5-2016

Student Perspectives on Access to Career and Technical Education in an Urban School District

Wandah Gibbs
St. John Fisher University, wg02188@students.sjf.edu

Student Perspectives on Access to Career and Technical Education in an Urban School District

Abstract

This study investigated the urban high school student's perspective regarding access to a career and technical education (CTE) curriculum. The study employed a qualitative approach via the use of two focus groups composed of ninth and 10th grade students attending a large urban school district. The research revealed that the participants were largely unaware, other than that of attending college, of their options following high school and that most students were not aware of the CTE options in their high schools. The research also revealed that although 100% of the students planned to attend college, 89% were interested in training for a career while still in high school. The students indicated they received most of their information from after-school clubs and programs, and 50% of the students said they did not have many opportunities to meet with their school counselors. Recommendations include reeducating school personnel, parents, and counselors to the realities of the current job market and readjusting the curriculum to meet the demands of the fastest-growing occupations. These stakeholders must adjust to a new model in preparing youth for job placement and a productive future. Further research is recommended for district-wide and nationwide quantitative studies be conducted in urban high schools in order to obtain a broader sample that is reflective of urban high schools nationwide. Furthermore, it is imperative to commence a national longitudinal study tracking CTE completers versus non CTE completers to determine the effectiveness of current CTE enrollment on graduation rates, career readiness, and job placement.

Document Type

Dissertation

Degree Name

Doctor of Education (EdD)

Department

Executive Leadership

First Supervisor

Idonia Owens

Subject Categories

Education

Student Perspectives on Access to Career and Technical Education in an Urban School District

By

Wandah Gibbs

Submitted in partial fulfillment

of the requirements for the degree

Ed.D. in Executive Leadership

Supervised by

Idonia Owens, Ed.D.

Committee Member

Connie Lucchese, Ed.D.

Ralph C. Wilson, Jr. School of Education

St. John Fisher College

May 2016

Dedication

"Nine-tenths of education is encouragement" (France, 2003). It required a considerable amount of encouragement for me to embark on this dissertation journey and even more to continue and see it to completion. I want to acknowledge Dr. Lesli Myers for taking the time to answer my questions and for encouraging me to get started. Dr. Leonard Brock, thank you for all your input and motivation throughout. Reverend Johnny Scott, thank you for never allowing me to give up and for doing everything you could to make my life easier along the way.

I want to acknowledge my family for providing financial and emotional support whenever needed. To my children, Dominick, Kristophor, and Amari, thanks for your understanding during those times when I was simply too busy or too tired to be 100% of what you needed. Know that I love you, and I am extremely proud to be your mother. I must acknowledge your father, my late husband, Allen T. Smith Jr., for being a model of hard work, courage, and perseverance. May he rest in peace, as I imagine him flashing his great smile at me for finally completing my educational goals.

I must acknowledge the support and guidance of my dissertation committee. To my chair, Dr. Idonia Owens, thank you for making time in your extremely busy schedule to see my dissertation through to completion. You are the epitome of patience, encouragement, and grace. It has been a pleasure to learn from you, while getting to know you, and I now fully understand why you are a pillar of strength in our community. To my committee member, Dr. Connie Lucchese, your command of the English language

is valuable beyond measure. All those hours spent searching for just the right words and phrases with which to express my many thoughts and ideas were made easier because of you. You are a pleasure to work with and a great source of encouragement.

To my cohort teammates in Syracuse, NY, Asif Padela, Najah Saalam Jennings-Bey, and Andy Turner, your intellect, work ethic, sense of humor, and constant encouragement made my dissertation journey so much more enjoyable. The way we attacked group projects together was exemplary of the way people of diverse backgrounds can and will accomplish great things when purposing to work together and create value from our differences.

Finally, to my advisor, Dr. C. Michael Robinson, you are one of the most influential people I have ever worked with, and your ability to steer me toward shelter during each storm gave me the confidence to complete each stage of the dissertation journey. Your wisdom, brilliance, courage, accessibility, and great sense of humor worked together to propel me forward along a journey I never thought I would take, let alone complete. You are one in a million. Thank you for all you do; not just for me, but for all with whom you come in contact. Your leadership and commitment to social justice are changing our world one student at a time. Thank you.

Biographical Sketch

Wandah Gibbs is currently Director of Operations at Hillside Work Scholarship Connection in Rochester, NY. A native of Moncton, New-Brunswick, Canada, she arrived in Rochester, following a seven-year stretch in Germany as a stay-at-home mother and Air Force-dependent wife. Once her children were ready to spread their wings, Ms. Gibbs returned to college and graduated as a Newhouse Scholar with a Bachelors from the S. I. Newhouse School of Public Communications at Syracuse University, completing a dual major in public relations and international relations. She then completed a Master's degree in television, radio, and film studies with a focus on production and management, also at Syracuse University.

Upon her return to Rochester, NY, Ms. Gibbs spent four years as Sr. Director of Operations and Media Relations at the Iglesia Educational Centers, a private educational company specializing in tutoring services and engineering camps for urban youth. She then completed two years as Director of Quad A for Kids, a not-for-profit organization that provides enrichment programming and academic support to urban youth.

Wandah Gibbs came to St. John Fisher College in the fall of 2013 and began doctoral studies in the Ed.D. Program in Executive Leadership. Amidst concern with low graduation rates and the lack of employment opportunities for minority students, Ms. Gibbs embarked on her dissertation journey with school reform in mind. Her many years living abroad provided an opportunity to observe how other industrialized nations prepare their youth for employment.

Wandah Gibbs pursued her research on the student perspective of access to career and technical education in an urban school district in Upstate NY under the direction of Dr. Idonia Owens and Dr. Connie Lucchese and received the Ed. D. degree in May of 2016.

Abstract

This study investigated the urban high school student's perspective regarding access to a career and technical education (CTE) curriculum. The study employed a qualitative approach via the use of two focus groups composed of ninth and 10th grade students attending a large urban school district. The research revealed that the participants were largely unaware, other than that of attending college, of their options following high school and that most students were not aware of the CTE options in their high schools. The research also revealed that although 100% of the students planned to attend college, 89% were interested in training for a career while still in high school. The students indicated they received most of their information from after-school clubs and programs, and 50% of the students said they did not have many opportunities to meet with their school counselors.

Recommendations include reeducating school personnel, parents, and counselors to the realities of the current job market and readjusting the curriculum to meet the demands of the fastest-growing occupations. These stakeholders must adjust to a new model in preparing youth for job placement and a productive future. Further research is recommended for district-wide and nationwide quantitative studies be conducted in urban high schools in order to obtain a broader sample that is reflective of urban high schools nationwide. Furthermore, it is imperative to commence a national longitudinal study tracking CTE completers versus non CTE completers to determine the effectiveness of current CTE enrollment on graduation rates, career readiness, and job placement.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

The United States is experiencing a skilled worker shortage, and expected job growth is shifting with the pending baby boomer retirements, creating a huge need for skilled worker replacements (Neumark, Johnson, & Mejia, 2013). Although most projected job vacancies will require some form of post-secondary training or education, the U.S. Bureau of Labor Statistics (2012) projected that the top 20 fastest-growing occupations do not require a bachelor's degree and, in fact, most do not require any degree at all.

While low-skilled production-type jobs are increasingly outsourced overseas (Stone & Lewis, 2012), middle-skills jobs are projected to provide the largest number of job openings in the United States through 2020 (Farr & Shatkin, 2009). For example, jobs in health care are experiencing the most rapid growth, with personal care aides leading the way, with a projected 48.8% increase in available jobs between 2012 and 2022 (U.S. Bureau of Labor Statistics [BLS], 2012). Registered nurses will be in high demand and the position requires a minimum of a bachelor's degree, but home health aides and licensed practical nurses (LPN) do not need to earn a bachelor's degree (BLS, 2012). Health care workers who have obtained certificates and associate degrees earn a median hourly wage of $27.20 compared to the national median hourly wage of $15.57, indicating that middle-skills occupations have the potential to provide high wages (Farr & Shatkin, 2009). Today, it is important to examine how we are preparing our youth for this projected worker shortage.

Even though the United States high school graduation rate is at an all-time high, at 81% (National Center for Education Statistics [NCES], 2014), it should be noted that New York State graduation rates are lower than the national average, at 74.9%, and in urban school districts, the rate is even lower (New York State Education Department [NYSED], 2014). Rochester, NY, for example, has a graduation rate of only 43%, with a 9% graduation rate for African American and Latino males (Holzman, Jackson, & Beaudry, 2012).

In a climate of high dropout rates, particularly in urban school districts, it is important to provide students with clearly defined career-related information and an understanding of career possibilities as they navigate high school (Vilhjalmsdottir, 2010). The career selection process is psychologically structured based on expectations and anticipated outcomes (Lent, Brown, & Hackett, 1994). Typically, individuals try to predict what their lives might look like, and they seek to control the outcomes as much as possible (Vilhjalmsdottir, 2010). Additional research reveals that African American student perceptions of racism also impact their interests and career goals, and this should be factored into the overall student expectations and outcomes associated with career possibilities or the lack thereof (Alliman-Brisset, & Turner, 2009).

In light of the shortage of middle-skills workers in the United States (Farr & Shatkin, 2009; Neumark et al., 2000) and the fact that students complain that what they are learning in school is not relevant to life (Yazzie-Mintz, 2007), it may be of value to hear the students' perspectives on education (Levin, 2000) and examine alternative pathways to educating our youth (Rosenbaum, Stephan, & Rosenbaum, 2010; Symonds, 2012). A recent study by Vilhjalmsdottir (2010) revealed that career readiness must

involve a variety of interventions including purposive career counseling. Research indicates that students who see the association between school and careers, and they start planning for the future, are more likely to remain engaged and graduate (Vilhjalmsdottir, 2010). Nancy Hoffman (2011), long-time proponent of career and technical education (CTE) integration, conducted extensive ethnographic research in Australia, Austria, Germany, the Netherlands, Norway, and Switzerland to determine how those industrialized nations were preparing their young people for college and the workplace. Hoffman found that countries with strong CTE programs share two common attributes: they see their youth as vital to the future of their country and worthy of investment, and the business community plays an integral role in the educational process (Hoffman, 2011).

Rosenbaum et al. (2010) suggested that low high school graduation rates and low college completion rates necessitate reconsideration of the way we prepare our youth to meet projected labor market demands. Simply directing all students toward college is not adequately preparing thousands of students who neither graduate from high school, obtain a college degree, nor find employment in the current labor market conditions (Rosenbaum et al., 2010; Symonds, 2012). Nonetheless, the "college-for-all" trend, which has been the overarching agenda of high school counselors since 2002, persists (School Counselor, M. Gilbert, personal communication, June 4, 2014).

Since the early 1990s, most high school students have expected to obtain a 4-year degree, earning them the title of the *Ambitious Generation* (Schneider & Stevenson, 1999). However, many of the students became discouraged when they discovered they could not connect their educational goals with their career ambitions. Additionally,

students who could not match their educational plans with the requirements of their desired occupations dropped out of college altogether (Schneider & Stevenson, 1999).

Furthermore, those most at risk for failure are those who are the least prepared academically, and they have the least information about specific career paths (Symonds, 2012). The college-for-all model may cause the most harm to those who are socially disadvantaged and can least afford to attend college. Rather than accepting college for all as an unqualified good for society, research suggests that policy makers critically examine this norm and reevaluate the model (Rosenbaum, 2001; Schneider & Stevenson, 1999; Symonds, 2012). Current research suggests that high school graduation rates and low college completion rates require reconsideration of the way we prepare our youth to meet the projected labor market demands (Rosenbaum, 2001; Symonds, 2012).

