapting to the world, (d) learning that involves transactions between the person and the environment, and (e) a process of creating knowledge.

As part of Kolb's research, the findings of Dewey (1938), Lewin (1951), and Piaget (1970) can be seen as influences but also directly relate to CTE studies. Dewey (1938) found that experience was an integral part of education. Dewey was also an educator who weighed in on the topic of vocational education, as he believed that vocational courses should not be separate from liberal arts and sciences but connected as part of authentic education. Dewey's major objectives for vocational education found it did not intend "to promote equality of opportunity, to teach the real meaning of work, to inculcate a sense of culture related to today's world, to develop a spirit of social cooperation, and to help students grow in industrial

intelligence" (Becker, 1980, p. 535). Lewin (1951) determined that active participation was a key element to education. Lewin's theory also defined the learning environment to include all aspects of a person's life, both input and output. Lewin believed that what one contributed to his learning would equal his return. Piaget (1970) describes authentic learning as interaction between the learner and his environment, and equilibrium must eventually be reached as new constructs are processed. Piaget (1970) is one of the basic references for learners in their environment. According to Miller (2002), Piaget revised his own theory several times as he learned more about learning and that equilibrium was not as important as previously determined. The multiple theories that lead back to Kolb's Experiential Learning Theory all have the learner as the central focus and include all environmental factors in his education.

Adult Learning Theory

The other theory directly linked to career and technology education is the Adult Learning Theory. Knowles (1984) found through research that adults are motivated by what they perceive as a necessity and that they learn through experience. This theory was titled the Adult Learning Theory and is also referred to as andragogy. In secondary education and post-secondary education, students are considered adults as they are adolescents and post-adolescents. Knowles (1984) defined five principles of learning: self-concept, adult learner experience, readiness to learn, orientation to learning, and motivation to learn. Knowles conducted studies with informal education, which consisted of learning about hobbies and other interests. His research reinforced the experiential factors of learning and their importance in attaining knowledge.

The theories connect to CTE through the learning and his environment being major factors in education. The importance of authentic learning and the learner at the center of his learning, experiencing his learning is the CTE focus. The importance of students earning a

certificate and credits in the area they plan to make a career in allows each student to be able to assess the value of his education as part of the Adult Learning Theory.

Related Literature

CTE began in Europe with training for trades. In the seventeenth and eighteenth centuries, education was divided among social classes; lower classes were trained for manual labor and trades (Gordon, 2014). The purpose for education was to prepare people for their future careers, which mainly entailed manual and career training.

The Beginning (late 1800s-1906)

In European nations, the philosophers and educators on the forefront of vocational training were Rousseau and Pestalozzi. Rousseau was an advocate for experiencing education through kinesthetic learning. Pestalozzi believed in educating all children, not just upper class citizens. He also built upon Rousseau's ideas and created three concentrations in vocational education: "the principles of vocational training in agreement with those of other branches of education; his views on industry, its dangers, and means of overcoming them; and finally, his ideas on the education of the poor" (Gordon, 2014, p. 4). Rousseau and Pestalozzi influenced many educators including Addams, Dewey, Chapman, Washington, Prosser, and Snedden who all found the use for vocational training in education.

In early colonial America, the apprenticeship program became a major proponent to educating tradespeople. The apprenticeship program "[involved] a formal agreement, covering a definite period of time, that [bound] the employer to provide training in return for work of the apprentice" (Gordon, 2014, p. 6). The English Statute of Artificers of 1562 identified the apprenticeship system as a national system and defined the legalities of the program (Gordon, 2014). During the late 1500s, farming families found themselves impoverished due to a

movement in the economy to more manufacturing which caused the establishment of the English Poor Law of 1601 which created an atmosphere to teach farm children trade skills to help the families. The poor laws "greatly influenced the future direction of career and technical education in America" (Gordon, 2014, p. 7).

The apprenticeship system in America had two forms: voluntary and involuntary (or indentured service). Most the time, learning a trade was a part of indentured servitude for people in the lower class. Some agreements were made for clothing, food, shelter; others were made for knowledge and secrets of the trade (Gordon, 2014). Overall, both boys and girls were apprentices and the program proved to training both for a trade. The apprenticeship system remained a major part of education until the Industrial Revolution in 1850.

As part of the industrial revolution, vocational education was synonymous with industrial education. This format was developed in northern states, institutes like the Hampton Institute. The Hampton Institute was established in 1868, managed by Armstrong, and attended by B. T. Washington (Gutek, 2001). Washington used his education there and took the vocational training to Alabama where he founded the Tuskegee Institute to train young men and women in trades of the time.

Addams was an advocate of socialized education. When the industrial revolution made its way through the United States, Addams found that vocational education became even more important. According to Gutek (2001), Addams believed that students should be educated in vocational concentrations in order to build connections between school and work.

The American lyceum movement began in 1826 by Holbrook and included public lectures in order to education the public on a variety of topics. This movement promoted adult education in order to improve "social, intellectual, and moral fabric of society" (Gordon, 2014, p.

16). Although this type of education was popular at the time, it was short-lived due to its lack of popularity outside big cities.

The land grant acts stimulated education, especially vocational education. The Morrill Act of 1862 was signed into legislation by President Lincoln; it stipulated the purchase of land for training and education. The act granted 30,000 acres of land to each state and it authorized using funds for instruction and salaries (Gordon, 2014). Each state built universities to support farming and agriculture, but it also allowed more people the access to education. The universities combined new agricultural technologies with traditional subject matter and emphasized sciences (Gordon, 2014). The land-grant process began the combination of vocation and academics.

Social Reform (1906-1917)

The progress of CTE is influenced by the social reform and political issues of the time. CTE was spring boarded by the social reforms of the late 1800s in the United States and created by the National Society for the Promotion of Industrial Education (NSPIE) in 1906. President Theodore Roosevelt pushed for educational reform to include vocational courses in 1907. Roosevelt pushed for industrial trade education in urban areas and agriculture education in rural areas.

In 1910, Snedden set up the context in which vocational education would be defined. Snedden, Commissioner of Education for Massachusetts, deemed vocational education was meant to train people to give back to society and earn a living (Wonacott, 2003). He did not discount traditional education but found that it was more important to train individuals. Snedden distinguished seven areas of vocational education that would cover all fields of work: professional education, commercial education, industrial education, agricultural education,

education in the household arts, higher vocational education, and vocational training (Wonacott, 2003). These seven areas allowed for education to start training all people for all aspects of life. In 1914, Woodrow Wilson had the government conduct a study to see if technical education which introduced the Smith-Lever Act of 1914 to give land grants to agriculture institutions (USDA, n.d.; Gordon, 2014).

Dewey wrote *The School and Social Progress* in 1907, which led to further discussion and research regarding vocational education. Dewey (1907) believed that education was meant for "liberation from narrow utilities, this openness to the possibilities of the human spirit that makes these practical activities in the school allies of art and centers of science and history (p. 32) In that statement, vocational education was found to be a part of that complex idea. Dewey wanted to remove the "dualism" of education: liberal versus vocational. Dewey (1907) saw the social component to vocational education in that "the development of a spirit of social cooperation and community life, discipline must grow out of and be relative to this" (p. 30).

A commission was created to study vocational education by the federal government. In late 1915 and early 1916, Senator Hoke Smith of Georgia and Senator Dudley M. Hughes of Georgia submitted legislation to "promote vocational education; to cooperate with the states in promotion of such education in agriculture, trades, and industries and in the preparation of teachers of vocational subjects" (Gordon, 2014, p. 103). This led to further legislation in 1917. The primary concern of the Smith-Hughes Act of 1917, also known as the National Vocational Act of 1917, was the format of training and educating students. The act "provided for an alternative high school education from that typically provided at the time for middle and wealthy classes of students" (Wonacott, 2003, p. 7). According to Hillison (1995), the initiation of the bill meet opposition by National Education Association and National Association of

Manufacturing, but the coalition formed by many organizations made the act pass. The federal government was concerned about the low graduation rate of 8% and appointed Georgia Senator Hoke Smith as the chairman of the committee to research national concerns about vocational education (Barlow, 1992). The outcome of the act every state would have a designate state-level board that would act as a liaison between the federal board and local districts (Wonacott, 2003; Steffes, 2014). The Federal Board mandated that 50% of the student's time would be in training for the trade, 25% in studying related subject matter, and 25% in traditional academic classes (Wonacott, 2003). This new movement put education back in the hands of the state which aligned with states' rights. The National Vocational Act of 1917 was one of the first federal aid programs which began with $1.7 million and increased in increments so that there was $7.2 million available in the 1925-26 school year (Barlow, 1992, p. 31).

Financing (1917-1960)

After the passing of the Smith-Hughes Act of 1917, Charles A. Prosser became the first federal commissioner for vocational education. Prosser and Charles Allen co-authored *Vocational Education in Democracy* in 1925 which outlined sixteen theories for vocational education. These sixteen factors included basic theory, form of training, character of content, origin of content, environment, special interest, special aptitudes, basis of admission, scope of service, repetitive training, qualifications of instructors, standards, objectives, methods of training, working conditions, basis of operation, leadership, group characteristics, and administration (Prosser & Allen, 1925).

Georgia congressman Walter F. George was a major contributor to legislature in moving forward with vocational education in the early twentieth century. In 1929, Congress passed the George-Reed Act to increase funding for agriculture and home economics to $2.5 million; the

George-Deen Act of 1936 increased funding to $14.55 for vocational education (Barlow, 1992). The George-Barden Act of 1946 amended the George-Deen Act and increase funding to $34 million.

The National Defense Education Act of 1958 came to fruition during the Cold War era. The Space Race and other global competition proved the United States to be behind in vocational training. The Red Scare and fear of falling behind led to the passing of the National Defense Education Act of 1958 which focused on science, math, technology, statistics, and vocational education. One of the provisions of the act stated that "funds to maintain vocational education for technical occupations, such as data processing, necessary to the national defense" (Gordon, 2014, p. 109).

Perkins Era (1963-2006)

Carl D. Perkins, a Representative of Kentucky, made considerable progress in CTE instruction, policy, funding, and reform. In 1963, he pushed for a bill to be passed to redefine and support vocational instruction. Perkins wanted to create a connection from secondary to post-secondary education involving technical training. The Vocational Education Act provided funding for vocational training and vocational education. The bill began as a response to CTE being designated as the colloquial "dumping ground" for students of color or poverty (Aliaga, Kotamraju, & Stone, 2014, p. 131).

In the early 1980s, education was once again at the forefront of reform due to global competition. In 1983, the National Commission on Excellence in Education published *A Nation at Risk*, which highlighted the pros and cons of education in the United States. This commission propelled the re-envisioning of vocational education and showed a need for improvement in schools. The Vocational Education Act was amended in 1984 and renamed the Carl D. Perkins

Vocational Education Act of 1984. Carl D. Perkins Vocational and Applied Technical Education Act Amendments of 1990 "established the Tech-Prep program to encourage greater coordination of secondary and postsecondary vocational" (United States Department of Education, 1994, p. 4).

The School-to-Work (STW) Program was enacted May 4, 1994 and was initially set to expire on October 1, 2001. It set specific appropriations aside for CTE and was meant "to make education relevant to students' future careers, adapt instruction to the ways in which students learn best, and ensure that students learn the habits and skills that employers values" (United States Department of Education, 1997, para. 19). The purpose of this program was to ease the transition into the workforce by providing the training necessary beforehand. A way to create this type of learning is to create business partnerships and teach 21st century skills in the classroom.

The Carl D. Perkins Vocational and Applied Technical Amendments of 1998 "established core indicators of performance for States, with levels of performance negotiated between each State and the Secretary of Education, and authorized sanctions against States that did not meet such levels" (United States Congress, 2004, p.4). The policy revisions of 1998 added the importance of 21st century skills, held states more accountable, and invested in the workforce. The policy used Title I, Title II of the Workforce Investment Act and Perkins III by providing guidelines and indicators for performance for each state. This was the beginning of transparency in that it made sure that funds were used appropriately and students were given the opportunities of the federal policy.