The types of courses students take are related to their decision to stay in school, and research shows that some students remain in school if they take a combination of academically focused courses and CTE coursework (Plank, DeLuca, & Estacion, 2008). Plank et al. (2008) revealed that students who are at the proper age for their grade, and who take approximately one CTE course to every two core academic courses, are amongst those associated with the lowest risk of dropping out, which indicates that CTE integration is an effective form of academic engagement (Plank et al., 2008).

Problem Statement

Currently, people between the ages of 18 and 25 comprise 28% of the unemployed individuals in the United States, compared to a national unemployment rate of 5.3% (BLS, 2015). In some urban areas, that number is as high as 48%. Meanwhile, there is a significant middle-skills worker shortage in the US with projected job openings

upwards of 350,000 in New York State, alone, partly due to the upcoming baby boomer retirements (BLS, 2015).

National data indicates that college enrollment has been on the rise since the 1970s, but it remains that only a minority of those enrolled actually complete a college degree (Rosenbaum et al., 2010). The college-for-all model of education in the US means that even students with sub-par grades now plan on attending college, and they do not have many opportunities to explore alternative pathways (Rosenbaum et al., 2010; Symonds, 2012). Once in college, many students discover they must take remedial classes, and many drop out without obtaining any college credit.

Although the United States high school graduation rate is also at an all-time high at 81% (NCES, 2014), the New York State graduation rate is lower at 74.9%, and in urban school districts, the rate is even lower (NYSED, 2014). Rochester, NY, for example has a graduation rate of only 43%, with a 9% graduation rate for African American and Latino males (Holzman et al., 2012).

These facts raise an important question: Are urban youth effectively being prepared to take advantage of the projected middle-skills worker shortage? Compared to other developed nations, the United States does not have many well-integrated CTE programs or standardized job certification credentials, and private companies have traditionally been left out of the discussion on education (Hoffman, 2011). Currently, however, with growing concern over urban high school student dropout rates (Holzman et al., 2012), high unemployment rates for our youth (BLS, 2015), and a lack of middle-skills worker training opportunities (Hoffman, 2011; Symonds 2012), proponents of education reform in several states, including New York State, are investigating the

possibilities of integrating CTE into mainstream high school academic programs (NYSED, 2014).

In matters of education reform, however, the student voice is often overlooked (Levin, 2000). Levin argued that education reform "cannot succeed and should not proceed without [a] much more direct involvement of students in all its aspects" (Levin, 2000, p. 155). Furthermore, students are the producers of school outcomes and therefore their involvement is fundamental to all improvement, and it would constitute an important reform in and of itself (Levin, 2000). Current literature on CTE often does not reflect the student perspective, and the question remains as to what urban high school students know about CTE and career preparation programs within their schools and if they would like more or less access to CTE at the high school level.

Research indicates that proper, systematic exposure to career counseling and exploration in middle and high school is shown to improve career-related aspirations and educational outcomes for urban students (Turner & Lapan, 2013). Therefore, careful listening to the student perspective on current reforms could influence changes that might improve learning and educational outcomes (Levin, 2000).

History of career and technical education in the United States. In order to understand the transition from vocational education (VE) to the college-for-all model and back to the reintegration of CTE, one must examine the evolution of the American educational system. The Smith-Hughes Act of 1917 represented the first national approval of VE in public schools. Although the act was intended to promote VE in public schools, several elements of the act served to separate VE from academic education. Specifically, monies earmarked for VE meant that students could not receive more than

50% of their education from academic instruction. Students were taught job-specific skills but not theoretical or academic skills. While this requirement was intended to protect the interest of vocational education, it ultimately served to separate VE from academic education, creating an, *us and them* mentality (Wonacott, 2003).

During the 1980-1982 recession in the United States, amidst rising fear of global competition from Japan, there was a refocusing of national attention on public education (Kirst & Wirt, 2009). A blue-ribbon commission appointed by then President Ronald Reagan issued an open letter to the American people titled, *A Nation at Risk: The Imperative for Educational Reform* (National Commission on Excellence in Education, 1983). At issue was the lack of rigor in the high school curriculum, assessments, and college admission requirements in public education.

Additionally, several years later, in an effort to address the situation, the George W. Bush administration instituted the No Child Left Behind Act (NCLB) (2003), which was meant to focus its efforts on improving student test scores. Following a 2002 vocational education reauthorization hearing, then President George W. Bush became increasingly concerned that vocational educational programs in high schools were negatively impacting academic achievement (Lakes, 2007). Because the National Assessment of Education Progress (NAEP) reported a rise in dropout rates and a decline in reading and mathematics scores for all 12th grade students, monies earmarked for vocational education were redirected for use on standardization and heightened accountability requirements (Lakes, 2007).

However, well into the push for increased standardized testing and rigor, math and reading scores remained flat. A prevalence of non-academically oriented students

persisted, evidenced by 29% of the population that had not obtained a high school diploma (Stone, Kowske, & Alfeld, 2004). In light of this fact, Stone et al. (2004) attempted to find out the effect high school reforms had on enrollment in CTE programs and to determine the availability of CTE programs and student participation in said programs. The results suggest that previous reforms actually strengthened the rates of participation in vocational education and that the emergence of more business and technology CTE offerings reflected the nation's labor market demands (Stone et al., 2004). Meanwhile, although CTE enrollment increased, CTE proponents decreased amidst fear that school administrators were limiting CTE coursework, thus limiting the opportunity for students to specialize in a vocational area. To address this issue and promote a resurgence of CTE, the Perkins IV Act of 2006 was born (Carl D. Perkins Career and Technical Education Improvement Act [Perkins IV], 2006).

The Perkins IV Vocational Education Act of 2006. The Carl D. Perkins Vocational and Technical Education Act of 2006, also known as Perkins IV, is the principal source of federal funding to states for the improvement of secondary and post-secondary CTE programs. Perkins IV defines career and technical education as:

> Organized educational activities that offer a sequence of courses that provides individuals with the academic and technical knowledge and skills individuals need to prepare for further education and for careers in current or emerging employment sectors. Career and technical education includes competency-based applied learning that contributes to student's academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills (Carl. D. Perkins, 2006, p. 1).

The Perkins IV Act of 2006 requires that all school districts that receive CTE funding to offer at least one program of study designed to link secondary and post-secondary instruction within defined occupational areas.

Nonetheless, and in direct contrast to Perkins IV, the persistent emphasis on improving student test scores meant that monies earmarked for CTE were redirected toward standardized testing and teacher training (Lakes, 2007). Although research indicates the college-for-all model is not realistic for all students, it remains the overarching model in U.S. education (Reynolds, Stewart, MacDonald, & Sischo, 2006; Rosenbaum, 2010). Today's high schools are not structured to meet the needs of students who would do better if matched to jobs that do not require a bachelor's degree. Today, instead, there are less vocational tracks and more advanced placement (AP) and honors classes (Rosenbaum, 2010; Symonds, 2012).

In addition, guidance counselors who have been conditioned to guide students toward college do not want to discourage students who have been told to focus on college, and they do not want to dampen the dreams the students have held since elementary school (Rosenbaum, Miller, & Krei, 1996). However, the fact remains that students facing higher levels of math and college work, in general, end up discouraged, and they incur additional debt while taking remedial, non-credit-bearing courses.

Meanwhile, although attempts at CTE integration were underway at the time this research was conducted, little is known of the long-term, student-related outcomes, and there is a lack of research on student outcomes for those who attend schools with integrated curricula (Castellano, Stringfield, & Stone, 2003). For this reason, the effects

of CTE are not well known, particularly on post-secondary education attainment and labor market outcomes (Fletcher & Zirkle, 2009).

Two successful models of career integration. As the nation explores ways of preparing youth for gainful employment, several models of career integration are currently experiencing some success. Career academies and programs of study are highlighted here because they have enough longevity to allow for outcome research. The goal of a career academy is to prepare students for an education at the community college or university level and/or the workforce (Dixon, Cotner, Wilson, & Borman, 2011). Career academies are small learning communities designed to create an environment where students and teachers develop close relationships and where career centered and academic coursework are integrated to offer work-based experiences through local business partnerships (Dixon et al., 2011).

Successful elements of cohort scheduling at career academies reportedly create a real sense of community and belonging amongst the students, faculty, and staff, which helps retain students (Dixon et al., 2011). Another major success reportedly came from the engineering theme that permeated some Career Academy programs because the students saw the theme as preparing them for future career plans. Incidentally, working with professional engineers as part of their capstone project, which included public speaking, proposal writing, and group problem solving, was seen as extremely valuable (Dixon et al., 2011).

Similarly, another model being used to incorporate CTE into school districts nationwide, which are experiencing some success, are programs of study (POS). POS are the result of a joint effort between the U.S. Department of Education and Congress and

are designed to help students become *college and career ready*, facilitate transition from secondary to post-secondary education, and join the workforce (Stringfield, Shumer, Stipanovic, & Murphy, 2013).

Data compiled from exemplary POS in three states facilitate our understanding of how POS successfully operate. Fletcher and Zirkle (2009) found that dual tracks and the integration of academic subjects and CTE are central to successful Programs of study, further supporting the overarching goal of a POS which is to "focus student learning in academic and technical areas, and [it] lead[s] to the development of seamless systems that connect secondary with post-secondary education and students with opportunities to engage in occupational and career planning" (Stringfield et al., 2013, p. 330). Also noted is evidence that students who did well in their POS were able to secure employment directly following high school graduation and, therefore, success should not be strictly measured by transitions to post-secondary education, and employment should be included as a measure of post-POS success.

Participants in all three case studies indicated that the real challenge of POS was keeping students engaged in learning. Therefore, increased opportunities for students to engage in hands-on learning would provide opportunities for students to focus on learning, thus promoting student engagement (Fletcher & Zirkle, 2009). The Fletcher and Zirkle (2009) study also demonstrates that POS throughout the US are making progress in integrating secondary and post-secondary education by connecting learning with CTE and creating viable pipelines that encourage and promote collaboration. Data collected during the study support previous studies that revealed POS positively impact student preparation for college and career readiness (Stringfield et al., 2013). Additionally, it was

suggested that more flexible and relevant ways for tracking and measuring outcomes of POS and CTE should be established at the national level. These findings are significant as large urban school districts look for ways to overcome low graduation rates, improve student retention, and seek to engage students in their own college and career preparation.

Theoretical Rationale

Theories of career development help us understand the process students undergo during the development of career identity. For many students, this process does not take place as systematically as it should, and students drop out of high school for the lack of a clear pathway to careers and, consequently, employment (Vilhjalmsdottir, 2010).

Using a theoretical framework spanned over four decades, Hackett and Betz (1981) applied Bandura's (1977) self-efficacy theory to women's career development in an effort to explain women's underrepresentation in male-dominated occupations (Hackett & Betz, 1981). Their earlier areas of study revolved around occupational self-efficacy and career interests, math self-efficacy and career decision-making self-efficacy. Research eventually branched out into applications to career choice and more general career development and achievement (Lent et al., 1994).