No Child Left Behind Act of 2001 (NCLB) was signed into law on January 8, 2002 which was the reauthorization of the Elementary and Secondary Education Act (ESEA) (Gordon,

2014). This legislation assumed that all students would attend college as part of post-secondary education, however, some students would go into trades and technical training schools. NCLB increased accountability through Adequate Yearly Progress (AYP) and local educational agencies (LEAs) more responsibility. The strong accountability relied heavily on standardized testing. The focus of education became driven by test scores and not the future plans of students. President Obama allowed 41 states to opt-out of NCLB and provide state programs to help improve education for all students.

Carl D. Perkins Career and Technical Education Improvement Act of 2006, also referred to as Perkins IV, provided federal funding to secondary and post-secondary schools for career and technical education. According to Bill S.250 submitted by Michael Enzi, representative from Wyoming, in regards to amending the Carl D. Perkins Act of 1998 with Carl D. Perkins Career and Technical Education Improvement Act of 2006, "develop challenging and academic standards [to prepare for] occupations in emerging or established professions … increasing State and local flexibility in providing services and activities designed to develop, implement, and improve career and technical education (United States Congress, 2004). The federal government allocated approximately $1.1 billion for each year for CTE (ACTE, 2015). The funds for 2012 were increased to $1.14 billion (U.S. Department of Education, 2012). The fourth reauthorization of the Perkins Act, Perkins IV, created higher rigor for students and increased accountability for institutions. In order to address accountability and gender equality with Title IX, part of the Perkins realignment of 2006 focused on the distribution of funds;

> new law requir[ing] schools to spend funds on programs that offer women and girls training for nontraditional occupations, as well as programs helping single parents and other women with barriers to employment succeed in career and technical education, and

> ultimately obtain high-skill, high-wage employment (National Coalition for Women in Education, 2008, p. 24).

This legislation was meant to give females opportunities in education, especially in CTE and STEM.

Moving Forward (2006-present)

CTE has changed its image and its program from vocation-based education to one that includes science, technical, engineering, and mathematics (STEM) and trains students for career-ready work environment. The focus has broadened to include medical and technological fields as well as 14 other career clusters. According to ACTE (2015), CTE serves 94% of all high school students from all backgrounds. And according to Jackson and Hasak (2014), the United States is unlike other countries where their CTE programs are well balanced with diverse student backgrounds while the U.S. still draws racial and socioeconomic prejudices.

A suggestion about CTE made by Jackson and Hasak (2014) is to involve the business community in the program (p. 37). The Partnership for 21st Century Skills blends required core curriculum with essential skills that are needed in a global society. The Partnership for 21st Century Skills created a model based on the combination of life and career skills, learning and innovation, media and technology, and core curriculum as the necessary skills to be successful. These skills are combined with support systems of curriculum, standards, learning environment, and professional development.

As part of the New Carolina initiative the third phase of a three-part solution to increase a career-ready workforce was to implement the WorkKeys program. South Carolina is implementing the WorkKeys program which involves businesses in high school and CTE programs. Through the WorkKeys program, businesses find future employers through the

comprehensive test students take showing their strengths and weaknesses. The questions in the WorkKeys certification test are situation based and fall in three categories: reading for information, applied math, and locating information. Through the WorkKeys test, students earn the National Career Readiness Certification (NCRC) which is recognized by businesses and industries and used by many nationwide to hire employees. This certification process is part of the President Obama's Blueprint for America in that it trains qualified workers for a globally competitive economy. According to the New Carolina initiative, 160,000 students received their Career Readiness Certification through WorkKeys, placing South Carolina second in the nation.

Association of Career and Technical Education (ACTE) is a non-profit organization that was developed to support the CTE programs federally and statewide. In 2014, ACTE was a part of the revisions of the Perkins Act which is looking at funding and standards. The organization was established to focus on job performance, public awareness, and growth in funding (ACTE, 2015). The purpose of ACTE is to inform, educate, and provide opportunities for action involving CTE.

As part of the South Carolina Economic and Education Development Act of 2006, South Carolina schools were instructed to implement Individual Graduation Plans (IGPs) in order for students to determine their career cluster as a focus for graduation. The purpose of the Individual Graduation Plan (IGP) is to create a plan to allow students to be college and career-ready upon graduating from high school. The IGPs categorize students into the many career clusters and recommend course offerings in order to take the classes that will benefit the student and the post-secondary plans of the student. This is one of the processes that middle and high schools are using to places students in the correct courses and aligning with state standards and initiatives.

Students continue to pursue courses that prepare them for post-secondary success. However, the Questions and Answers Regarding the Implementation of the Carl D. Perkins Career and Technical Education Act of 2006, states are only required to offer two of the 16 career clusters (ACTE, 2015). Although the aims of the Perkins IV and CTE are high, the requirements for states remain at an attainable level. However, Perkins funding has decreased from 2009 to 2014.

The belief of the Department of Education and President Obama is that improving CTE and its policies, the United States will become a global competitor. Barack Obama's Blueprint for Education includes four core principles: alignment, collaboration, accountability, and innovation (U.S. Department of Education, 2012). These areas are synonymous with literature and recommendations by educators and researchers. Kidwai (2011) and Gammill (2015) found that CTE still carries the negative stigma from centuries past, but if awareness and reform are communicated effectively that can change. And as President Obama has stated in several speeches and Kidwai (2011) also reinforces that STEM is part of CTE in that it is the focus of newer jobs and careers that need training. According to Jordan and Dechert (2012), "CTE is a realistic way to ensure our young people are academically prepared and technically trained for their future jobs" (para. 1). Jackson and Hasak (2014) address the blueprint for CTE and recommend that branding needs to appeal to students, reform high school CTE programs, and involve the business community. Haag (2015) found that through a new position in CTE at the college level that secondary education's lack of CTE marketing "presented challenges in programming, enrollment, and limited incentives in the development of a new CTE concurrent enrollment program" (p. 53). This is all part of the alignment and collaboration the outlines the U.S. Department of Education's blueprint.

The National Assessment of Career and Technical Education was published in 2014 by the United States Department of Education regarding Perkins IV and the progress of new policies involving CTE. According to the NACTE *Final Report to Congress* (2014), the characteristics of CTE students vary; the ethnicity varied from White (20%), Black (23%), Hispanic (17%), and American Indian (18%) in relatively similar percentages where one did not stand out; there was a 4% difference between male and females with males at 21% and females 17% as CTE concentrators. The findings in the report were inconclusive of generalizations that could be made regarding CTE courses and the students who took those specific courses.

The need for CTE education is on the rise as many college graduates are unable to find work in their field of study. Students who study at technical post-secondary schools for certification in careers are placed upon graduation into those careers. Within the next 15 years, 71% of the skilled trades workforce will be retiring and in turn opening jobs for several trained people (Johnson & Green, 2014). The problem occurs when "middle skills jobs account for 54% of the U.S. labor market, but only 44% of the country's workers are trained at that level" (Johnson & Green, 2014). However, those skilled works must have some training to prepare them for the work. CTE offers options to students who need experience in a field to gain employment, as well as education for those who cannot afford a college education. Gomes (2015) states the value of CTE courses and declares that "it is time that we recognize the value and importance of focusing on both vocation and academic skills. Students who are mastering these subjects will truly be prepared for college or a vocational path after they graduate from high school" (para. 2). The world is an interactive and diverse community the requires several types of training even at the high school level. It is the obligation of schools to provide the

education and training that promotes success for the 21st century and the skills it requires to master a career.

Socioeconomics and Education

Socioeconomic status has various definitions especially in education. According to the U.S. Census Bureau socioeconomic status has many factors that include household income, parent(s) education, and current occupation. In health sciences, the World Health Organization (WHO) found that it was difficult for children to self-report their socioeconomic status. Boyce, Torsheim, Currie, & Zambon, (2006) validated the Family Affluence Scale to assess socioeconomic status based on questions that children were knowledgeable about. SES is deemed as a social environmental factor that affects the decisions of people including students. Low SES has been determined to effect domestic crowding, family stability, emotional and behavioral difficulties, and low achievement scores (APA, 2017).

Previous research about socioeconomic status finds that low SES is directly related with low academic performance (e.g. Agodini, Uhl, & Novak, 2004; Aliaga & Dickinson, 2012; Rabren, Carpenter, Dunn, & Carney, 2014; Kohr, et.al, 1989; Mayo, 2007; Okpala, Okpala, & Smith, 2001; Parsley & Corcoran, 2003; Rossetti, 1989; Vos, Tesolowski, & Hux, 1982). Kohr et al. (1989) found that there was correlation between performance and SES, but only in small amounts; approximately 10% was found to correlate achievement to SES, race, or gender. Okpala et al. (2001) explained that students who were both low SES and in a non-supportive home environment scored poorly on mathematics achievement tests; however, low SES with parental support at home did not have low test scores. Parsley and Corcoran (2003) found a correlation between performance and SES; however, SES does not stand alone as an influence. Agodini, et al. (2004) determined that participation in CTE programs “families in the lowest

socioeconomic quartile were 14 percentage points more likely to participate in vocational education than students from families in the highest socioeconomic quartile" (p. 6). Mayo (2007) determined that attitudes created at home were dependent on the family's socioeconomic status, and in turn effected the student's performance in school. Not only was performance in school affected, but the number of parents who expect their children to earn bachelor's degrees is directly correlated with SES (Galindo & Sheldon, 2012; Stull, 2013). McGillicuddy (1986) determined a relationship between low socioeconomic status and low perceptions of vocational education; however, he used the Hollingshead method (parent occupation and parent educational level) to determine the socioeconomic status of the family. Aliaga and Dickinson (2012) found that white males from low SES and low freshman year GPA are the most likely enrollees in CTE course. Rabren et al. (2014) reported that high-poverty students are associated with low academic achievement, however, vocational education increased the potential employment and salaries for high school graduates of low socioeconomic status.

Historically, SES has developed a relationship with CTE. In 1988, an economic stimulus was passed to help welfare recipients to acquire training and education through the Job Opportunities and Basic Skills (JOBS) bill. Legislation for welfare continued to be revised and in 1996 Clinton's welfare reform maintained the CTE connection with a "jobs first" philosophy. This legislation connection between CTE and low-SES has been part of the negative perceptions of CTE and its catering to low-SES students in high schools.

Some contradictory research shows that there is no correlation between SES and CTE enrollment. Wenrich and Wenrich (1974) found that individuals from middle class households responded more favorably than low and high socioeconomic status individuals. However, Wenrich and Wenrich (1974) qualify this research by identifying trends in perceptions and that

"the status of vocational education in a community frequently depends on the employment needs prevalent at a certain period" (p. 80). Furthermore, "if the professional personnel in a school have a favorable image of programs which are designed to prepare students for employment, then the youth in the school will soon acquire a similar attitude" (Wenrich & Crowley, 1964, p. 280). Brown and Clark (1976) found that there is no significant relationship between SES and a student's attitude toward CTE.

More current research from Aliaga, et al. (2014) found that students who take CTE courses are from a variety of socioeconomic backgrounds. The research showed that students in high SES background took one to three CTE course during their high school career, and those students also took three or more credits but did not concentrate in a CTE field (Aliaga, et al., 2014). However, through the observations in the research Aliaga, Kotamraju, and Stone (2014) have found that the trend of targeting low-SES and disadvantaged students remains. The research of Aliaga, et al. (2014) shows that "although CTE provides opportunities for all students in lower SES groups in a CTE trajectory…it also offers opportunities to higher SES students who are not following a CTE trajectory but still see the benefits from taking CTE courses" (p. 154).

Gender and CTE

The enrollment of males and females in CTE courses are very close; "In 1982, male and female students earned roughly the same number of vocational education credits (4.60 for males and 4.64 for females). Yet by the year 2000, male graduates earned an average of 4.60 Carnegie Units while females earned 3.82" (van der Meulen Rodgers & Boyer, 2006, p. 312). However, there remains a gender stereotype for course enrollment in career and technical education.

According to Marshall, Delamont, and Bank (2007), “Vocational courses remain a bastion of single-sex education because they reflect divisions in the labor market” (p. 363). These single-sex courses are also part of gender bias and reflect a bias of counselors and teachers.

In certain areas in CTE courses and programs, females participate as the main gender; however, in traditionally male-based courses, females have a small enrollment number. The reports show that

> female students make up 98% of the students enrolled in cosmetology, 87% of childcare students, and 86% of those in health-related courses. Correspondingly, girls are largely absent from traditionally male courses, comprising only 4% of heating, A/C, and refrigeration students, 5% of welding students, 6% of electrician and plumber/pipefitter students, and 9% of automotive students. (National Coalition for Women and Girls in Education, 2008, p. 22)

The gender bias and career cluster stereotype is evident in these statistical numbers. Certain courses are slotted for males and others for females. Data shows that only 15% of females and 13% of males enroll in nontraditional courses (Eardley & Manville, 2006). Toglia (2013) discusses the societal implications of gender where he found that “research indicates that women and girls from low income families have limited and unrealized career expectations and face more obstacles that reduce their career aspiration level” (p. 15). It is also understood that a student’s demographics can influence the courses in which he or she enrolls, which is highly influenced by stereotypes created before adolescence (Lufkin, et al., 2007).

The quantitative data shows that enrollment does not equate, and the qualitative data supports those numbers. As reported in the National Coalition for Women in Education (2008),

"a 2006 Girls Inc. survey conducted by Harris Interactive, 44% of girls and 38% of boys agreed with the statement, 'the smartest girls in my school are not popular,' and 17% of girls and 14% of boys thought it was true that 'teachers think it is not important for girls to be good at math'" (p. 16). Female students experience the social stigma associated with traditional CTE courses based on gender.

Since social stigma is based on the climate of society, the biases of the workplace can be seen in CTE courses and programs. The United States Equal Employment Opportunity Commission was created in 1965 to provide equality for all in the workplace and decrease and/or eliminate discrimination. As far as sex-based discrimination, it is illegal to discriminate based on gender. In high schools, Title IX was set in place to prevent gender disparity. Since 1975, gender stereotypes and inconsistencies are continual in CTE courses and programs (Wonacott, 2002). According to Wonacott (2002), "access to CTE and to its benefits is not perfectly equitable – but it is apparently getting better than it used to be" (p. 4).

Attitudes toward CTE according to gender has changed throughout the years as society has progressed. Wenrich and Wenrich (1964) found that there was no significant difference between males and females in their perceptions of CTE. Rossetti (1989) found that males responded more negatively toward CTE than females, although a low relationship existed.

Student Perceptions

Student perceptions are defined as the attitudes and opinions of a student. Thurstone (1928) defines attitude as "the sum total of man's inclinations and feelings, prejudices or bias, preconceived notions, ideas, fears, threats, and convictions about any specified topic" (p. 531). Thurstone was the first to develop testing for attitudes, which are also referred to as perceptions. In 1964, Wenrich and Crowley studied the image of vocational education and developed the

Image of Vocational Education (IVE) survey to measure the attitudes of various groups regarding vocational education. Wenrich and Crowley (1964) found that there was an overall negative perception of vocational education, and the overall perception was that “basic education is important and vocational education not as necessary for students as other worthwhile programs” (p. 50).

According to Wenrich and Wenrich (1974), “if the professional personnel in a school have a favorable image of programs which are designed to prepare students for employment, then the youth in the school will soon acquire a similar attitude” (p. 280). Brown and Clark (1976) found through their survey that “All groups surveyed agreed that parents needed to overcome the notion that vocational education is a second-class education, which points up the image problem that apparently exists” (p. 150). McGillicuddy (1986) states that “Historical perception of vocational education, as well as those of the present, can help us to better understand its relative success and possible basis for future programmatic influence” (p. 31). These student perceptions may be influenced by others who know of vocational education during their time in school and not at its current status. Vos (1980) states, “A greater understanding of these attitudes could lead to more effective recruitment efforts and improved delivery systems" (p. 1). According to a national survey conducted by Techniques in 1997, “vocational education’s greatest strength was its emphasis on teaching job skills” (What do people think of us?, p. 14) and the overall impressions of vocational education were split down the middle. In the fall of 1986, Silberman found that “At best, vocational courses are expected to provide students who are not college-bound with minimal training for low status jobs at entry level” (p. 6). Rossetti (1989) found that the reasons students do not enroll in CTE courses and programs is due to the benefit of core programs, they are unaware of the program, they do not want to take the courses,

they would be unable to participate in afterschool activities, or the CTE programs had a poor image. The negative stigma with vocational education resonated in the perceptions of multiple populations.

Current research shows that the negative stigma still exists although it varies in different populations. Jordan and Dechert (2012) found that Mississippi schools share the same perception as the nation: "that CTE prepares students for low-wage, low-skill jobs" (para. 18). This low perception is seen in many places. Academic teachers have negative perceptions that a reflected in the bias that CTE is all "field trips and have parties" (Gammill, 2007, p. 20). The negative perceptions are seen in "vocational discourse [as it] is already devalued in the school setting, and the language of social relations threatens to further devalue it" (Marshall, Delamont & Banks, 2007, p. 366). This persistently negative viewpoint permeates the CTE setting, but the results of the program show the positive side of CTE.

The current high school students have diverse needs. Aliaga, et al. (2014) found that "students' diverse CTE experiences need to be approached from a new conceptual and analytic perspective" (p. 156). Haag (2015) also sees this diverse need as secondary education shows a "persistent separation of academic and technical courses … that limits the number of college credits CTE students can earn through concurrent enrollment" (p. 54). The framework regarding student perceptions needs to be restructured to include current trends in education. According to Marshall, Delamont, and Banks (2007), "Vocational education needs to find ways to incorporate the social into the curriculum and to contextualize knowledge, equipping young people with the ability to analyze work critically" (p. 367). According to the Associated Press (2016), the newer model of the CTE program "help students to gain the skills, technical knowledge, academic foundation and experience needed to prepare them for high-skilled, high-demand, living-wage

careers after high school" (para. 9). The new wave of CTE courses is relevant in the "variety in courses offered reflects the diverse job market our students compete in upon graduation" (Gomes, 2015, para. 6). Schools must prepare all students for each post-secondary plan.

The benefits of CTE outweigh the negative aspects that are associated with the stigma. Some students are earning college credits from CTE programs which reduces college costs, especially for the 60% of students who require remediation (Jackson & Hasak, 2014). McIntosh (2013) found that a Wisconsin teacher, Steve Meyer, is using STEM to sell students on CTE and help change the perceptions of the program to a more positive and rewarding one.

Perceptions based on people of influence.

Many people influence the decisions of students. The first factor of influence is the parents. Dole (1961) revealed that social class, father's occupation, parental education, family income, national-ethnic and religious background, place of residence and gender are associated with educational choices. According to Fisher and Padmawidjaja (1999), 65% of the students surveyed reported that their parents input was important when making educational decisions; in the same study thirty-five percent stated that parent approval was important. McGillicuddy (1986) determined that parents who were skilled workers and craftsmen had a positive perception about vocational education, which transferred to their child. Jordan and Dechert (2012) found that "the narrow perception of the field seems to hinder parents from encouraging their children to take CTE courses or to pursue CTE postsecondary level" (para. 3).

Others who influence students include friends, teachers, and guidance counselors. Friends, or peers influence student perception through relationships as they changed a student's intrinsic motivation and perception of academics (Urdan & Schoenfelder, 2006). Social relationships are developed with peers and teachers. Brown and Clark (1976) determined that

the variables of peer relations, educational guidance, parental values, status, and educational influences are part of the process in determining taking vocational courses. Educators and guidance counselors develop relationships with students which also influence student choices. In a study by Smith (2015), the researched showed that many CTE students are unaware of the process to apply for college and how to use their skills after high school. Smith (2015) also found that there is a "great need for more guidance counselor interaction and instruction with students that are attending CTE centers" (p. 82). The National Coalition of Women in Education (2008) found that guidance counselors have steered female students away from non-traditional courses for women. Overall, the perceptions of CTE "will be improved as [CTE] administrators offer youth quality programs which lead to satisfying and productive employment" (Wenrich & Wenrich, 1974, p. 281). Students will not partake in something that is negatively viewed by friends and family; this affects the ability to recruit students for CTE programs (O'Neill, 1985; Rossetti, 1989).

Summary

Career and technical education has come a long way since the late 1800s. The course, legislation, and accountability have changed for the better. Instead of the old woodshop and home economics course, "CTE pathways have the potential to engage many more students and increase high school graduation rates and postsecondary success (American Institute of Research, 2013, p. 2). Carl D. Perkins played a crucial role in spearheading the accountability and funding for the CTE program, and his policies continue to be adapted to current legislation and movements in the global economy. The program has been established to help students be successful through the 21st century skill set and core course in addition to the career-specific

courses needed to gain certification upon graduation of high school. Some students also gain college credits to help them save money.

In order to change perceptions of CTE, the image and misconceptions must be addressed. Students, parents, and educators still have misinformation of CTE. Perceptions and marketing strategies are skewed and do not deliver the current information. Students' perceptions are often influenced by parents, teachers, and guidance counselors who have an older knowledge of vocational education, not the many clusters of CTE. CTE has changed and will continue to change as technology and the careers associated with that technology evolve. Students, parents, educators, and others need to be informed of the new image of CTE and how far it has come in the past 50 years. According to Churchill High School Principal Greg Borgerding, not offering CTE opportunities to students would be a "disservice to kids who have a passion they're trying to find a niche" (Associated Press, 2016, para. 38).

CHAPTER THREE: METHODS

Overview

The purpose of this study was to determine student perceptions of CTE based on low, middle, and high socioeconomic status as well as gender. The research examined whether there is a significant difference in student perceptions about career and technical education among low, middle, and high socioeconomic status and among males and females. A two-way ANOVA compared the independent groups based on the dependent variables. Chapter Three will include a discussion of the research design, review of research questions and hypotheses, discuss participants and setting, explain the instrumentation and Family Affluence Scale, outline the procedures, and clarify data analysis.

Design

The research design in this study was a causal comparative study that includes one dependent variable. Causal comparative was appropriate for this study because it is "a type of nonexperimental investigation in which researchers seek to identify cause-and-effect relationships by forming groups of individuals in whom the independent variable is present or absent…and then determining whether the groups differ on the dependent variable" (Gall, Gall, & Borg, 2006, p. 306). The dependent variable included high school students' perceptions of CTE which was measured by the Image of Vocational Education (IVE) survey created by Wenrich and Crowley (1964). The student perceptions of high school students describe students CTE was designed to serve. The independent variables were socioeconomic status (low, middle, high) and gender (male and female). The independent variable of socioeconomic status was self-report using the World Health Organization (WHO) family affluence scale. The independent variable of gender was also self-report.

Research Question

RQ1: Is there a difference in the perceptions about career and technical education among male and female high school students who are from varying socioeconomic status?

Null Hypotheses

$H_0$1: There is no significant difference among the high school student perceptions about career and technical education of low, middle, or high socioeconomic status.

$H_0$2: There is no significant difference between high school student perceptions about career and technical education of males and females.

$H_0$3: There is no interaction among the high school student perceptions about career and technical education of male and female students of low, middle, and high socioeconomic status.

Participants and Setting

The participants for the study were drawn from a convenience sample of high school students located in coastal South Carolina during the fall semester of the 2016-2017 school year. The school district ranged from low to high income and is designated as a Title I district. The high schools in the district are both rural and suburban.