Bandura's (1986) social cognitive theory stands on the belief that cognitive, vicarious, self-regulatory, and self-reflective processes are essential in human adaptation and change, whereas social cognitive career theory (SCCT) accounts for human functioning, and environmental and biological factors, as well, which contain direct implications for intervention (Alliman-Brissett & Turner, 2009; Lent et al., 1994; Vilhjalmsdottir, 2010). Each aspect of SCCT encompasses a set of personal, behavioral, and environmental factors that are thought to guide academic and career development

processes. The theory emphasizes the role of self-efficacy beliefs, outcome expectations and goals that shape people's own career-related efforts (Lent et al., 1994).

Environmental variables are thought to promote or restrict choice options for individuals, and those variables provide a context for improving self-efficacy and outcome expectations over time. Socio-demographic variables, such as race/ethnicity, culture, and gender, are also thought to have an influence on career outcomes because of overall learning experiences and existing opportunity structures (Lent et al., 1994). Additionally, some minority students are jaded by their parents' career-related experiences, and they are keenly aware of racism and its effect on career goals, related opportunities, and outcomes (Alliman-Brissett & Turner, 2009).

Therefore, SCCT theory maintains that people develop career paths based on their interests and feelings about their capabilities and on outcomes based on their abilities to be successful in their career choice. People generally expect to be successful when they are working in fields where they feel they have an aptitude for them and where they believe their efforts will be rewarded (Hackett & Betz, 1981). Additionally, people tend to develop an ongoing interest in activities at which they believe they can perform well and that they foresee will lead to positive outcomes, such as social prestige and self-satisfaction. In contrast, people hold lesser interest in activities for which they harbor low self-efficacy and negative outcome expectations (Lent et al., 1994).

It has been argued that the career-choice process is clouded by a lack of knowledge of varied occupational paths and of a lack of confidence in one's ability to perform well in a given field (Lent et al., 1994). Urban high school students would benefit from career exploration and exposure, which would broaden their perceived scope

of opportunities and enable the students to choose training opportunities in which they are interested and in which they believe they would reach a level of self-efficacy and satisfaction (Alliman-Brissett & Turner, 2009, Lent et al., 1994, Vilhjalmsdottir, 2010).

According to Alliman-Brissett & Turner (2009), three aspects of CTE should be highlighted in relation to the study of career preparation in urban and minority students; (a) SCCT is relevant to both career and academic behavior. Interests and skills developed during the school years generally translate into career selections, although social and economic factors frequently having a greater influence on career choice; (b) SCCT theorists have posited that early adolescence may be a better time to expose students to career choices rather than later adolescence (Lent et al., 1994); (c) Because of its emphasis on socio-economic and environmental influencers, SCCT is a viable model when used to describe career development across a variety of populations, therefore it is relevant in explaining the processes that account for career development choices in urban high school populations.

Purpose of the Study

The purpose of this study is to determine if urban high school students want more or less access to CTE. Amidst high unemployment rates in people ages 18 to 25, low urban high school graduation rates and a middle-skills worker shortage, the U.S. Department of Education is taking steps to integrate CTE into mainstream education. In matters of educational reform, however, the student voice is often ignored, even though it is important to hear from those for whom the reform is designated (Levin, 2000). It investigates student perspectives on current options and interests that may inform CTE reform.

Research Questions

The research questions this study is based on, are:

1. What do urban high school students in Rochester, NY know about their options for college and career placement following high school graduation?
2. Given their knowledge of CTE, are urban high school students in Rochester, NY interested in accessing CTE programs while attending high school?

Significance of the Study

Rooted in concern for the U.S. middle-skills worker shortage, the low graduation rates in urban high schools, low college completion rates, and high unemployment rates in urban areas, this study seeks to add to the current body of literature on CTE and career preparation in U.S. high schools. Although efforts are under way to integrate more widespread CTE into mainstream high schools (NYSED, 2014), few are taking into account the student perspective. Because high school students are the consumers of reform, it is important to hear what they have to say about CTE integration and if it is something they would like access to (Levin, 2000). The current study contributes to the body of literature regarding CTE from the urban high school student perspective and may shed light on improving student retention and graduation rates in urban high schools.

Recent initiatives involving career and technical education. On March 10, 2015, The Next Generation High Schools Act was introduced to the Senate. It is a bill aimed at increasing the number and percentage of students who graduate from high school and college and who are career ready. As indicated in the bill, these graduates would have the ability to use their knowledge to solve complex problems, think critically, communicate effectively, collaborate with others, and develop academic mindsets, and

they would be able to use their abilities for other purposes (New Generation High Schools Act [H. R. 4020], 2015).

Federal level. November 10, 2015, President Barack Obama released a statement indicating his administration would spend $375 million in public and private support of Next Generation High Schools Act (White House, 2015). The statement was made during the first-ever White House Summit on Next-Generation High Schools. The event highlighted those involved in reinventing the high school experience "to better empower students to seize opportunities in today's economy, and prepare students for success in college and career" (White House, 2015).

As outlined in the President's 2015 State of the Union address, the White House called for a national effort to create more schools that incorporate key elements of redesign, including more personalized and active learning; access to real-world and hands-on learning, such as "making" experiences; deeper ties to post-secondary institutions; and a focus on expanding science, technology, English, and math (STEM) opportunities for girls and other groups of students who are underrepresented in these high-growth, well-paying fields. The announcement showcased a broad federal and private response to the President's call to action.

State level. On Monday, October 20, 2014, the New York State Board of Regents approved new high school graduation options and requirements. The new regulations permit multiple rigorous pathways to graduation that include CTE, science, technology, engineering, mathematics, the arts, and the humanities. The goal of the new options are to improve New York State's 74.9% graduation rate, increase the number of students

graduating who are prepared for college and careers, and to help prepare more students for the 21st century economy (NYSED, 2014).

Local level. The Rochester City School District (RCSD) in Rochester, NY set into motion a plan to reclaim its former status as a leader in CTE programs (RCSD, 2014). The district discovered that it offered fewer CTE opportunities than suburban students receive. Additionally, "Only seven of our 18 CTE programs are approved by the New York State Education Department" (RCSD, 2014, p. 9). Also, none of the students enrolled in CTE courses took the technical assessments that are typically routine upon completion of a CTE program. This discovery prompted a complete and thorough evaluation of the RCSD's CTE offerings by the Career and Technical Assistance Center of New York State.

In response to the evaluation, RCSD moved immediately on the recommendations and explored long-term solutions for providing accredited CTE programs to RCSD students. Therefore, in the fall of 2015, RCSD revived the once highly successful Edison Technical High School in the hope of restoring it to its former status as an excellent CTE program, and the district opened its first P-Tech high school (RCSD, 2014).

Definitions of Terms

Ambitious Generation – a group of young people eager to attend college and determined to get good jobs, but they are often disappointed by the guidance they receive from parents and schools (Schneider, & Stevenson, 1999).

Baby Boomer – a person born in the years following World War II when there was a temporary marked increase in the birth rate (Google Dictionary, 2015).

Career and Technical Education (CTE) – a program of study that involves a multiyear sequence of courses that integrates core academic knowledge with technical and occupational knowledge to provide students with a pathway to post-secondary education and careers (Association for Career and Technical Education, 2014).

College for All – the expectation to complete college is widely held in U.S. society, and it has risen over time. Goyette (2008) explained:

> As a cause of this, Rosenbaum (2001) and others (Schneider and Stevenson, 1999) have pointed to a norm that promotes college not simply for those who are academically talented or socially elite, but for everyone regardless of academic aptitude and social background. This they term a norm of "college for all" that is promoted by schools and society at large. (p. 1).

CTE Completer – students who finish three or more classes in CTE (National Center for Career and Technical Education Research [NCCTER], 2014).

Non-CTE Completer – Students who finish less than three CTE classes (NCCTER, 2014).

College and Career Ready – students who have completed the minimum high school graduation requirements and have the knowledge, skills, and academic preparation needed to enroll and succeed in introductory college-credit-bearing courses, within an associate or baccalaureate degree program, without the need for remediation (U.S. Department of Education [USDOE], 2014).

Middle-Skills Jobs – occupations that require some education and training beyond high school. The educational requirements of said occupations may include an associate

degree, a vocational certificate, on-the-job training, work experience, or some college courses but not a bachelor's degree (Holzer & Lerman, 2009).

Next Generation High Schools Act – a bill introduced in the Senate to help produce graduates who have the ability to use knowledge to solve complex problems, think critically, communicate effectively, collaborate with others, and develop academic mindsets (H. R. 4020, 2015).

Perkins IV – The Carl D. Perkins Vocational and Technical Education Act of 2006 (H. R. 4020) is the principal source of federal funding to states for the improvement of secondary and post-secondary career and technical education programs. It requires that all school districts in the US offer at least one CTE program of study. CTE courses are offered in middle school, high school, community and technical colleges, and other post-secondary institutions (USDOE, 2006).

Standardized Tests – examinations for which content has been selected and checked empirically, norms have been established, uniform methods of administering have been developed, and which may be scored with a relatively high degree of objectivity (USDOE, 2014b).

Vocational Education (VE) Act of 1963 – An act to strengthen and expand the economic base of the nation, develop human resources, reduce structural unemployment, increase productivity, and strengthen the Nation's defense capabilities by assisting the States to expand, improve, and update high-quality programs of vocational-technical education, and for other purposes (Encyclopedia of Education, 2002).

Urban – of or relating to cities and the people who live in them (Merriam-Webster, 2014).

Chapter Summary

Chapter 1 introduced the research topic, an overview of the historical context related to CTE, and it compared the U.S. Bureau of Labor Statistics (2012) projected job growth to current-college and career-readiness options available to urban high school students. The theoretical rationale for introducing youth to career choices and opportunities helps frame the importance of providing high school students with career training and exposure. The research questions were presented along with the significance and purpose of the study. Two successful CTE programs were outlined and a definition of terms was provided.

The review of the literature in Chapter 2 provides a look at existing research on CTE and its effect on academic achievement and student outcomes. It provides a perspective on programs that have achieved success, and it illustrates the lack of existing outcomes research. The importance of student voice, as it relates to education reform, is highlighted, and the theoretical framework is thoroughly expanded, followed by a state of the state of CTE.

Chapter 3 outlines the research, design, and methodology, and describes the research context and the sample population. Chapter 4 presents the data analysis and results, and Chapter 5 provides an introduction, implications of the findings, implications for policy reform, and recommendations for further study. Chapter 5 ends with a summary of the entire study.

Chapter 2: Review of the Literature

Introduction and Purpose

Although efforts are under way to reintegrate widespread CTE into mainstream high schools (Hoffman, 2011; Perna, 2012), few are taking into account the student perspective. What do urban students know about CTE? Do urban students want to know more? Do urban students want more access to CTE? This study reveals students' perspectives on CTE and helps to determine if urban high school students are interested in increased access to CTE and career preparation.

In order to understand why the U.S. educational system lags in terms of vocational education, Chapter 2 provides a brief history of CTE, and it reveals why, at this time, students are predominantly groomed for college, even though there is currently a middle-skills worker shortage. Although the college-for-all model has been the overarching theme in the US since 2002, it remains that only 40% of high school graduates actually attend college. Therefore, the research is concerned with those students who neither graduate high school nor complete a college degree, or they do not complete career readiness training.

The research herein lists the anticipated fastest-growing occupations through 2020, and it reveals that most middle-skills jobs do not require a bachelor's degree, further supporting the notion that a bachelor's degree is not the only way to prepare for a career (BLS, 2012; Rosenbaum et al., 2010; Symonds, 2012). America has shortages in key career and technical areas. Some areas require 2 or 4 years of college, others simply

require industry certifications that can be acquired through carefully designed CTE programs in high school (Stringfield et al., 2013).

Although the US is lagging behind in CTE integration, it is important to note that several successful integrated CTE programs do exist. Career academies and programs of study, which have shown longevity and success, could provide a blueprint for further CTE integration. Studies from both programs reveal what students have to say about them and why they inspire them to complete high school and graduate.

Because of ongoing concerns that math and ELA scores may be negatively impacted by CTE coursework, included herein are studies that measure student outcomes for CTE completers versus non-CTE completers. It remains, however, that there is a void in student outcome data related to CTE, and it was discovered that most national academic achievement data used to measure academic gains were gathered prior to the implementation of the Perkins IV Act (2006), and therefore do not provide a clear picture of how CTE currently affects students as it is administered today (Bozick & Dalton, 2013).

Experts in the field of CTE agree that data reporting and tracking have not been adequate and that students do not always receive proper credit for CTE coursework; therefore, a comprehensive study is included, herein, containing suggestions for ongoing CTE research and focus. Also, the research examines the results of a study conducted in 2006 that determined why students do not currently find what they are learning in school relevant to their lives (High School Survey of Student Engagement [HSSSE], 2006), and includes a section pertaining to the role of CTE on dropout prevention (Gentry, Peters, & Mann, 2007; Vilhjalmsdottir, 2010).

Additionally, a review of social cognitive career theory, self-determination theory and Holland's (1985) theory of career choice provide a theoretical rationale that explains the way people make career choices. It sheds light on the importance of accounting for environmental factors in which urban high school students find themselves during this important milestone in their development, further supporting the need for CTE integration in urban middle and high schools.

Because CTE is at the forefront of education reform, a section is included in this chapter on the state of the state of CTE integration, as well as offering the projected fastest-growing occupations through 2020. Included is one district's action plan to offer increased CTE access, coupled with recent, emerging developments in CTE implementation in various parts of the nation. Chapter 2 concludes with a summary of the literature review.

Topic

The topic of this research is the student perspective on career and college options following graduation and the student perspective on access to career and technical education in urban high schools in the United States.

History of career and technical education in the U.S. Although vocational education (VE) began with the Puritans during the 17th century, the Smith-Hughes Act of 1917 represents the first national approval of VE in public schools (Hersperger, Slate, & Edmonson, 2013). Although the act was intended to promote VE in public schools, several elements of the act served to separate VE from academic education. Specifically, monies earmarked for VE meant that students could not receive more than 50% of their education from academic instruction. Students were taught job-specific skills but not

theoretical or academic skills. While this requirement was intended to protect the interest of vocational education, it ultimately served to separate VE from academic education (Hersperger et al., 2013; Wonacott, 2003).

Keeping this academic divide in mind, the 1980-1982 recession in the United States and amidst rising fear of global competition from Japan, a refocusing of national attention on public education occurred (Kirst & Wirt, 2009). A blue-ribbon commission appointed by then President Ronald Reagan issued an open letter to the American people entitled, *A Nation-at-Risk: The Imperative for Educational Reform* (Gardner, 1983). At issue was the lack of rigor in the high school curriculum, in assessments, and in college admission requirements in public education.

Years later, following the 2002 vocational education reauthorization hearing in the US, President George W. Bush became increasingly concerned that vocational educational programs in high schools were negatively impacting academic achievement (Hersperger et al., 2013; Lakes, 2007). Additionally, the National Assessment of Education Progress (NAEP) continued to report a rise in dropout rates and a decline in reading and mathematics scores for all 12th grade students. As a result, monies earmarked for vocational education were redirected for use on standardization and heightened accountability requirements (Lakes, 2007). Although, these changes were made, research revealed, years later, that academic test scores remained flat.

The Carl D. Perkins Vocational and Technical Education Act of 2006. Also known as Perkins IV, the Carl D. Perkins Vocational and Technical Education Act of 2006 was later enacted, requiring all districts that received CTE funding to offer at least one program of study designed to link secondary and post-secondary instruction within

defined occupational areas. Amidst efforts to increase academic standards, the government, educators, and stakeholders were looking for a cure for what was considered a poorly performing school system.

Perkins IV is the principal source of federal funding to states for the improvement of secondary and post-secondary career and technical education programs. Perkins IV officially dropped the term "Vocational Education," which is now referred to as career and technical education. Perkins IV defines career and technical education as:

> Organized educational activities that offer a sequence of courses that provide individuals with the academic and technical knowledge and skills individuals need to prepare for further education and for careers in current or emerging employment sectors. Career and technical education includes competency-based applied learning that contributes to student's academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills. (Carl D. Perkins, 2006, p. 1)

Although attempts at CTE integration have been underway since the first Perkins Act of 1990, little is known of long-term student-related outcomes, and there remains a lack of research on student outcomes for those who attended schools with integrated curricula (Castellano et al., 2003; Plank et al., 2008). Consequently, the effects of CTE on academic achievement are still not well known, particularly on post-secondary education attainment and labor market outcomes (Fletcher & Zirkle, 2009).

Review of the Literature

Further effects of CTE legislation on education in the US. While monies previously earmarked for VE were being redirected to standardization and academic

achievement, data was emerging from the 1996 and 2000 School Survey and the National Longitudinal Survey of Youth 1997 (NLSY97), which showed that CTE programs were actually developed and/or strengthened in the early 1990s, specifically in the fields of business and technology (Stone et al., 2004).

Even though federal school reform was underway, and significant changes were causing a shift from specific areas of career development to increased reform and accountability, it became evident that the efforts to reduce CTE following the 2002 reauthorization hearings actually had the opposite effect on CTE enrollment (Stone et al., 2004). Additionally, well into the push for increased standardized testing and rigor, math and reading scores remained flat, and a prevalence of non-academically oriented students persisted, evidenced by the 29% of the population that had not obtained a high school diploma. Once again, talks of CTE reform increased (Stone et al., 2004).

Meanwhile, 7,342 surveys were distributed to students living in a metropolitan area, rural areas, a county or group of counties from which a student sample was selected (Stone et al., 2004). Using a questionnaire and conducting parent interviews, the National NLSY97 measured variables that affected high school students' transition from school to the labor market, and school administrators were surveyed in order to obtain data on the schools where the students attended. Of the surveys distributed 5,253 surveys were returned (71.5%).

Another survey was also distributed in the year 2000, which included vocational schools to the original sample of schools (Stone et al., 2004). The return rate of questionnaires for that cohort was at 70.9%. Five types of schools were identified in the

data: comprehensive, technical, special education and alternative, special emphasis, and another group referred to as *other*.

The analysis identified various CTE programs offered in schools, and it determined how many schools offered multiple programs (Stone et al., 2004). Several schools offered three to five CTE programs, while 25% of the schools surveyed offered six to eight choices of programs. It was determined that 66.5% of the schools offered at least one occupational program. Business programs were the most frequently offered CTE courses, with technology and communication ranking second (Stone et al., 2004).

Next, the research team looked into the availability of special career-preparation programs and activities. More than one-third of U.S. high schools provided tech prep. They also found that work-based study, job shadowing, and job-site visits were common in U.S. high schools. Career development activities. including college counseling from parents. was found to be the least-reported career development activity (Stone et al., 2004).

The team also looked at school administrator responses to the following questions: (a) Did CTE enrollments change between the 1995-1996 school year and that of the 1999-2000 school year? and (b) Did administrators believe that CTE enrollment changed because of changes in graduation requirements? Of the administrators poled, 34% indicated increased enrollment in CTE programs, and 23.34% reported a decrease in enrollment during the same period (Stone et al., 2004).

Interestingly, however, when teachers were asked to identify specific CTE programs, they reported decreases in CTE enrollment except in the areas of business and office-education programs. This phenomenon could be attributed to the fact that teachers

are not always sure what courses qualify as CTE, or perhaps students were not taking a sequence of courses, but rather sampling a variety of CTE classes (Stone et al., 2004). As for schools that added three credits to the graduation requirement, they saw an increase in enrollment in CTE classes, perhaps indicating that students with special needs or who were in danger of failing were more likely to escape into the realm of CTE amidst fear of academic failure (Stone et al., 2004).

Stone et al. (2004) further attempted to evaluate the effect high school reforms had on enrollment in CTE programs and determine the availability of CTE programs and student participation in such programs. The results suggest that reforms actually strengthened the rates of participation in vocational education and that the emergence of more business and technology CTE offerings reflected the nation's and labor market demands (Stone et al., 2004). It remains, however, that although enrollment increased, student CTE concentrators decreased, and there is fear that school administrators are limiting CTE coursework, thus the opportunity to specialize in a vocational area (Stone et al., 2004).

Additionally, amidst concern for lower-than-expected post-secondary enrollment, Fletcher and Zirkle (2009) investigated whether there was a connection between high school degree attainment and occupational earnings. The study reveals that the Perkins Act of 1990 was not meeting its objective of ensuring students enrolled in CTE programs earned a post-secondary degree, but it did show that students enrolled in CTE programs were outperforming students in other programs in post-secondary earnings. Even though federal legislation regulates CTE pertaining to the Carl Perkins legislation and related CTE funding, few states have conducted outcomes studies, and "It may be difficult for

policy makers, educators, and teachers to see how CTE courses contribute to the goals of the legislation" (Blowe & Price, 2012, p. 2).

College-for-all model. Also in conflict with the goals of Perkins IV legislation is the adoption of the college-for-all model, which emerged following the redirecting of VE funds toward standardization and academic achievement. Because of this trend, the bachelor's degree has become the goal of students in the US. Much of society has come to think of a bachelor's degree as necessary in obtaining a good job; consequently, educators have been encouraging most students to attend college (Rosenbaum et al., 2010). Unfortunately, even students with sub-par grades now plan to attend college, and they do not have many opportunities to explore alternative pathways (Rosenbaum et al., 2010; Symonds, 2012). Once in college, many students discover they must take remedial classes, and many drop out without obtaining any college credit.

Although recent national data indicate that college enrollment and completion rates have been on the rise since the 1970s, only a minority of high school graduates actually complete a college degree (Rosenbaum et al., 2010). Nevertheless, college for all has been the overarching goal of the U.S. Department of Education for decades. Because current labor market demands outweigh the need for college diplomas (BLS, 2012); Hoffman, 2012; Rosenbaum et al., 2012; Symonds, 2012), Rosenbaum suggested that this should prompt us to reconsider the college-for-all model as it does not account for the thousands of students who neither obtained a college degree nor found employment in current labor market conditions, and does not take into account the projected shortage of middle-skills workers.

Fastest-growing occupations through 2020. Further challenging the college-for-all model, Schultz and Stern (2013) pointed to recent U.S. Department of Labor projections that indicate that all new jobs created since 2008 will require entry-level workers to have a certain level of math and reading skills in order to qualify for these new jobs, and most jobs will require some form of post-secondary training or education. While these predictions were emerging, Schultz and Stern found that only 34% of students graduating from high school had the necessary skills to attend a post-secondary institution, and that up to 68% of first-time students have to take at least one remedial course (Schultz & Stern, 2013).