For this study, the number of participants sampled was 207 which exceeded the required minimum for a medium effect size. According to Gall, et al. (2007) a sample size of 126 students or approximately 21 students per group is the required minimum for a medium effect size with statistical power of .7 at the .05 alpha level (p. 145). The sample came from four different high schools in the district.

Within each school, students in each English class were asked to complete the survey with the use of laptops from mobile laptop labs already in each building. Since most students in each of the high schools are enrolled in English classes due to course requirements for

graduation, that was the most opportune selection to get the most participation of all grades of students.

Students in the sample ranged in age from 13-19 years old and grade levels 9-12. Ethnicities include 47 African-American, 128 white, 6 Hispanic/Latino, 5 Asian/Pacific Islander, 20 Multiple, and 5 Other. Gender from the study was 115 females and 96 males. The socioeconomic status was self-reported based on questions from the World Health Organization Family Affluence Scale where 26 reported as low, 52 as middle, and 133 as high.

Low Socioeconomic Status Group

The low socioeconomic group was comprised of ethnicities that included 7 African-American, 10 white, 3 Hispanic/Latino, and 5 Multiple. Gender from the low SES group was 15 females and 10 males. The average age was 15 years old.

Middle Socioeconomic Status Group

The middle socioeconomic status (SES) group was comprised of ethnicities that included 14 African-American, 28 white, 3 Hispanic/Latino, and 4 Multiple. Gender from the middle SES group was 22 females and 27 males. The average age was 17 years old.

High Socioeconomic Status Group

The high socioeconomic status (SES) group was comprised of ethnicities that included 24 African-American, 90 white, 5 Asian/Pacific Islander, 9 Multiple, and 5 Other. Gender from the high SES group was 76 females and 57 males. The average age was 16 years old.

Instrumentation

Image of Vocational Education (Dependent Variable)

The instrument used for this research was the Image of Vocational Education (IVE) (see Appendix A for the survey. Wenrich and Crowley created the instrument in 1964 for the

University of Michigan to research the perceptions of Vocational Education among different populations. The University of Michigan granted permission (see Appendix B for the permission). This version of the survey was completely digital instead of paper and pencil.

The IVE scale is an instrument that measures perceptions based on a Likert scale. The 28-item survey gave students five possible response options: strongly agree, agree, undecided, disagree, strongly disagree. Responses are assigned a value ranging from a five which signifies a positive perception to a one which signifies a negative perception. A score of 140 means that students had a positive response toward vocational education whereas a score of 28 means that students had a negative response toward vocational education. The reliability of the IVE was determined by Wenrich and Crowley (1964) through an association between split-halves. Split-halves reliability is also referred to as the coefficient of internal consistency. Wenrich and Crowley (1964) found the reliability to be 0.80 for the instrument. The 0.80 is above the "modest measurement reliability (about .70)" (Warner, 2013, p. 906). According to Warner (2013), self-report questionnaires need validity to be obtained through evidence, which "involves correlations of scores on the questionnaire with other variables" (p. 939). The mean validity rating was 5.90 on a 7-point scale (Wenrich & Crowley, 1964).

Family Affluence Scale and Demographics (Independent Variables)

In order to categorize the independent variable into low, medium, and high socioeconomic status, the demographic portion of the survey includes the World Health Organization (WHO) Family Affluence Scale (FAS). The WHO developed an objective measure due to the inability of children to report their family's socioeconomic status. The four-question survey focuses on material objects and family spending which children are familiar (vehicle, bedrooms, computers, vacation). Although the WHO recognizes that there may be "certain

biases and limitations," the composite FAS score is consistent (Boyce, Torsheim, Currie, & Zambon, 2006, p. 475). The composite FAS score is calculated on a three-point ordinal scale: low (score=0,1,2), middle (score=3,4,5), and high (score=6,7,8,9). The levels coordinate with the socioeconomic status of the child's family. Gender will be self-reported as either male or female.

Procedures

With approval from the IRB (see Appendix C to see letter of approval from IRB), approval from the superintendent to use the high schools in the coastal South Carolina county was obtained in the form of a letter (see Appendix D to see letter of approval from superintendent). Upon approval from the superintendent, an email was sent to each of the four principals whose schools were participating in the survey (see Appendix E for email notification). English classrooms were chosen because the majority of high school students are enrolled in an English class as part of the required courses for graduation; this would ensure that more students were given the opportunity to participate in the survey.

Upon approval from each principal, the researcher sent an email to each participating teacher to explain the process and asking for participation (see Appendix F to see emailed letters). English teachers received parental consent letters in their mailboxes at their respective school and were asked to send the letters home the third week in August with a timeline of two weeks to return the letter with a student roster for each class involved in the study (see Appendix G to see Parental Consent form). Teachers were also asked to supply a student roster to the researcher to ensure that each student turned in a parental consent letter to be returned in the envelope with the parental consent forms. The researcher sent a follow-up email one week after the initial letter was sent to the parents for consent (see Appendix H to see email). The researcher then went to each of the schools to pick up the parental consent letters from the front

office and recorded all consent in a database. After all information was recorded, the researcher created a list of students who did not turn in the parental consent and then asked the English teachers to send the Parental Consent letter home again to those parents who did not return consent with a timeline of two weeks. The second letter was distributed to teachers through their mailboxes at each of their respective schools with the list of their students who did not turn in the initial forms. The researcher went to the schools the second week in September to collect all consent forms. After all consent forms were turned into the researcher in envelopes through the front offices at each respective school, the researcher updated the list of parental consents for each student. The lists were emailed to each teacher to ensure that only the students with parental consent took the self-report survey. At each of the respective schools, one Chick-Fil-A gift card was awarded to students who turned in consent/assent forms on time.

During the last two weeks of October, English teachers administered the Image of Vocational Education (IVE) survey and World Health Organization (WHO) survey with assistance of Survey Monkey. English teachers gained access to the mobile laptop labs and computer carts for the week the survey was given. Students used the school computers to take the survey. Students needed to log-on to the computers with their user IDs and passwords. Before the survey, the researcher delivered written directions for teachers and students, thank you notes and small tokens of appreciation to the teachers using their mailboxes at each of their schools (see Appendix K to see email directions). Teachers handed out the typed instructions and read the instructions to students in order to begin the survey. Teachers also clarified some of the terminology for students including the acronym CTE. The English teacher then instructed the students to go to the Survey Monkey website provided on a sheet of paper. The Survey Monkey website provided the instructions on how to proceed through the survey (see Appendix

L for instructions). At the bottom of the instructions in Survey Monkey student assent was explained and students who chose to proceed with the survey gave the researcher permission to use the results in the doctoral study (see Appendix L to see student assent). The student assent also stated that if they felt that they did not want to proceed they could close the window and their answers would not be recorded. After giving assent, the students were asked to select the "next" button. The next screen appeared with demographic questions and the WHO survey. Upon completion of the demographic section, the students selected the "next" button and began the Survey of Influencing Perceptions. Upon completion of the survey portion, the students were prompted to a thank you screen (see Appendix M to thank you screen). Students who did not participate in the survey due to lack of fulfillment of parental consent letters or refusal to participate read their silent reading novels while the other students completed the survey. Students who chose to abort the survey also read in their silent reading novels. When students finished the survey, they also read silently.

Data Analysis

This multivariate study used a two-way ANOVA (Analysis of Variance) to test the hypothesis. The dependent variable was student perceptions. The independent variables were socioeconomic status (low, medium, high) and gender (male and female).

The researcher compiled the descriptive statistics for demographic data from each of the participants using SPSS. The statistics included gender, age, race, and socioeconomic status (SES). The socioeconomic was further broken down into three subscales: low, middle, and high and the descriptive statistics are reported for each of those using SPSS.

The null hypotheses were tested using the two-way ANOVA. The two-way ANOVA was used to test "situations where two or more group membership variables (called factors) are

used to predict scores on one quantitative outcome variable" (Warner, 2013, p. 501). If differences occurred, then a post hoc test was required.

The research began by conducting data screening and using box and whisker plot to look for outliners. The two-way ANOVA has multiple assumptions. First, each group had participants that did not participate in any other group, meeting the independence of observations. The assumption of normality was measured using the Kolmogorov-Smirnov test. The Assumption of Homogeneity of Variance was tested using Levene's test of homogeneity. The effect size was determined using Eta Squared (η^2). The confidence level was set at 95%.

CHAPTER FOUR: FINDINGS

Overview

This research study addressed high school student perceptions of CTE by examining the independent variables of gender and socioeconomic status. Statistical analyses were performed on the data using SPSS Statistics 24. Descriptive statistics were examined and a two-way ANOVA was used to test the hypotheses.

Research Question

RQ1: Is there a difference in the perceptions about career and technical education among male and female high school students who are from varying socioeconomic status?

Null Hypotheses

$H_0$1: There is no significant difference among the high school student perceptions about career and technical education of low, middle, or high socioeconomic status.

$H_0$2: There is no significant difference between high school student perceptions about career and technical education of males and females.

$H_0$3: There is no interaction among the high school student perceptions about career and technical education of male and female students of low, middle, and high socioeconomic status.

Descriptive Statistics

Descriptive statistics obtained for the dependent variable student perceptions among male and female high school students in low-SES, middle-SES, or high-SES can be found in Table 1. In total, the final data analysis was run on 207 participants. Students in the sample ranged in age from 13-19 years old and grade levels 9-12. Gender from the study was 113 females and 94 males. The socioeconomic status was self-reported based on questions from the World Health Organization Family Affluence Scale where 25 reported themselves as low, 49 as middle, and

133 as high. All three socioeconomic status levels held a positive perception of CTE programs. Although, low-SES had a higher positive perception than middle and high-SES students based on the descriptive statistics. Both males and females had a positive perception of career and technical education. See Table 1.

Table 1

Group Descriptive Statistics

Dependent Variable: Perception

tSES	Gender	Mean	Std. Deviation	N
LOW	Female	97.53	13.59	15
	Male	91.80	12.65	10
	Total	95.24	13.26	25
MIDDLE	Female	94.45	11.70	22
	Male	94.19	15.65	27
	Total	94.31	13.88	49
HIGH	Female	96.21	13.16	76
	Male	91.93	11.67	57
	Total	94.38	12.68	133
Total	Female	96.04	12.87	113
	Male	92.56	12.93	94
	Total	94.46	12.98	207

Results

Data Screening

Box and whisker plot was used to conduct data screening on each group's dependent variables (SES and gender) in order to find inconsistencies and outliers. No data errors or inconsistencies were identified. Outliers were identified as being students 188 and 194.

However, the researcher chose not to remove the outliers from the dataset due to the low number of participants in the female low economic group. See Figure 1 for box and whisker plot.