Although professional occupations and low-skilled production-type jobs are increasingly outsourced, middle-skills jobs are expected to provide the largest number of job openings through 2020 (Farr & Shatkin, 2009; Stone & Lewis, 2012). Additionally, middle-skills wages are bound to increase based on credentials and skill levels achieved (Holzer & Lerman, 2009). For example, health care workers, who are in the projected fastest-growing industry and who have obtained certificates and associate degrees, are earning a median hourly wage of $27.20 compared to the national median hourly wage of $15.57, indicating that a lot of middle-skills occupations have the potential to provide high wages (Farr & Shatkin, 2009).

According to the U.S. Bureau of Labor Statistics (2012), the top 20 fastest-growing occupations do not require a bachelor's degree, and in fact, most do not require any degree at all. Jobs in health care are experiencing the most rapid growth with personal care aides leading the way with a projected 48.8% increase in available jobs between 2012 and 2022. Registered nurses will be in high demand, and they are required

to have a minimum of a bachelor's degree, but home health aides and LPNs are not required to have such a degree (BLS, 2012).

In order to project occupational trends, BLS economists place base-year staffing patterns under an iterative process of qualitative and quantitative analyses in order to develop projected staffing patterns. The data are then distributed to corresponding matrix industries and by class of worker. Historical staffing pattern data are examined and factors are identified that may affect occupational demand within various industries during the projection decade, in this case, the decade in question is between 2012 and 2022. The change factors are then applied to the 2012 occupational staffing patterns to obtain projected need. Change factors and underlying rationales may affect an occupation's projected share of the industry, which could increase, decrease, or remain the same (BLS, 2012).

In relation to increased demand for other occupations, historical data shows shifts in occupations within industries over time. Known factors that cause shifts are technology, business practices, the mix of goods and services produced, the size of an establishment, and offshore outsourcing. The Bureau of Labor Statistics staff analyzes each occupation within the matrix, which helps identify factors and trends that could cause an increase or decrease in demand (BLS, 2012).

Also, when workers leave their occupations, either because of retirement or other factors, they need to be replaced, and data indicate that replacement needs provide more job openings than employment growth in most occupations (BLS, 2012). With the youngest baby boomers now at age 50, projected retirements are creating additional replacement needs. Ironically, the middle-skills employees preparing for retirement were

of the generation that participated and profited from widespread vocational education in the 1960s and 70s.

Student performance outcome data. Besides expected baby boomer retirements, another reason for the projected lack of trained middle-skills workers and giving way to the college-for-all model, is the long-standing area of concern that CTE concentrators may perform poorly on standardized tests. Although VE had long endured the stigma of being a second-class education, it has benefitted from recent CTE reforms, which have significantly increased CTE student participation in higher level math courses (Bae, Gray, & Yeager, 2007).

In order to determine whether there is a correlation between CTE completers vs. non-CTE completers and their standardized test scores, the Bae et al. (2007) study was conducted to see if there were performance differences on 11th grade state-mandated tests in math and English between CTE and non-CTE students. The researchers employed a retrospective cohort study method to compare outcomes for those students who received a particular treatment and those who did not. In this case, CTE enrollment. All students in the study had equal abilities based on their eighth grade test scores. CTE students were defined as those who take three or more occupational courses in CTE (Bae et al., 2007).

From two different CTE schools in Pennsylvania, 67 CTE and 153 non-CTE students were selected for the study. Data were collected from the Pennsylvania System of School Assessment (PSSA) database and from high school transcripts. It should be noted that the PSSA is a mandatory test designed to measure academic performance in Pennsylvania school districts, and it has been used since 1996 (Bae et al., 2007).

Students' 11th grade math and reading performance scores on the PSSA was the dependent variable. The independent variables were eighth grade math and reading PSSA scores, CTE enrollment, and years of math taken prior to arrival into the 11th grade (Bae et al., 2007). A t-test was completed to determine if there was a statistical difference between 11th grade math and reading performance of CTE versus non-CTE students. A multiple regression analysis was used to establish the relationship between math and math-course-taking patterns (Bae et al., 2007).

The regression analysis revealed that eighth grade math scores predict 11th grade math achievement, and the more math classes a student takes between the eighth and 11th grades, the higher the math performance on the PSSA. CTE enrollment was not found to significantly influence PSSA scores and, in fact, the greatest influence on scores was the math proficiency with which students entered high school (Bae et al., 2007).

Bae et al., (2007) suggested that these findings are significant, particularly for districts that look for reasons for poor math performance and want to blame student involvement in CTE as an excuse for not better preparing students prior to arrival into the ninth grade.

In another effort to determine the effect CTE has on grades, Blowe & Price (2012) conducted a study in the state of Virginia, where mandated CTE Standards of Learning (SOL) exist, which correlate CTE coursework with core academic classes. The study was designed to evaluate the differences in academic performance between those in CTE tracks versus those who were not, particularly where it relates to math and English scores and the overall impact on graduation rates (Blowe & Price, 2012).

The population in the study included 131 school districts in the Commonwealth of Virginia. Annual English and mathematics pass rates and graduation rates are in the public domain, and they are submitted to the Virginia Department of Education by each school district. Data collected between 2008 and 2010 served as the foundation for the study (Blowe & Price, 2012).

Blowe & Price (2012) used a quantitative evaluation method. The independent variable was CTE completers, and the dependent variables were student achievement and graduation rates. Longitudinal data collected over the years in question were divided into groups of those in CTE tracks versus those who were not, and a *t*-test analysis was used to assess whether the means of the two sample groups were statistically different from each other (Blowe & Price, 2012).

The study revealed that all 110,000 students considered to be CTE completers had pass rates that outperformed the non-CTE completers by at least 3%. Additionally, during the 2009 and 2010 school years, CTE completers had math pass rates of 7 to 10 percentage points higher than non-CTE completers in the Commonwealth of Virginia, except during the 2008 school year when math pass rates for non-CTE completers was 91% as opposed to the CTE completers who passed at the rate of 84% (Blowe & Price, 2012). Additionally, students in CTE tracks graduated with their cohort at the rate of 96%, compared to 87% for non-CTE completers, thus, indicating that CTE positively affects grades and graduation rates (Blowe & Price, 2012).

The researchers noted that more quantitative research must be conducted, in order to establish and maintain CTE as an integral part of the educational process (Blowe & Price, 2012). The study suggests that CTE curriculum is evolving to include higher levels

of academic coursework and that outcomes are improving for students participating in CTE.

Current state of educational outcomes in the U.S. In order to gain some perspective on the current state of education in the US, it should be noted that in the 2011-2012 school year, 81% of U.S. high school students graduated on time with a regular diploma. Although this figure offers hope, it does not reflect the current graduation rates in many urban school districts. For example, New York State's overall graduation rate in 2012 was 74.9 %. In fact, graduation rates for the *Big 5,* which refers to the New York City, Buffalo, Rochester, Syracuse and Yonkers, were between 43% and 66.4% (NYSED, 2014). Furthermore, the overall graduation rate in Rochester, NY was at 47%, and for African American and Latino males, it was 9% in 2012 (Holzman et al., 2012). Unfortunately, because of inadequate reporting systems, the Rochester City School District has no effective way of tracking CTE completers versus non-CTE completers; therefore, it is difficult to determine how many students in this demographic were enrolled in CTE programs in 2012 (RCSD, 2015).

The role of CTE and dropout prevention. In a climate of high dropout rates, particularly in urban school districts, it is important to provide students with clearly defined career-related information and understanding of career possibilities as they navigate high school (Vilhjalmsdottir, 2010). Dropout prevention must involve a variety of interventions including purposive career counseling. If students see the association between school and careers and start planning for their future, they will remain engaged and graduate (Vilhjalmsdottir, 2010).

Vilhjalmsdottir (2010) explained that theories of career development help us understand the process students undergo during the development of career identity. He indicated that for many students, this process does not take place systematically as it should, and students drop out for lack of clear pathways to careers, and consequently, employment. Furthermore, the career selection process is psychologically structured based on expectations and anticipated outcomes. Individuals try to predict what their lives might look like, and they seek to control the outcomes as much as possible (Vilhjalmsdottir, 2010).

A sample of 377 students participated in the Vilhjalmsdottir (2007) study, which looked at different methods of career education. All study participants were in the 10th grade, born in 1980, and between 15 and 16 years of age at the beginning of the study. Every student in the sample had reached 23 years of age by the study's conclusion. At the study's onset, 165 of the students lived in urban areas, and 211 were from rural environments. Of the participants, 24 had at least one parent who had attended college (Vilhjalmsdottir, 2010).

At the study's conclusion, 58.3% of the participants had graduated from general education or vocational schools, and 41.8% had not graduated and were considered drop outs (Vilhjalmsdottir, 2010). There were 271 students who were participants in career education, and the remaining 105 participants were from a control group in a previous study, which was conducted in 2007, that compared two types of career interventions. The first career intervention was based on work site visits and the other was based on discovery methods in class. The students who were exposed to discovery methods had more organized occupational thinking over those who did not (Vilhjalmsdottir, 2007).

The 271 only had career education in the 10th grade, which consisted of no more that 40 to 100 hours of career education programs. Vilhjalmsdottir (2010) indicated that the results were not affected by the year in which the studies were conducted.

Vilhjalmsdottir (2010) had students complete a questionnaire at the beginning and at the end of their 10th grade 1996-1997 school year. The Icelandic Data Protection Authority granted permission in 2005 to gather data on the students and then connect the information to the research. Data indicated if the participants had dropped out, left the school system without finishing, completed vocational education, or finished a 4-year general-education program (Vilhjalmsdottir, 2010).

Two levels of vocational concepts were chosen as evaluative criteria in this longitudinal study, and a repertory test technique was developed and used to measure the concepts, then the concepts were analyzed using a repertory grid technique. Higher scores indicated a more developed vocational thinking (Vilhjalmsdottir, 2010). Multinomial logistic regression was used to analyze the effects of variables where students progressed or digressed on vocational thinking between the ages of 15 and 16, and the regression yielded odds ratios for each of the three previously mentioned groups. The analysis revealed that higher scores in one's ability to identity various occupations along the grid were associated with increased graduation rates and a stronger ability to organize occupational thinking.

Vilhjalmsdottir (2010) concluded that occupational thinking, when properly introduced and processed by students in the 10th grade, affects student performance, and graduation from high school becomes more likely. He also suggested that well-developed strategies for improving occupational thinking must be incorporated into high school

curricula as they provide the necessary stimulus for students to stay in school, develop career identity, and graduate. Most importantly, the development of career identity is the result of seeing the relationships and similarities between occupations and the ability to see and think about the occupational world (Vilhjalmsdottir, 2010).

Similarly, Plank et al. (2008) used data from the NLSY97 to investigate the relationship between high school curricula and school dropout. Their study looked at combinations of CTE and core academic classes and how those combinations influenced the likelihood of dropping out of high school.

The research revealed that some believed that CTE increases relevance in education for youth, whereas others argued that CTE devalues traditional schooling and a youth's success as a student, and that it marginalizes the high school landscape by sending mixed messages. However, "A clear and consistent answer has not emerged" (Plank et al., 2008, p. 349). Again, researchers explain that many studies were conducted prior to the Perkins IV Act of 2006, and that the previous model of vocational education did not adequately combine academic coursework with CTE training, and it was often reserved for students who were already in danger of dropping out.

In another study, using the NLSY97, tracked 8,984 youths in the United States aged 12-16 as of December 31, 1996. Using high school transcripts and interviews with parents, they measured whether an individual dropped out between the beginning of the ninth grade and the time they were aged 18-20. Initial descriptive analyses were done on all sample members born in 1980. This amounted to 1,628 students, minus 83 who never actually enrolled in the ninth grade, for a total of 1,545 students (Plank et al., 2008).

Sampling weights were used to generate descriptive statistics based on the sample to generalize it to a national population. Transcript data were only available on 846 individuals, and instead of using a standard logistic regression method, a hazards model with time-varying covariates was used (Plank et al., 2008). The dependent variable was being away from school for 30 days or more during the ninth grade. The independent variables were time-varying covariates such as GPA, the ratio of CTE credits to academic credits earned, and the square of the CTE-to-academic ratio for the most recently completed term.

Results indicate that by the end of the ninth grade, 20.8% of the full sample were absent for at least one 30-day period, and 80.4% earned a high school diploma by the time they were ages 18-20 years. This included graduates who had experienced one or more dropout periods. Additional analyses showed that those absent 30 days or more by the time they were aged 18-20, but who had not yet obtained a diploma, had only a 27.8% chance of earning a traditional high school diploma, compared to a 94.2% chance for those who had not missed 30 or more days (Plank et al., 2008).

The Plank et al. (2008) results support previous research that indicates that students who take some CTE combined with core academic courses are less likely to drop out, but only up to a point. Plank et al. (2008) found that one CTE course for every two core academic-courses is associated with the lowest risk of dropping out, but that taking a lower CTE-to-core class ratio or a larger CTE-to-core class ratio actually increases the risk of dropping out (Plank et al., 2008). As with the Vilhjalmsdottir (2010) study, these findings suggest that exposure to CTE in the ninth or 10th grade in high school, "May help students more readily see the value of school in preparing them for careers of

interest, and can encourage students to define their career goals" (Plank et al., 2008, p. 360). It also indicates, however, that students who are directed toward the completion of a larger number of CTE courses, where there is minimized exposure to academically focused teachers, are less likely to succeed in graduating, once again making the case for CTE and academic core-class integration.

Additionally, amidst the need to reduce future occupational and educational disengagement, Bennett (2007) examined the efforts of a large urban school district that required all high school students to complete 60 hours of work-based internships to see what factors promoted occupational engagement. Changes in national and international economies have created greater challenges for urban youth who may lack career-related knowledge, productive social ties, and adult support (Bennett, 2007).

At the center of the Bennett (2007) study are the unrealistic expectations students hold regarding future employment. In fact, 80% of sixth grade students who participated in a national study planned to gain employment in areas that require advanced college degrees, but these same students did not view their schooling as relevant to their academic aspirations (Bennett, 2007). Current economic conditions and high unemployment rates for people 16-24 years of age, coupled with a decline in inflation adjusted earnings, particularly affects those with less education. With current dropout rates highest amongst minority youth in the US, it is important to determine what factors contribute to student engagement, degree completion, and post-high-school employment (Bennett, 2007; BLS, 2015).

The purpose of Bennett's (2007) study was to examine the effectiveness of the school's internship mandate and its impact on positive occupational engagement upon

graduation from high school. The target population was high school seniors in a Midwestern school district that required high school students to complete a mandatory internship. Surveys were distributed to seniors in 2002 of which 1,741 surveys were returned completed (Bennett, 2007). Of respondents, 21% attended one of the district's five CTE centers for part of the school day.

"The method of Ordinary Least Squares (OLS) was applied in a hierarchical regression to determine how much variance in the dependent variable was explained sequentially" (Bennett, 2007, p. 198). A hierarchical regression analysis was also conducted using statistical software. Results indicate that speaking English as a second language was identified as a barrier to becoming positively engaged in the employment process, and it did not improve with the paid internships. Bennett (2007) also found that districts that did not have proper support systems to facilitate interactions with supportive adults impacted the students' likelihood of having a positive work-based learning experience. The strongest effect on occupational engagement came from having a mentor, which was shown as more valuable than performance feedback from site supervisors, school staff, and overall encouragement during the school year. Unpaid internships were more effective than paid ones, perhaps indicating that unpaid ones were chosen more for student career aspirations than for gainful employment while in high school (Bennett, 2007).

A one-way analysis of variance (ANOVA) was used to account for students attending the district's CTE centers. It revealed that CTE students had higher occupational engagement ($M = .44$) than the other high school students ($M = .11$). The survey revealed that a greater number of CTE students had mentors and received

encouragement. It also revealed that they "experienced a more personalized, supportive learning environment than the regular comprehensive high school students and were better prepared for their occupational futures" (Bennett, 2007, p. 204).

Furthermore, the study revealed that school districts should take into account the barriers that English language learners encounter in the workplace and plan a course of action to address those barriers (Bennett, 2007). Also, it was determined that further investigation is needed to understand why paid internships were less beneficial than unpaid ones, and perhaps building-level internship coordinators are needed to direct students toward the most beneficial internship experiences for all students. Finally, the study showed that schools should establish formal mentoring programs within the business community to supplement the support students receive at school, and "the inherent value of socially supportive systems within more purposeful, structured work-based learning programs should not be a lower priority than preparation for standardized testing in the education of high school students" (Bennett, 2007, p. 208).

As previously indicated, increased focus on academic achievement has taken precedence over CTE. Over the last 50 years, educators have grappled with meaningful ways of reconnecting the two (Stringfield et al., 2013). Federal legislation, as far back as the Vocational Act of 1965 and the most recent reauthorization of Perkins IV, 2006 "have dramatically affected the way that we engage in and talk about CTE in the United States" (Stringfield et al., 2013, p. 331).

Renewed focus and attention on CTE programs as an important stipulation of Perkins IV have educators discussing the implementation of career and technical learning

in ways that adequately prepare young people for college and careers, so they may live productive lives and earn a living wage.

Theoretical Rationale

Using Bandura's (1986) original social cognitive theory as a foundation, social cognitive *career* theory (SCCT) emerged with the purpose of explaining the processes by which people develop interests, make career choices, and achieve career goals (Lent et al., 1994). Bandura's work began with the concept of the social learning theory, which examined social learning and personality development and the principles of behavior modification (Bandura & Walters, 1963). This led to Bandura's (1977) self-efficacy theory, which explores mediating choice, performance, and persistence, thus, the emergence of social cognitive theory (1986), a social foundation theory of thought and action, and eventually an understanding of the exercise of control in career-based decision making (1997).

Based on Albert Bandura's empirical, theoretical framework spanning over four decades, Hackett and Betz (1981) applied Bandura's self-efficacy theory to women's career development in an effort to explain women's underrepresentation in male-dominated occupations (Hackett & Betz, 1981). Their earlier areas of study revolved around occupational self-efficacy and career interests, math self-efficacy, and career decision-making self-efficacy. Their research quickly branched out into applications regarding career choice and more general career development and achievement.

Social cognitive career theory. Although Bandura's (1986) work laid the foundation of social cognitive career theory, it does not account for human functioning, environmental, and social and biological factors, which contain direct implications for

intervention (Lent et al., 1994). Whereas social cognitive theory stands on the belief that cognitive, vicarious, self-regulatory, and self-reflective processes are essential in human adaptation and change (Bandura, 1986), social cognitive career theory takes into account the influence cultural and economic environment have on career choice, and it places more emphasis on the role mentors play in career exploration and training.

Where SCCT encompasses a set of personal, behavioral, and environmental factors thought to guide academic and career development processes, SCT emphasizes the role of self-efficacy beliefs, outcome expectations, and goals that shape people's own career-related efforts (Lent et al., 1994). Furthermore, SCCT posits that environmental variables are thought to promote or restrict choice options for individuals and provide a context for improving self-efficacy and outcome expectations over time. Additionally, socio-demographic variables, such as race/ethnicity, culture, and gender, are also thought to have an influence on career outcomes because of overall learning experiences and existing opportunity structures (Lent et al., 1994). This is in direct contrast to Holland's (1966) work, which emphasized innate traits and tendencies, rather than accounting for social environmental factors.

Holland's theory of careers. It should be noted that both SCT and SCCT stand in contrast to Holland's (1973) theory of careers, a model widely used by career and school counselors. John L. Holland's (1966) earlier work predominantly focused on personality types. He believed there were only six personality types, and each individual belonged to one of the six. Later on, however, he discovered there are also subtypes or personality patterns that more adequately describe people (Holland, 1973). One subtype for example, is called social, artistic, and enterprising. Holland developed several of these

profiles, using three-letter codes, which were used to characterize people and match them with associated occupations. Holland further contended there were also six types of environments. He proposed that environments are characterized by the people who occupy them. So, for example, the personality type of those who work in the clergy is different from that of one working in an industrial firm or office. This begs the question: How do socio-economically challenged environments influence career selection and choice?

Self-determination theory. Another theory that stands in contrast to SCCT is that of self-determination theory (SDT), which is rooted in self-motivation and posits that human beings are intrinsically and extrinsically motivated. Furthermore, SDT stands on the belief that people continually and actively seek challenges and experiences to develop and master (Link, 2008). The theory considers that students perform best when they feel they are in control of the decisions they make, as opposed to that of being placed in controlling environments.

Self-determination theory is similar to Holland's (1973) theory in that it does not take into account a student's socio-economic background, learning experiences, self-efficacy, and outcome expectations. Whereas SCCT reveals that contextual influences proximal to choice lead to the development of interests, followed by goals and finally action (Hackett & Betz, 1981).

Furthermore, it has been argued that the career-choice process is clouded by a lack of knowledge of varied occupational paths and of one's lack of confidence in his or her ability to perform well in a given field (Lent & Brown, 1996). Urban high school students would benefit from career exploration and exposure, which would broaden their

perceived scope of opportunities and enable students to choose training opportunities in which they are interested and in which they believe they could reach a level of self-efficacy (Hoffman, 2012).

Also, SCCT maintains that people develop career interests based on their interests and feelings about their capabilities and on outcomes based on their abilities to be successful in their career choice. People generally expect to be successful when they are working in fields where they feel they have aptitude and where they believe their efforts will be rewarded (Lent et al., 1994). Minority students, however, can be jaded by their parents' career-related experiences and keenly aware of racism and its effect on career goals, related opportunities, and outcomes (Alliman-Brissett & Turner, 2009). Therefore, SCCT supports the importance of exposing urban students to career paths that take into account students' contextual influences and outcome expectations, only then influencing students' career interests and goals, eventually leading to action and fueling self-efficacy beliefs.

Figure 2.1 illustrates how a person's predispositions and contextual background influence his or her learning experiences, which then lead to self-efficacy expectations that, in turn, affect outcome expectations. Only then do one's interests and goals, which are proximal to contextual influences and choice behavior, impact career choice and action.

Effective programs of integrated career and technical education. In further support of the theoretical rationale, the following models of CTE integration, which continue to gain popularity in many school districts across the US, provide a possible blueprint for the future of CTE. The following case studies reveal the importance students place on

instructor input and career exploration in high school, supporting the influence these factors play on environmental factors and self-efficacy beliefs.