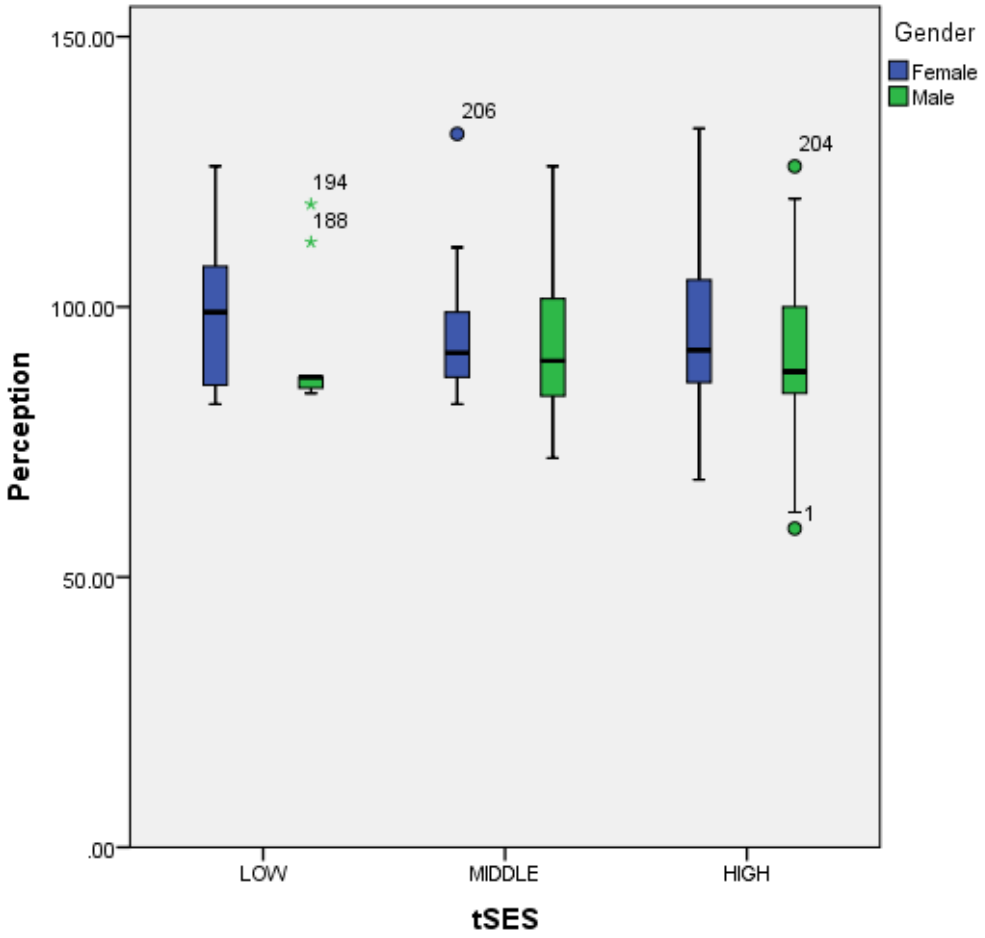

Figure 1. Box and Whisker Plot for SES and Gender of Students.

Assumptions

A two-way analysis of variance (ANOVA) was used to test the null hypotheses and examine for the differences between student perceptions of career and technical education between males and females from low-SES, middle-SES, and high-SES. A two-way ANOVA required that assumptions of normality and homogeneity of variance were met. The Kolmogorov-Smirnov test was used because the sample size was greater than 50 subjects (a total of 207) subjects. The assumption of normality was not met, however, the research continued

with the analysis because the ANOVA is robust in handling the violation. See Tables 2 and 3 for tests of normality for each of the independent variables.

Table 2

Tests of Normality for Socioeconomic Status (low, middle, high)

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	tSES	Statistic	df	Sig.	Statistic	df	Sig.
Perception	LOW	.267	25	.000	.842	25	.001
	MIDDLE	.162	49	.003	.912	49	.001
	HIGH	.122	133	.000	.943	133	.000

a. Lilliefors Significance Correction

Table 3

Tests of Normality for Gender (male, female)

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Gender	Statistic	df	Sig.	Statistic	df	Sig.
Perception	Female	.154	113	.000	.934	113	.000
	Male	.149	94	.000	.922	94	.000

a. Lilliefors Significance Correction

The assumption of homogeneity of variance was determined using Levene's test, which resulted in $F(5, 201) = 1.24$, $p = .29$. No violations were found. The assumption of homogeneity was met. See Table 4 for Levene's Test of Equality of Error Variances.

Table 4

Levene's Test of Equality of Error Variances[a]

Dependent Variable: Perception

F	df1	df2	Sig.
1.242	5	201	.291

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + tSES + Gender + tSES * Gender

Results for Null Hypothesis One

The first hypothesis stated that there would be no significant difference among the high school student perceptions about career and technical education of low, middle, or high socioeconomic status. To test this hypothesis, a two-way ANOVA was conducted to compare low, middle, and high socioeconomic status with the total score of student perceptions of CTE using the Image of Vocational Education (IVE) survey. Due to the fact that $p > .05$, the null hypothesis failed to be rejected. The analysis found no significant difference, $F(2, 204) = .02$, $p = .98$, partial $\eta^2 = .000$. According to Warner (2013), the eta partial squared yielded a small effect size. See Table 6 below.

Results for Null Hypothesis Two

The second hypothesis stated that there is no significant difference between high school student perceptions about career and technical education of males and females. To test this hypothesis, a two-way ANOVA was conducted to compare males and females with the total score of student perceptions of CTE using the IVE. Due to the fact that $p > .05$, the null hypothesis failed to be rejected. The analysis found no significant difference, $F(1, 207) = 2.24$, p

= 0.14, partial η^2 = .011. According to Warner (2013), the eta partial squared yielded a small effect size. See Table 6 below.

Results for Null Hypothesis Three

A two-way ANOVA was conducted to compare student perceptions of CTE by socioeconomic status as well as gender. Table 6 shows no interaction between gender and SES when testing for high school student perceptions of CTE. The null hypothesis stated that there is no interaction among the high school student perceptions about career and technical education of male and female students of low, middle, and high socioeconomic status. Due to the fact that p > 0.05, the researcher failed to rejected the null where $F(2, 201) = .52$, $p = .59$, partial $\eta^2 = .005$, the test yielded a small effect size (Warner, 2013).

Table 5

Tests of Between-Subjects Effects

Dependent Variable: Perception

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	812.265[a]	5	162.453	.964	.441	.023
Intercept	1145159.703	1	1145159.703	6793.650	.000	.971
tSES	8.119	2	4.060	.024	.976	.000
Gender	377.861	1	377.861	2.242	.136	.011
tSES * Gender	176.299	2	88.149	.523	.594	.005
Error	33881.213	201	168.563			
Total	1881838.000	207				
Corrected Total	34693.478	206				

a. R Squared = .023 (Adjusted R Squared = -.001)

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Overview

The purpose of this research study was to determine whether student perceptions of career and technical education (CTE) remain consistent with historically negative perceptions or have evolved like the program into more positive perceptions. The perceptions of high school students about CTE were overall positive and there was no interaction between gender and socioeconomic status. Chapter Five will discuss the results of the study as well as the implications. In addition, limitations and recommendations for further research will be addressed.

Discussion

Over the years, there has been a low enrollment in CTE courses in the school district used in this study; however, nationwide 85% of students have participated in at least one CTE course as the move toward the inclusion of 21st century skills. This study looked at varied factors of influence through the Image of Vocational Education (IVE) survey to see if student perceptions were based on socioeconomic status or gender and if there was an interaction between socioeconomic status (SES) and gender. The following nulls were explored:

$H_0$1: There is no significant difference among the high school student perceptions about career and technical education of low, middle, or high socioeconomic status.

$H_0$2: There is no significant difference between high school student perceptions about career and technical education of males and females.

$H_0$3: There is no interaction among the high school student perceptions about career and technical education of male and female students of low, middle, and high socioeconomic status.

Null Hypotheses One

According to null hypothesis one, there is no significant difference among the high school student perceptions about career and technical education of low, middle, or high socioeconomic status. The null hypothesis failed to be rejected. Students in low, middle, and high SES felt favorably about CTE.

The results support the studies of Wenrich and Crowley (1964) and Brown and Clark (1967) which found no interaction between SES and high school student perceptions of CTE. The outcome of this study supports the perceptions found in Wenrich and Crowley (1964) that an entire household affected the perceptions of CTE in students. The research showed that households believed that a basic education was substantial in high school. Brown and Clark (1967) deemed that there was not a significant relationship between SES and perceptions of CTE, however, the influence of others proved to be the determining factor of enrollment. Parents saw vocational education as a second-rate education, which became a major factor in student enrollment and perception of CTE. Even though the target group of promotion and marketing of CTE courses may still appeal to low-SES students, the overall perception remains positive across all three levels of SES. This also connects to Aliaga, et al. (2014) who found that a variety of SES backgrounds are enrolled in CTE courses. The research found that the variety of students enrolled in the CTE courses benefited from the CTE program in gaining training and educational credits. Those who are enrolled in the program do see benefits of completion, including certification, college credits, and scholarships.

The data also challenges the assumption of a connection between low-SES and negative perceptions found in previous research (Kohr, et al., 1989; Mayo, 2007; Okpala, et al., 2001; Parsley & Corcoran, 2003; Agodini, et al., 2004). For example, Kohr, et al. (1989) found that

SES correlated with academic achievement; Mayo (2007) found correlation between performance and SES and that they were dependent on each other; while Okpala, et al. (2001) determined that mathematics scores were correlated with SES; low-SES resulted in low scores. The research found several connections between SES and performance, but the perceptions of high school students differ from how they perform. Adolescents and adults see rewards in authentic learning and experience (Dewey, 1938; Lewin, 1951; Kolb, 1984, Piaget, 1970); therefore, performance and perceptions vary. Parsley and Corcoran (2003) found that even though SES did contribute to the negative perceptions of CTE; it did not stand alone as the only influence. A combination of several demographic factors influences a high school student's perception. Agodini, et al. (2004) determined that low SES meant more probability for students to enroll in CTE courses and programs; this is due to the cost-effectiveness of the program to pay less for college and training. It also fits the idea that CTE is marketed toward low-SES students and families.

Socioeconomic status is not a stand-alone influence on performance or perspectives. There are other influences that effect student perceptions: parent education, parent career field, parent perceptions, guidance counselor perceptions and recommendations, ethnicity, and gender (Fisher & Padmawidjaja, 1999; Jordan & Dechert, 2012; McGillicuddy, 1986; Parsley & Corcoran, 2003; Urdan & Schoenfelder, 2006, Wenrich & Crowley, 1974). Material objects such as vehicles owned, bedrooms in a house, computers owned, and vacations attended, are not the only factor in one's living situation. Other factors need to be considered when looking at the background of students in context to their socioeconomic status.

Null Hypotheses Two

Null hypothesis two stated that there is no significant difference between high school student perceptions about career and technical education of males and females. The null hypothesis failed to be rejected. Both males and females felt favorably about CTE. They do not differ on perceptions of CTE due to the ever-changing program offerings.

Although the enrollment into CTE courses vary by gender (NACTE, 2014), the perceptions of males and females do not vary. Wenrich and Crowley (1964) supports the perceptions found with the same survey (IVE); there was no significant difference between males and females. Family influences did not effect males or females in the aforementioned study. The data in this study contradicts the research outcome of Rossetti (1989) where a small difference between male and female perceptions; males were slightly more negative.

The results are interesting due to the career cluster stereotypes that exist. The gender issues are noticed in the enrollment of males and females into stereotypical programs. Gender bias is noted when females enroll in courses such as cosmetology instead of welding, and males enroll in automotive studies as opposed to childcare (National Coalition for Women and Girls in Education, 2008). These gender biases will most likely continue to appear in CTE enrollment. However, the overall perception remains positive regardless of social stigma.

Current legislation may affect current perceptions of gender and careers. The laws set forth by the United States Equal Employment Opportunity Commission (n.d.) "forbids discrimination when it comes to any aspect of employment, including hiring, firing, pay, job assignments, promotions, layoff, training, fringe benefits, and any other term or condition of employment" (para. 3). This language and sentiment is translated into the education world through Title IX which prevents discrimination of students. Wonacott (2002) decrees that

discrimination is improving in CTE; however, "the reality is that gender bias, segregation, and discrimination will always be a danger in CTE … attention to equal access will always be needed" (p. 4). Equal access and the wants of CTE students differ; males and females feel comfortable in traditional CTE courses. Trying to change a student's perceptions of gender and CTE may be fruitless due to the fact that "little evidence has been provided that indicates programs have resulted in changes in their personal interests in nontraditional careers" (Lufkin, et al., 2007, p. 439). These preconceived notions are determined early in a child's life and are difficult to change when they are adolescents and young adults. Therefore, enrollment and perception may never parallel each other.

The archaic ideas of gender roles have changed as the world is becoming more global and diverse. According to Lufkin, et al. (2007), the only way for students to be prepared for this all-inclusive career world is for teachers, counselors, and parents to help prepare them. The training associated with CTE courses can break those barriers. The key factor in removing the gender stereotypes is to encourage all genders to "explore non-traditional career choices and to make career decisions based on their own personal interests, skills, and talents" (Lufkin, et al., 2007, p. 422). Parental influences are seen when "family and personal demographic factors often contribute to highly sex-segregated career choices" (Lufkin, et al., 2007, p. 430). The future of CTE enrollment and perceptions lies in the hands of those who influence a student.

Null Hypotheses Three

Null hypothesis three stated that there is no interaction among the high school student perceptions about career and technical education of male and female students of low, middle, and high socioeconomic status. The null hypothesis failed to be rejected. All students felt favorably about CTE.

Hasak (2014) found that CTE appeals to diverse backgrounds, which is supported by the data in this study. Gaunt (2005) and Gaunt and Palmer (2005) found overall positive perceptions of all students, which is also supported by the data in this study. Mayo (2007) also found that teacher perceptions were different based on SES and gender, which supports the long-standing gender bias and SES stereotyping. The idea that females are hindered by limited expectations in career levels (Toglia, 2013) is not supported by the perceptions of CTE of high school students. It is surprising that the perceptions of high school students about CTE do not follow the negative bias against women since it is part of the national norm. This norm is changing due to an active push for equality in the workplace.

Since there has been a change from Wenrich and Crowley (1964) to Rossetti (1989) to Gaunt (2005) to Mayo (2007) and so on, it appears that the perceptions of high school students about CTE are cyclical and change every so often. The change may correlate with the change in terminology and course offerings in CTE. The introduction of STEM in 2000 and later concurrent studies moved education toward more technology and training. The current job market may also influence student perceptions since the data shows that trends in careers are often mirrored in high school course offerings (Lufkin, et al., 2007). The need for real-life experiences and authentic connections between high school and post-secondary life goals is apparent in the connection to learning theories and the research (Dewey, 1938; Lewin, 1951; Kolb, 1984, Piaget, 1970). There are several factors that play a key role in a high school student's perceptions of CTE, and based on that, gender and SES are only a small part of a student's persona. Student perceptions do not follow the trends of performance and outcomes based on SES and gender. The new generation of students is creating a new trend in education; one devoted to life goals and individual needs.

Conclusions

In this study, the data showed that high school students tend to perceive career and technical education to be a positive attribute of schools. Even though several studies have found comparable results and others have come to alternative conclusions, the current data for the area and the sample shows positive regard. As in all things, education is cyclical; it has ebbs and flows of theory and design. This is seen from the apprenticeship program at the beginning of the United States workforce in the nineteenth century to the current legislation of the Blueprint for America. Career and technical education has been a place of high regard to a dumping ground for students that "have no purpose." The positive and negative aspects of CTE are related to the political and social influences of the time. The aspects are also related to the ever-changing program that has evolved from a mostly agricultural focus to a program that offers 16 different concentration areas. As CTE proceeds to include more career fields and possibilities for students, students regard the program to hold more promise. The more CTE is promoted and marketed for its attributes, the more students will respond in a positive manner. To get students to buy into CTE, all key stakeholders must believe in the program. Instead of educators being academic versus CTE teachers, or discouraging students to enroll in CTE because it is a "less than class," all educators should work together for the betterment of all students (Gammill, 2015). It is not just a philosophy of education that needs to be discussed, but opportunities for all students. All students must feel valued and that each has a place in the spectrum of education (Associated Press, 2016; Gomes, 2015). Career and technical education provides the opportunities, outlets, and successes for students who do not fit in other areas in education.

More than half of the students surveyed were in favor of expanding the CTE program, believed that parents should be made aware of the values of vocational education, and would like

vocational education encouraged more among students. This shows that students believe that CTE is valuable. Money and interest should be invested into CTE as well as the promotion of the values of the program. The current fiscal environment is also becoming more positive for CTE as the value of the program is seen in different school districts. The increase in benefits for each student who chooses to enroll in CTE stimulates growth in the program.

Results varied when asked if "vocational education in high school is necessary for most students as are other worthwhile programs." This question is general and difficult to answer for students of varying backgrounds. Other worthwhile programs may constitute anything from advanced placement courses to fine arts. The inability to give students a more concrete example may have skewed the answers given.

For the most part, approximately 33% of students answered that they were "uncertain" for many of the questions asked in the survey. This could be from the lack of knowledge about CTE. The results could also be skewed according to the individual's motivation to take the survey. Another factor could be the vocabulary and diction within the survey.

It is interesting that socioeconomic status is not a true factor in the perceptions of high school students regarding CTE. The CTE program is still marketed to low-SES students even though enrollment is diverse (Aliaga, et al., 2014). The marketing strategies need to reflect the perceptions of the high school students. The marketing strategies still focus on the narrow perception of the field from history and outdated information (Jordan & Deichert, 2012). Students should be informed about the opportunities in an all-encompassing manner – to include all socioeconomic backgrounds instead of just the bottom end of the spectrum.

Although gender stereotypes and bias still exist, they are not as prominent as in the past. The belief that males and females enroll in CTE courses that are gender-specific is still an issue.

Implications

This study added to the existing body of knowledge and theory by once again showing that students do not perceive CTE courses to be negative. The research shows that students believe that CTE is a valuable program and one that the county should invest. CTE may help improve the skills and abilities of students who graduate and proceed to college and career programs. The district needs to invest in the manpower to promote the program and explain to all key stakeholders the possibilities associated with the program. The researcher hopes that this study will lead to more opportunities for students to be made aware of the benefits of CTE, possibilities of enrolling in CTE courses, and better training for students. It is hoped that student IGPs will be used more effectively to offer students courses that add to their program of study, including CTE courses. This is not a district-level issue and is seen throughout the country. Money and time are on the increase for several states to invest in CTE. This program needs to be a priority for all schools, districts, and states. CTE allows students in all disciplines, post-secondary planning, genders, races, ethnicities, socioeconomic status levels, and GPAs to be successful and prepared. It may be time for everyone to be on the same page regarding the perceptions and benefits of CTE.

Limitations

Study was limited to the population of the school district selected. The researcher expected higher participation rates, however, the school district size was relatively small. The sample size was appropriate, but other school districts could have added a deeper level of analysis.

Participation was limited due to parental consent forms. It was difficult to obtain parental/student consent due to the process of student responsibility for taking the form home and returning it. This limited the availability of students to take the survey. If more students in every school participated in the research, it may have given a better understanding due to a sampling of a larger population.

The verbiage of the Image of Vocational Education (IVE) survey limited the ability of the students to participate with full knowledge of career and technical education. A few students did not understand the terms "vocational," "career and technical education," or "job-related courses," and needed further explanation. This may be a result of the lack of communication about the programs by the school district, or adult influences and perceptions about the program.

Recommendations for Future Research

The first recommendation is to research using a qualitative study in order to delve deeper into reasons as to why students have certain perceptions. A quantitative survey does not allow the researcher to expand or explain a question further. Even though the survey showed that students have an overall positive perception of career and technical education, a qualitative study would be able to further answer why the students feel that way. This type of study would also allow researchers to compare students and parent perspectives to see if parental influence is as strong as reported in previous studies.

It is also a recommendation to research teacher, counselor, and administrator perceptions to see if there is a relationship between those and student perceptions. It would be interesting to see if there is a correlation between the influencing educational mentors and the students' choices to enroll or to not enroll in CTE courses.

In order to further knowledge of the perceptions of all key stakeholders in career and technical education and those who influence students' decisions, it is recommended that the Image of Vocational Education survey be administered to teachers, guidance counselors, administrators, and parents. The IVE survey can show how the perceptions of all align with each other as well as with the students. It would be interesting to see if there is a correlation of perceptions of career and technical education between adults who influence students and the students themselves. This information can be acquired through the IVE survey or another instrument could be created.

It is recommended that the IVE survey be updated due to outdated language and terms. Future researchers could work in conjunction with the University of Michigan Press, or receive permission from the press, to modernize the survey. This process would increase the usability of the instrument and prevent confusion of participants due to archaic terminology such as "vocational," which is no longer in use in school systems.

The WHO Family Affluence Scale (FAS) needs to be adjusted to meet the change in material object acquisition by socioeconomic status. There was a recent study on the FAS that also showed a need to change the criteria to assess SES (Boyce, et.al, 2006). However, the scale is still valid in measuring SES and easy for adolescents to answer. There are a few adapted versions, but the one used in the study is the original in order to maintain authentic testing which is valid and reliable.