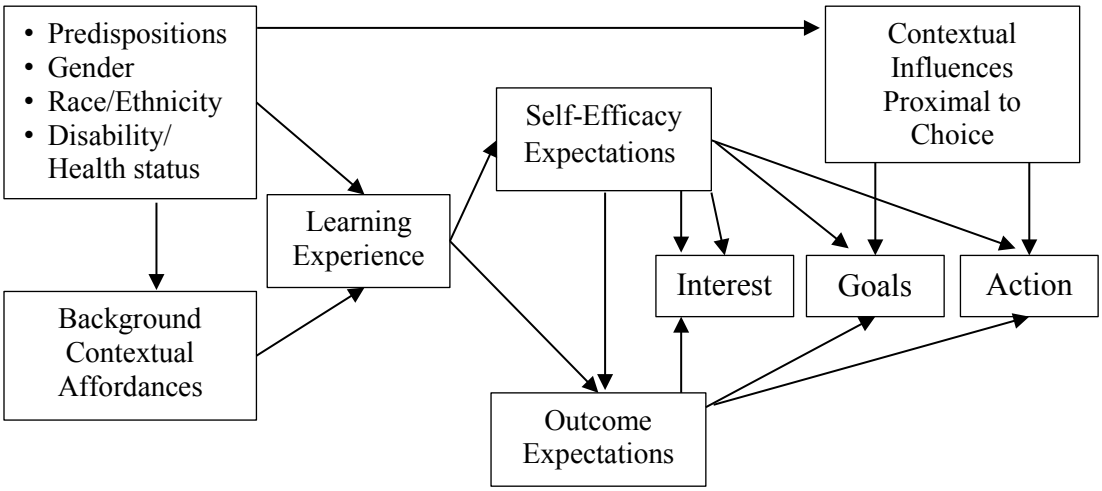

Figure 2.1. Model of Career Self-Management. Adapted from "Toward a unifying social cognitive theory of career and academic interest, choice, and performance" by R. W. Lent, S. D. Brown, and G. Hackett, 1994, *Journal of Vocational Behavior, 45*(1), pp. 79-122. Copyright by 1994 by Elsevier.

Career academies. The goal of a career academy is to prepare students for an education at a community college or a university and/or in the workforce (Dixon et al., 2011). Career academies are small learning communities designed to create an environment where students and teachers develop close relationships and where career-centered and academic coursework are integrated to offer work-based experiences through local business partnerships (Dixon et al., 2011).

In support of career academies, Dixon et al. (2011), of the University of South Florida, sought to uncover the successes and obstacles to implementing these academies. The team discovered that there are two main reasons why career academies succeed and there are two main obstacles. Dixon et al. (2011) indicated that it is important to pay

attention to the complexities of implementation as the number of career academies increases nationwide.

Because the Florida Career and Professional Education Act, issued in 2007, mandates that all school districts in Florida have at least one career academy, Dixon et al. (2011) decided to use the state of Florida in which to conduct their research. Using *The Career Academy National Standards of Practice* (as cited in Dixon et al., 2011) to provide the basis for the study's conceptual framework, Dixon et al. discovered that 66 of the 67 Florida districts had obliged, with a total of 490 academies by the 2008-2009 school year.

A purposive sample of three academies from one Florida school district was selected based on the district's willingness to participate (Dixon et al., 2011). This particular school district had established career academies in the middle and high schools and at Career Centers, which were focused on high-demand, high-skill, and high-wage career areas and college preparation. Generally, student admission was based on interest and space availability. The three schools, The Engineering Academy (EA), The Multimedia Design Academy (MDA), and The Fashion Academy (FA) were located in either a rural, suburban, or urban neighborhood with ethnically diverse populations. There were 34 participants from each school, which included 24 academy students, the assistant principal of curriculum and instruction, and key career academy teachers. All 34 participants were volunteers (Dixon et al., 2011).

Semi-structured personal interview protocols were used with career academy teachers and administrators, and a semi-structured focus group protocol was followed for interviewing the students. Student questions were focused on the enrollment process, and

if the students thought the academy was preparing them to meet their future goals. Observational field notes were collected during all sessions, which lasted no more than 45 minutes. Additionally, formal and informal classroom and school observations were conducted. Data was collected over a 2-week period at each site (Dixon et al., 2011).

The research team then created a coding system derived from constructs indicated in *The Career Academy National Standards of Practice* (as cited in Dixon et al., 2011) and from recurring themes found throughout the data. Once the themes were identified, two researchers reviewed each other's analyses to ensure credibility (Dixon et al., 2011). The group engaged in frequent discussions of potential bias and recorded the minutes in a decision log in an effort to keep researcher bias to a minimum and optimize data dependability.

Details provided in the study predicted pitfalls and they may help to prevent a repeating of implementation mistakes. For example, MDA, one of the schools that participated in this study, did not provide transportation to and from school, even though the academy was situated within a magnet school. The EA, with its STEM focus, drew students from many different areas, however, EA, which was located in a predominantly African American urban community and serves a predominantly African American population that is faced with challenges to overcome a negative image. One strategy the school used was to hold open houses. Nevertheless, many parents voiced concerns about their children having to travel long distances to and from school (Dixon et al., 2011).

One teacher expressed the importance of scheduling students in an academy cohort, which she indicated is difficult to achieve. The schools tried to maintain a 4:1 proportion of academy to non-academy students, but in practice, the mixed classes made

it difficult to teach the academy curriculum and maintain the interest of the non-academy students (Dixon et al., 2011). Meanwhile, students said they enjoyed having the same students in their classes. Successful cohort scheduling reinforces the sense of trust and camaraderie students reportedly felt. At the time of this study, the career academies were still working out creative ways to address this issue, and one teacher indicated, for example, that separated work spaces within her classroom worked well in terms of administering two different curricula during the same class period (Dixon et al., 2011).

On the other hand, it was discovered that successful elements of cohort scheduling at the MDA and FA created a real sense of community and belonging amongst the students, faculty, and staff, particularly at the MDA, which helped retain students from a transient population from which the school reportedly drew. The EA's major success reportedly came from the engineering theme that permeated the entire program, as the students saw the theme as preparatory for future career plans. Incidentally, working with professional engineers as part of their capstone project, which included public speaking, proposal writing, and group problem solving, was seen as extremely valuable (Dixon et al., 2011).

The Dixon et al. (2011) case study approach to understanding successes and obstacles to implementing career academies could serve to inform the successful planning and implementation of career academies in other parts of the country. Noted success was attributed to the collegial relationship the students built with the teachers and their classmates, and students found their academy classes more relevant than non-academy classes, which stimulated enrollment and encouraged persistence. Consequently, the close relationships and relevance helped the cohorts maintain a sense

of purpose and academy identity within the larger school population in which they were situated.

Each school, varied in location and theme, had to compete with other programs for enrollment and retention. The Engineering Academy was well positioned in the midst of a well-respected magnet school, but it struggled with recruitment because of its location. On the other hand, The Fashion Academy did not have as much of a struggle with recruitment, partially because it was situated in a new school with a relatively stable resident population. By comparison, The Multimedia Design Academy, which did not have as much status as the IB program located in the same school, did not provide transportation to its students, and recruitment efforts were further complicated by the fact that the MDA was located in the middle of a very transient population, which added to the uncertainty of student enrollment and retention.

In summary, research suggests that Career academies that apply real-world application and relevance of curricula, coupled with the student's sense of belonging, were the two main areas of success identified by the participants. Dixon indicated that "Although each theme did not emerge within each academy, across the cases these themes were the most prevalent" (Dixon et al., 2011, p. 214).

Programs of study. Another model that has experienced some success incorporating CTE into school districts nationwide is that of programs of study (POS). Programs of study are the result of a joint effort between the U.S. Department of Education and Congress. They are designed to help students become college and career ready, facilitate transition from secondary to post-secondary education, and join the workforce (Stringfield et al., 2013).

Unlike most industrialized nations, the U.S. educational system does not typically incorporate apprenticeships that facilitate the school-to-work transition (Hoffman, 2011; Stone & Lewis, 2012), "Indeed the United States has no national system linking education and the workforce" (Stone & Lewis, 2012, p. 294). POS emerged in response to a need to meet the requirements of the Perkins IV Act of 200; however, despite the fact that federal legislators are increasingly trying to move POS into mainstream public education, significant barriers remain (Stone & Lewis, 2012). Unfortunately, it is still unclear as to what degree POS offer a different future for high school students, indicating a need for further quantitative studies (Stone & Lewis, 2012).

Meanwhile, the National Research Center on Career and Technical Education (NRCCTE) supports research on POS that focus on efforts being made to implement POS in various parts of the county. The first is an ongoing longitudinal study that examines mature, well-established POS. The second uses rigorous research methods to examine outcomes, and the third, centered on a model being undertaken in one state, focuses on career pathways. The now concluded fourth study focused on issues of technical assistance and state-level program trends (Stringfield et al., 2013).

The NRCCTE initiated this cross sectional study to examine the key measures of implementation, processes, and successes of selected sites in the US, and it produced a field-based document outlining 10 essential elements of a good POS (as cited in Stringfield et al., 2013).

Site 1 was located in a large urban school district in the western United States that had a strong connection to the area's largest community college. Two schools serving as CTE specialty schools within the district were visited. Interviews were conducted

amongst community-college personnel, secondary school business and industry coordinators, guidance counselors, secondary school teachers and principals, business and industry partners, district CTE supervisors, and state-level CTE coordinators.

Site 2 was located in a small rural community in the middle of the United States with a strong industrial and business base. Interviews at this site included staff from the local community college programs connected to POS, college faculty, several high school staff, the superintendent of the largest of the districts served by the community college, two state-level CTE coordinators, and a representative from the local economic development agency.

Site 3 was located in South Carolina in a medium-sized city in the midst of a metropolitan area, and it included a strong business and industrial base with a history of excellent communication between the educational and business communities. Administrators, counselors, teachers, and faculty were interviewed at three institutions. Additionally, the state director for CTE, several small businesses, and industry representatives were interviewed, as well as a member of the state business and industry advisory board (Stringfield et al., 2013).

All site visits lasted 2 to 3 days, and they were conducted between December 2010 and February 2011. Phone interviews were also conducted with individuals who were not present at the sites at the time of the visits. Each team included seven to nine members. All interviews were audio recorded and transcribed for later analysis. Additionally, each member kept field notes, which were discussed. The discussions were audio recorded and subsequently transcribed. At the end of the third site visit, members spent a day and a half reviewing the data and analyzing the information. A total of 42

transcripts were included in this analysis, which was further analyzed through NVivo 9 software that coded the most commonly used terms and concepts.

Results of the compiled data from this study of exemplary POS in three states, facilitate our understanding of how POS successfully operate, reiterating what had previously been found about the importance of dual tracks and the integration of academic subjects and CTE (Fletcher & Zirkle, 2009; Stringfield et al., 2013). It is becoming clearer that successful POS "focus student learning in academic and technical areas, and lead to the development of seamless systems that connect secondary with post-secondary education and students with opportunities to engage in occupational and career planning" (Stringfield et al., 2013, p. 330). Furthermore, the study highlights the importance of increased funding for POS for the purchase of adequate equipment. Consequently, it was recommended that such funding be made available for programs that unite college and career preparation.

Also noted is evidence that some students who did well in their POS were able to secure employment directly following high school graduation; therefore, success should not be strictly measured by transitions to post-secondary education, and that type of immediate employment should be included as a measure of post-POS success. Furthermore, interviewees at all three sites indicated the real challenge of the POS was keeping students engaged in learning; therefore, it is recommended that increased opportunities for students to engage in hands-on learning would provide opportunities for students to focus on an area of expertise, thus promoting student engagement (NRCCTE, 2010).