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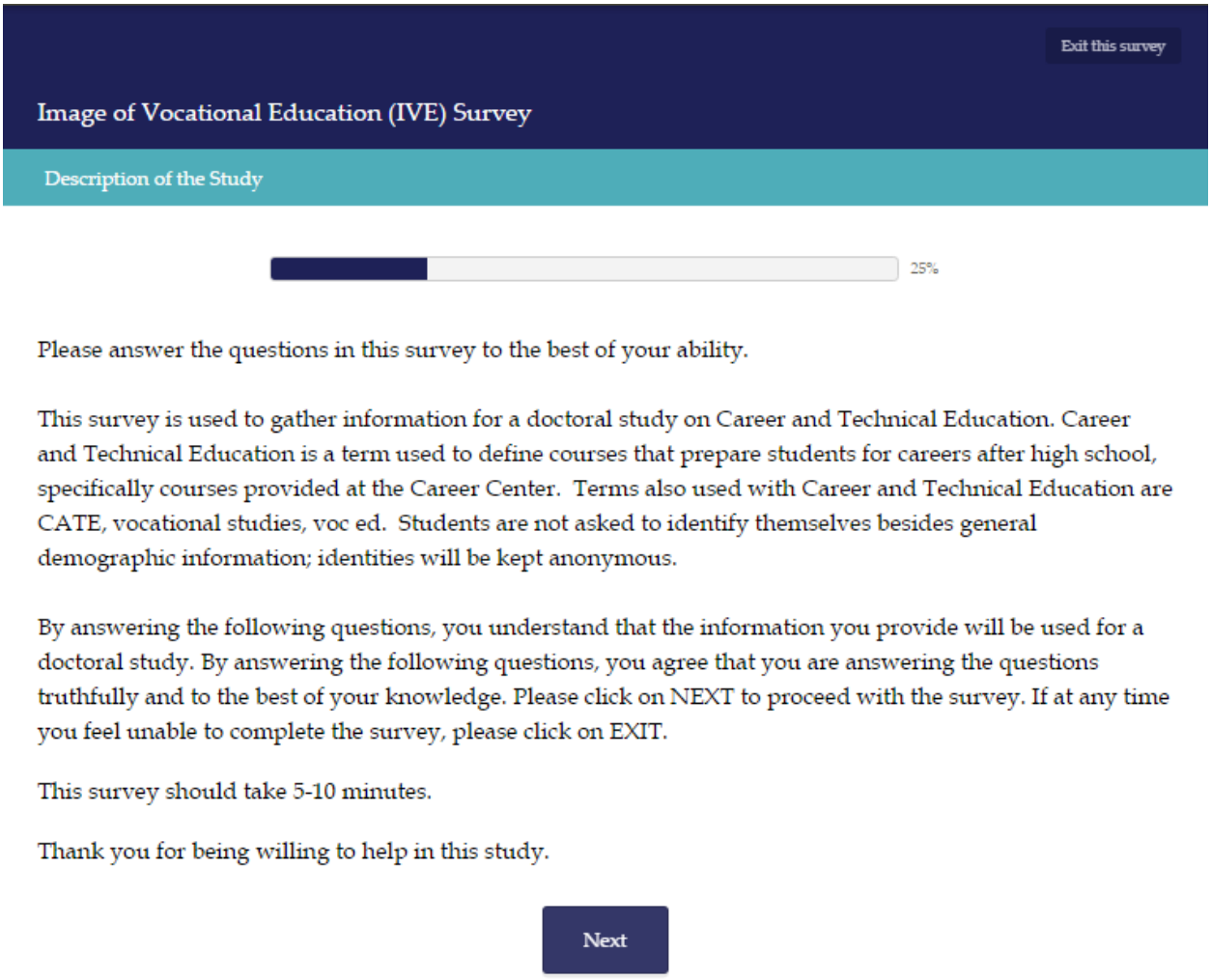
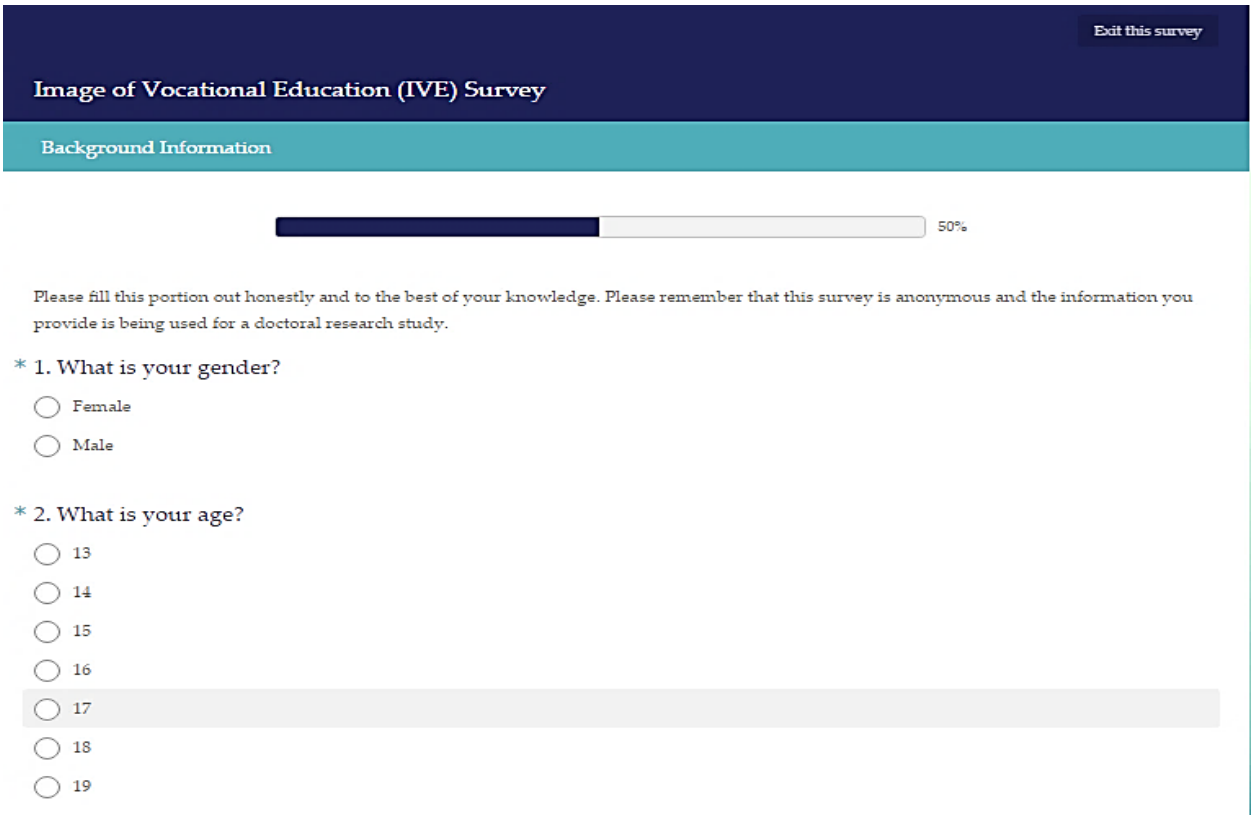
Appendix A

Online Survey of Influencing Factors and Perceptions





Exit this survey

Image of Vocational Education (IVE) Survey

Background Information

50%

Please fill this portion out honestly and to the best of your knowledge. Please remember that this survey is anonymous and the information you provide is being used for a doctoral research study.

* 1. What is your gender?

- Female
- Male

* 2. What is your age?

- 13
- 14
- 15
- 16
- 17
- 18
- 19

* 3. Are you White, Black or African-American, American Indian or Alaskan Native, Asian, Native Hawaiian or other Pacific islander, or some other race?

- ◯ White
- ◯ Black or African-American
- ◯ American Indian or Alaskan Native
- ◯ Asian
- ◯ Other
- ◯ Native Hawaiian or other Pacific Islander
- ◯ From multiple races
- ◯ Hispanic/Latino

* 4. Does your family own a car, truck, or van?

- ◯ No
- ◯ Yes, one
- ◯ Yes, more than one

* 5. Do you have your own bedroom for yourself?

- ◯ No
- ◯ Yes

* 6. During the past 12 months, how many times did you travel away on vacation with your family?

- ◯ Not at all
- ◯ Once
- ◯ Twice
- ◯ More than twice

* 7. How many computers does your family own?

- ◯ None
- ◯ One
- ◯ Two
- ◯ More than two

* 8. What grade are you in?

- ◯ Freshman
- ◯ Sophomore
- ◯ Junior
- ◯ Senior
- ◯ Fifth year / Other

* 9. What school do you attend?

- ◯ [redacted] High School
- ◯ [redacted] Bay High School
- ◯ [redacted] High School
- ◯ [redacted] High School

* 10. Do you attend the Career Center in [redacted] for any classes?

- ◯ Yes (please answer question 11)
- ◯ No (skip question 11)

11. Please select the career cluster for your concentration in attending the career center.

- ◯ Agriculture, Food, & Natural Resources
- ◯ Human Services
- ◯ Transportation, Distribution, & Logistics
- ◯ Finance
- ◯ Architecture & Construction
- ◯ Education & Training
- ◯ Arts. A/V Technology, & Communication
- ◯ Health Sciences
- ◯ Government & Public Administration
- ◯ Manufacturing
- ◯ Business, Management, & Administration
- ◯ Marketing, Sales, & Service
- ◯ Information Technology
- ◯ Hospitality & Tourism
- ◯ Science, Technology, Engineering, & Mathematics
- ◯ Law, Public Safety, & Security

Prev Next

Exit this survey

Image of Vocational Education (IVE) Survey

Image of Vocational Education (IVE) Survey

75%

Please answer the following questions to the best of your ability. Career and Technical Education is the same as Vocational Education. Both are defined as classes that offer a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree. Examples of vocational education courses include cosmetology, welding, marketing, entrepreneurship, accounting, computer programming, culinary arts. If you have questions, please raise your hand and your teacher will offer clarification.

* 12. It is more important to provide many students with a sound basic education than to use the time for vocational education.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
◯	◯	◯	◯	◯

* 13. A high school graduate of a vocational education program impresses me a great deal.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
◯	◯	◯	◯	◯

* 14. Those high school students who would want to take vocational education are not mature enough to profit from it.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
◯	◯	◯	◯	◯

* 15. High schools should encourage honors students to enter vocational education.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 16. Vocational education does not make enough students useful members of society to justify its cost.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 17. I would favor expanding vocational education programs even if available funds remained the same.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 18. Most vocational education courses in my opinion lead to nowhere.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 19. In my opinion, there are not enough students in vocational education at the high school level.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 20. I would like to see the values of vocational education made known to more parents than it is now.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 21. I am opposed to expanding vocational education programs in high school when so many students need the basic subjects.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 22. For many students in high school there should be greater emphasis on earning a living through a vocational education program.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 23. Vocational education programs cannot possibly prepare high school students for the range of job opportunities available to them.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 24. In my opinion, taking vocational education hinders students from further education after high school.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 25. I do not think vocational education in high school is necessary for most students as are other worthwhile programs.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 26. In my opinion, a graduate of a high school vocational education program is generally suited only for unskilled work.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 27. There should be more money set aside in the school budget for vocational education.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 28. Most students who take vocational education in high school in my opinion lack too many other scholastic skills.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 29. I should like to see vocational education encouraged more among high school students.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 30. In my opinion vocational education in the high school is highly overrated.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 31. I believe good vocational education programs in public high schools attract new industries to the community.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 32. It seems to me that vocational education in high school does not prepare a student for advancement in an occupation.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 33. A more considerable portion of the high school curriculum than at present should be devoted to vocational education.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 34. I am of the opinion that vocational education is too costly in proportion to its worth to the community.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 35. In my opinion, most public schools do not provide vocational education programs early enough.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 36. I would cooperate with others in order to develop the best vocational education program for this community.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 37. I favor reducing vocational education programs when available school funds are in short supply.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 38. This community should provide a wide variety of vocational programs to fit the ability of most students not going to college.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

* 39. I am thoroughly sold on offering vocational education in high school.

Strongly Agree	Agree	Uncertain or Don't Know	Disagree	Strongly Disagree
○	○	○	○	○

Prev Next

Appendix B

Permission for Use of the Instrument

Re: Use of Survey from 1964 from U of M researchers

MR Melinda Richardson
Today 2:29 PM
Chadwell, Briael

Reply all

Inbox

You forwarded this message on 7/20/2016 5:23 PM

Dear Briael,

Thanks for your patience.

I'm happy to provide you with permission to use/reprint the survey created by Ralph C. Wenrich and Robert J. Crowley in 1964 for the University of Michigan and U.S. Department of Education, published by the University of Michigan in "Vocational education as perceived by different segments of the population" (Cooperative Research Project No. 1577).

Regarding this type of authorization:

"University Held Works: Officially, the Regents of the University of Michigan hold the copyright to all copyrighted works held by the University...Disposition: Ordinarily, the University units most closely associated with the creation of specific University held works may authorize uses of those works (e.g., they may authorize a third-party to copy, adapt, or distribute a University held work)."

Full text can be found in SPG 601.28, here. http://spg.umich.edu/policy/601.28.

I did request clarification with our copyright office about whether an attempt to contact the author was necessary. Apparently it is not.

You're good to go!

Best,
Melinda

Appendix C

IRB approval letter

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

9/12/2016

Briael Chadwell
IRB Approval 2604.091216: The Effect of Socioeconomic Status and Gender on High School Student Perceptions about Career and Technical Education

Dear Briael Chadwell,

We are pleased to inform you that your study has been approved by the Liberty IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Please retain this letter for your records. Also, if you are conducting research as part of the requirements for a master's thesis or doctoral dissertation, this approval letter should be included as an appendix to your completed thesis or dissertation.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

[redacted]
Administrative Chair of Institutional Research
The Graduate School

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Appendix D

Letter of Approval from Superintendent

[redacted]

26 August 2016

Dear Doctoral Research Committee:

It is my understanding that Briael Chadwell will be conducting a research study [redacted] High School on THE EFFECT OF SOCIOECONOMIC STATUS AND GENDER ON HIGH SCHOOL STUDENTS' PERCEPTIONS ABOUT CAREER AND TECHNICAL EDUCATION. Mrs. Chadwell has informed me of the design of the study as well as the targeted population. We support this effort and will provide any assistance necessary for the successful implementation of this study.

Sincerely,

[redacted]

Superintendent

[redacted] County School District

Appendix E

Email to Principals

BRIAEL CHADWELL
Liberty University Graduate Student
1812 : Lane

843.318.
briaelchadwell@gmail.com

9/13/2016

Dear Principals,

I would like to begin by introducing myself. I am an English teacher at [redacted] High School and a graduate student at Liberty University. I have been teaching in the district for 12 years. I am conducting the research for my doctorate in the [redacted] County School District. I have obtained both approval from Dr. Dozier and the IRB to proceed with my research (see attached letters). I am asking for your cooperation in conducting the research in each of the four high schools.

I am conducting research on the THE EFFECT OF SOCIOECONOMIC STATUS AND GENDER ON HIGH SCHOOL STUDENT PERCEPTIONS ABOUT CAREER AND TECHNICAL EDUCATION. I will be conducting a survey in English classes using computers to access Survey Monkey. The timeline for surveys is October 17-31. I will be contacting English teachers to ask for participation as well as drop off parent consent/student assent letters for teachers to hand out to their students (also see attached). Parents must give their student permission to participate in order for the student to take the survey. The survey itself takes approximately 5-10 minutes to complete.

I appreciate your assistance in this research and am so thankful for this opportunity. If there are any questions or concerns I can address, please feel free to email or call me anytime.

Briael Chadwell
Liberty University Graduate Student

Appendix F

Parent/Guardian Consent Form

The Liberty University Institutional Review Board has approved this document for use from 9/12/2016 to 9/11/2017 Protocol # 2604.091216

PARENT/GUARDIAN CONSENT FORM

THE EFFECT OF SOCIOECONOMIC STATUS AND GENDER ON HIGH SCHOOL STUDENT PERCEPTIONS ABOUT CAREER AND TECHNICAL EDUCATION

Briael Chadwell
Liberty University
School of Education

Your child/student is invited to be in a research study of Career and Technical Education. He or she was selected as a possible participant because he or she is a student enrolled in Georgetown County Schools. I ask that you read this form and ask any questions you may have before agreeing to allow him or her to be in the study.

Briael Chadwell, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this study is to determine if socioeconomic status or gender affects the perceptions of students about Career and Technical Education, once referred to as vocational education.

Procedures: If you agree to allow your child/student to be in this study, I would ask him or her to do the following things:

1. Students will log on to computers. (5 minutes)
2. Students will open the browser and navigate to Survey Monkey using a provided URL link. (1 minute)
3. Students will complete the Image of Vocational Education (IVE) Survey. (12 minutes)
4. Students close the browser on their computer and log off and wait for other students to finish. (2 minutes)

This information will be anonymous as students are not required to input any identifying information.

Risks and Benefits of being in the Study: The risks involved in this study include possible feelings of discomfort with the questions being asked. Students may exit the survey at any time if they feel unable or unwilling to continue. There are not benefits to participating in this study.

Compensation: Your child/student will not be compensated for participating in this study. However, when this form is turned in to the student's teacher, the student will be entered into a drawing for a $15 Chick-Fil-A card. There will be three drawings per school. The drawings will take place in November, after the surveys are complete.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. Privacy and confidentiality are very important. All parental consent forms will be locked in a cabinet and destroyed after the three-year period required by law. All digital information will be stored in a password-protected folder and also destroyed after the three-year period required by law.

The Liberty University Institutional Review Board has approved this document for use from 9/12/2016 to 9/11/2017 Protocol # 2604.091216

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to allow your child/student to participate will not affect his or her current or future relations with Liberty University or Georgetown County Schools. If you decide to allow your child/student to participate, he or she is free to not answer any question or withdraw at any time prior to completing the survey without affecting those relationships.

Contacts and Questions: The researcher conducting this study is Briael Chadwell. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at bchadwell@liberty.edu. You may also contact the researcher's faculty advisor, Dr. Kurt Michael, at kmichael09@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Green Hall Suite 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information to keep for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to allow my child/student to participate in the study.

(NOTE: DO NOT AGREE TO ALLOW YOUR CHILD/STUDENT TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

☐ The researcher has my permission to survey my child/student as part of his/her participation in this study.

Signature of Minor Date

Signature of Parent Date

Signature of Investigator Date

Appendix G

Letter to Teachers

Dear English Teachers,

I would like to begin by introducing myself. I am an English teacher at Waccamaw High School and a graduate student at Liberty University. I have been teaching in the district for 12 years. I am conducting the research for my doctorate in the Georgetown County School District. I have obtained both approval from Dr. Dozier and the IRB to proceed with my research (see attached letters). I have asked your principal for cooperation with my research study, and now I am asking for your help.

I am conducting research on the THE EFFECT OF SOCIOECONOMIC STATUS AND GENDER ON HIGH SCHOOL STUDENT PERCEPTIONS ABOUT CAREER AND TECHNICAL EDUCATION. I will be conducting a survey in English classes using computers to access Survey Monkey, in which I need your assistance. The timeline for surveys is October 17-31. I need student rosters of your classes in order to keep track of parental consent letters; these can be scanned and emailed to me, or printed and I can pick up. I will need you to distribute parent consent/student assent letters to each student and collect them. I can deliver these letters to your school by Tuesday, September 20, or you can print your own copies (see attachment of stamped letter). Parents must give their student permission to participate in order for the student to take the survey. I would like collection to happen within the week. I will make a second attempt to distribute and collect consent forms the last week of September. Students

will be placed in a drawing for a Chick-Fil-A gift card when they return their consent forms. There will be 3 drawings per school.

The survey itself takes approximately 5-10 minutes to complete. I will also need you to sign up for computer technology access during the time frame for your students to take the survey. If you would like me to come in and handle this, I am willing to do that. I am including your media specialists in this email so that they may be able to help you in acquiring technology.

I appreciate your assistance in this research and am so thankful for this opportunity. Please let me know if you are able and willing to help me with this research. There will be a little thank you gift for each of you as well. In order for this research to be successful, I need participation at all four high schools. If there are any questions or concerns I can address, please feel free to email or call me anytime.

Appendix H

Reminder email to teachers

Research Survey

CB Chadwell, Briael
Fri 10/14/2016, 12:18 PM
Messinger, Virginia; Lawson, Marie; Minkin, Megan; Pilkey, Jordan; Parker, Jeffery

Reply all

Sent Items

If you have not given me your consent forms yet, please do so.
The survey window is October 17-31. I will be surveying my students on October 17. If you only have a few consent forms, please feel free to send those students to my room.
Thank you so much for helping me with this study.

Briael Chadwell

English Teacher
Yearbook Adviser

Appendix I

Written instructions for students

Dear Students,

I want to thank you for taking the time to answer the questions in the Survey of Influencing Factors and Perceptions. The purpose of this survey is to gain information for a doctoral study on the effect of socioeconomic status and gender on high school students' perceptions about Career and Technical Education. In this county, Career and Technical Education is also referred to as CATE, vocational courses, and career classes, and involves courses at the Career Center and in high schools such as Culinary Arts, Cosmetology, Welding, and Desktop Publishing. This survey will not ask for your name as it is anonymous.

Please take time to read the instructions before you begin the survey. Please fill out the demographic information correctly. Please take the time to answer each question truthfully. Each question is important to the total survey. If at any time you feel that you cannot answer a question, please feel free to stop taking the survey. The questions are education-based and have been used in previous research studies for Career and Technical Education.

When you are finished with the survey, please raise your hand so that your teacher can give you the assignment and a thank you note.

Thank you again for your time and your answers.

You may begin by entering the following web address:

https://www.surveymonkey.com/r/cte2017

Password: cte2017

Appendix J

Written instructions for teachers

Dear _____,

Thank you so much for helping me conduct the research for my doctoral dissertation: THE EFFECT OF SOCIOECONOMIC STATUS AND GENDER ON HIGH SCHOOL STUDENT PERCEPTIONS ABOUT CAREER AND TECHNICAL EDUCATION. Please read the student letter aloud to the students.

After instructing the students to go to the SurveyMonkey survey, please check that every student has been able to open the survey and begin. If students have questions while taking the survey, please refrain from influencing their choices and try to answer objective questions only. If students feel that they do not want to proceed with the survey, please instruct them to click on EXIT to end the survey.

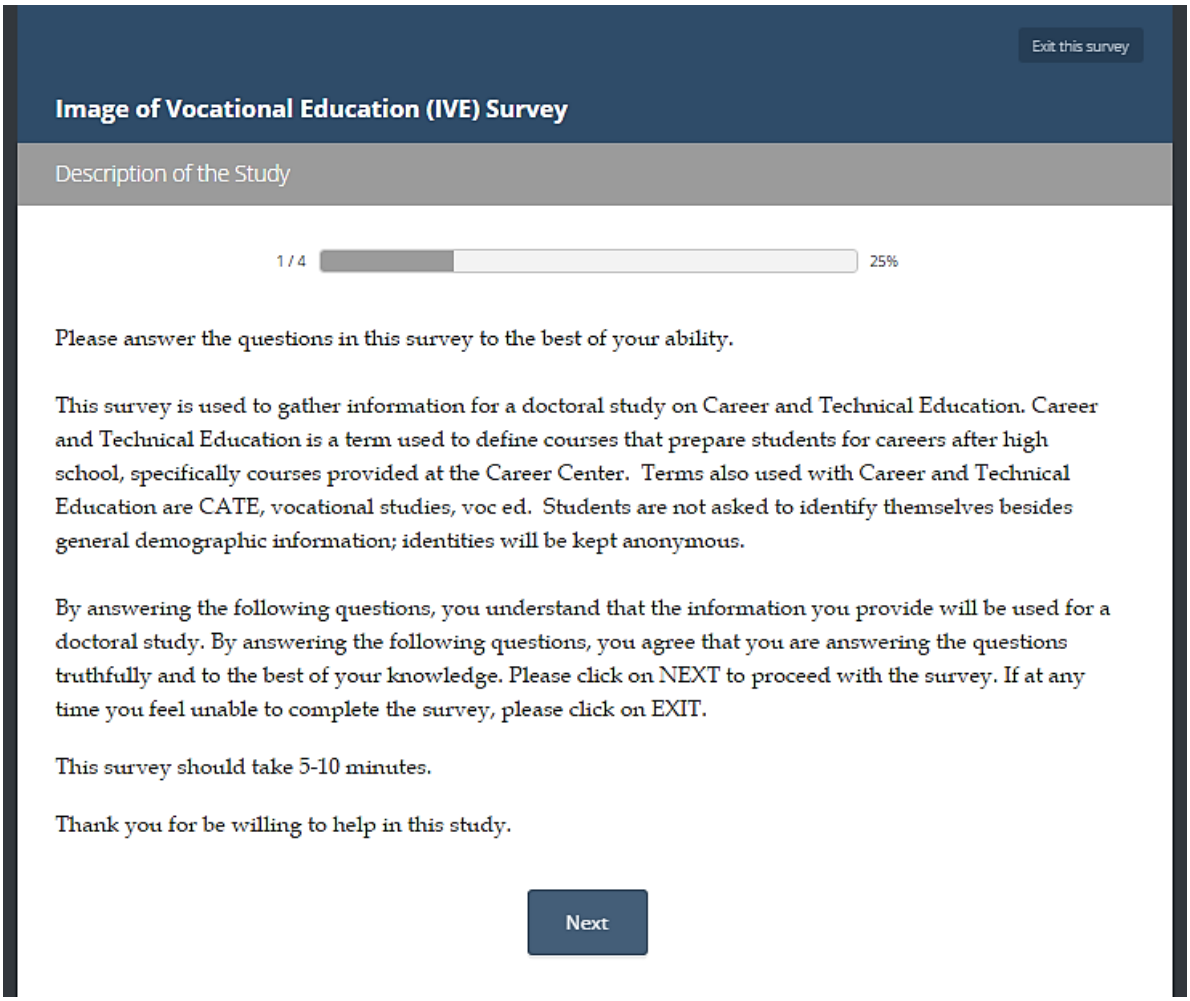
Upon completion of the survey, please distribute the candy to everyone in the class. Please remember that I created an assignment to keep the students occupied until the end of the survey. If you would like to use a different assignment, please feel free to do so.

Sincere gratitude,

Briael Chadwell

Appendix K

Student Assent at the beginning of the Survey of Influencing Factors and Perceptions



Appendix L

Thank you screen after completion of the survey