The Stringfield et al. (2013) study demonstrates that POS across the US are making progress in integrating secondary and post-secondary education by connecting learning with CTE, and by creating viable pipelines that encourage and promote collaboration. In conclusion, data collected during the study indicate that POS positively impact student preparation for college and career readiness (Stringfield et al., 2013). Again, it was suggested that more flexible and relevant ways for tracking and measuring outcomes of POS and CTE should be established at the national level. These findings are significant as large urban school districts explore ways to deal with low graduation rates and student retention, and they look for opportunities to engage students in their own college and career preparedness.

Determining a focus for ongoing CTE research. Again, recognizing the lack of current data on CTE programs and outcomes, Lambeth, Joerger, and Elliott (2009) solicited the opinions of known CTE experts in order to determine what exactly should be the focus of ongoing CTE research. Through a consensus-building process, the experts determined that "A sustained effort for research should be made by scholars in collaboration with national and international associations and organizations" (Lambeth et al., 2009, p. 137).

Essentially, identifying critical research topics for the future of CTE was the purpose of the research. Of the CTE-related organizations in the US, 125 were asked to nominate a panel of experts. From 25 states, 32 were initially identified during the process (Lambeth et al., 2009).

A mixed methodology was used in the study through the use of the Delphi technique (Lambeth et al., 2009). Six different instruments were used to gather

information from the panel of experts during 2007 and 2008. The goal was to develop a logic model in order to provide stakeholders with a guide to further-focused research. Questions were delivered to the panel of experts via e-mail, and feedback was then analyzed by the data analysis team. The first round of investigation began with a series of open-ended questions that served to isolate the panelists' top 10 critical research topics. The second round provided feedback from round one, and the following two rounds, following the Delphi process, allowed the research team to develop a logic model. The final round helped define what became known as the CTE Research Agenda Logic Model (Lambeth et al., 2009).

Round one generated 235 opinions, and rounds two through six allowed the experts to narrow down the research agenda to 23 activities that should be continuously studied, including CTE instructors and students, CTE student graduation rates, follow-up on CTE graduates, curriculum development, assessment, CTE partnerships, business and industry, program relevance and effectiveness, delivery methods, and accountability (Lambeth et al., 2009).

Lambeth et al. (2009) concluded that their findings provide a blueprint for national and international leaders and researchers for focused CTE research and development. They also indicated that it is important to understand current trends in the global marketplace, and that ongoing, targeted research will help develop effective CTE programming and follow-up.

Student perspective. Although the Lambeth et al. (2009) study findings reveal what adults believe should be the focus of ongoing CTE research, little has been done to gauge the student perspective on access to CTE. In the same way that school reforms can

be rejected by teachers and administrators, students are no less important to the equation (Levin, 2000). The student understanding and commitment to reform must be taken as seriously as the buy in from teachers. Because all school reform is planned and implemented by adults, Levin (2000) reminded us that student participation in reform is essential as they have unique knowledge and perspectives that can improve our approach to implementation. Classroom and processes can be more powerful if we talk and listen to students in terms of how implementation and improvement can be fostered. If students are not committed to the change, the reform will not be effective (Levin, 2000).

To this point, recent studies had been conducted in schools that offered strong CTE curriculum and POS in order to gauge exactly what motivates students to participate in said programs. Nonetheless, little to no research exists that determines what students want to see as options in education and employment (Dykeman, Wood, Ingram, & Herr, 2003; Loera, Nakamoto, Oh, & Rueda, 2013; NRCCTE, 2010). For this reason, Dykeman et al. (2003) conducted a pilot study to determine whether there might be a link between career development programs, academic motivation, and academic self-efficacy. In the Dykeman study, 20 high schools were selected from four regions of the country based on their willingness to participate. A researcher contacted an administrator at the high schools in each region, who then recruited high schools and counselors within each district. The sample consisted of 293 high school seniors aged 18 and over. The study was designed to measure 44 career interventions and four career-development categories, and it included a student opinion survey that measured self-efficacy and academic motivation. Dykeman et al. (2003) explained:

> Stepwise multiple regression was used as a statistical procedure to analyze the data and test the null hypothesis. Statistical analysis was used to determine both the information on all the predictors as a group as well as the contributions of individual predictors by examining their bivariate correlations. Stepwise multiple regression affords the study useful options in exploration of the data. (Dykeman et al., 2003, p. 31)

Four categories of career development were examined via stepwise multiple regression, gender, race/ethnicity, prior achievement, and parent educational level. The four criterion variables were English self-efficacy, English motivation, mathematics self-efficacy, and mathematics motivation. Analysis uncovered that interventions that involved, "career information infused into the classroom" (p. 25), which had the highest participation averages, whereas the "referral to external counseling/assessment" (p. 25) had the lowest (Dykeman et al., 2003). Additionally, data indicate that participation in a CTE course had the highest participation average, whereas the tech prep/2 + 2 curriculum had the lowest participation average per respondent. Interventions in the advising categories, such as academic planning counseling and career day, were shown to help students see a connection between academic achievement goals in math classes and vocational goals. The researchers suggested that these findings, with regard to the advising category, should stimulate discussion and further research among CTE professionals.

Incidentally, more current research was conducted from a different angle with the purpose of uncovering the features of a CTE model most likely to predict academic engagement and student life satisfaction (Loera et al., 2013). The study examined the

relationship between students and their educational aspirations, the quality of the programs they attended, and the impact adults had on college enrollment. The researchers examined students' overall academic engagement and satisfaction with student life in a CTE setting.

Two high schools within a highly diverse urban district were chosen for the study. Each high school housed small learning communities that offered a career and technical program. The first school selected, Nathandale High, served 1,500 students from a diverse, middle-income community whose students generally perform better than the state average. The second school, Miles High, had 4,200 students from a low-income Latino community with students performing below the state average. Participants in the study were 267 urban youth the in 11th and 12th grades (Loera et al., 2013).

The small learning communities within the school had been established for more than 5 years, and they consisted of a team of teachers with experience in aligning curricula around career themes. These learning communities did not exceed 300 students, and had a strong connection to an industry partner. Both schools had a Human Services Academy (HSA) serving 250 to 300 students. The HSA had a CTE approach, and it functioned as a small learning community within the overall school community. These particular learning communities combined classroom education, work experience, and college and career planning for students particularly interested in the health sector (Loera et al., 2013).

The Transfer and Retention of Urban Community College Students (Hagendorn, in press) questionnaire, the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), and the Learning and Study Strategies Inventory (Weinstein, Palmer, &

Schulte, 1987) were adopted and modified for the study. Several 4 to7-point Likert scales were developed depending on the category being measured (i.e., educational aspirations, perceived quality of program, and adults impact on college enrollment). It should be noted that multiple group analysis, which incorporated both school sites, "showed that the regression weights between the student-centered features and the high school outcomes did not differ significantly across the two school sites" (Loera et al., 2013, p. 174).

Data revealed correlations between *academic engagement with educational aspirations (r = .27)*, *adults' impact on college enrollment (r = .29)*, and *satisfaction with student life (r = .23)* (Loera et al., 2013). The results showed that a stronger student-teacher relationship impacted higher levels of academic engagement and satisfaction with student life. The authors also noted that adult impact on college enrollment was significantly associated with higher scores on the *educational aspirations* subscale.

In addition, a path model was tested using the predictor variables, *educational aspirations*, *perceived quality of academy program of study*, and *the impact of adults on college enrollment*, predicting the students' academic engagement, which reiterates the importance and impact adult mentors have on student engagement and satisfaction with student life. Also highlighted was the potential influence of a CTE program's reputation and the encouragement students' received regarding the possibilities of attending college and the affect it had on student satisfaction with student life in general (Loera et al., 2013).

Furthermore, a student's perceptions about the quality and effectiveness of a CTE program influences his or her choice to join it, and career academy teachers play a critical role in a student's educational and career mapping, which further illustrates the

importance of student and teacher relationships (Loera et al., 2013; Vilhjalmsdottir, 2011; Yazzie-Mintz, 2007). Additionally, the Loera et al. (2013) study revealed the importance of curriculum integration across academic and career related subjects and emphasized the need for a combination of academic, on-the-job, and post-secondary training opportunities, which, in turn, give students a sense of purpose.

Therefore, it was suggested by Loera et al. (2013) that future research be conducted to explore the role that specific industries play in shaping the curriculum and training provided to high school students. Also recommended was a follow-up study that compares integrated CTE programs and outcomes with those of non-CTE programs, and that it might be interesting to measure the teachers' and mentors' satisfaction with their level of influence on student educational and career outcomes (Loera et al., 2013). Although exposure to career paths increases career identity, there remains a lack of research that examines how factors combine to influence urban students enrolled in CTE programs to remain engaged and complete programs (Loera et al. 2013; Vilhjalmsdottir, 2010).

High school student engagement survey. In an effort to better understand this issue of student engagement, a High School Survey of Student Engagement (HSSSE) was administered to 81,499 students in 2006. The resulting data revealed the importance of student-teacher relationships and relevant curriculum as significant aspects of student engagement. The students sampled were from 110 schools in 26 different states in urban, suburban, and rural communities. "Student engagement can be described as the student's relationship with the school community: the people (adults and peers), the structures (rules, facilities, schedules), the curriculum and content, the pedagogy, and the

opportunities (curricular, co-curricular, and extracurricular)" (Yazzie-Mintz, 2007, p. 1). Of the students surveyed, 47% reported they attended school because they wanted to acquire skills in the workplace, while 73% attended because they want to get a degree and go to college.

When students were asked, "If you have been bored in class, why?" (Yazzie-Mintz, 2007, p. 5) students reported that: (a) material wasn't interesting (75%); (b) material wasn't relevant to me (39%); (c) the work wasn't challenging enough (32%); (d) no interaction with teacher (31%); and (e) work was too difficult (27%). The most prevalent reasons for dropping out were: "I don't like the school" (73%); "I don't like the teachers" (61%), and "I didn't see the value in the work I was being asked to do" (60%) Yazzie-Mintz, 2007, p. 5).

Admittedly, "Much of the research on student engagement focuses on a student's need for connection with an adult in the school community" (Yazzie-Mintz, 2007, p. 7). Of the students surveyed, 78% indicated that at least one adult in their school cared about them and knew them well, whereas 22% felt the opposite was true. This revelation further supports the case for Career academies and programs of study, where students report the importance of close connections to their peers and CTE instructors (Dixon et al., 2011; Stringfield et al., 2013).

Similarly, a study conducted in 2007 investigated student perceptions while attending an exemplary CTE program (Gentry et al., 2007). The research team wanted to uncover what might be useful in engaging students in a more meaningful way at the secondary level. The CTE center in question was considered exemplary because it elicited dramatically different responses from those collected at 26 other CTE schools.

Of the 20 CTE programs offered at the school, nine were sampled with four students randomly selected from each of the nine programs (Gentry et al., 2007). The students were mostly juniors and seniors between the ages of 14 and 19. Students came to the center from 13 different home schools, and they attended a program at the center for 2 years, spending half the day at the center and the other half at their home school.

Semi-structured interview protocols were designed to elicit responses that might explain why the students felt this particular CTE center was an exemplary school (Gentry et al., 2007). The interviews lasted between 30-60 minutes and were taped and transcribed. Field notes, logs, documented school improvement plans, and program evaluations were used to help understand what made the center so effective.

Constant comparative analysis was conducted by two faculty members and a graduate student in order to provide a variety of perspectives and observations during the data analysis (Gentry et al., 2007). Content analysis was used to identify negative or positive themes and to count the number of times students referred to each theme. The data analysis revealed that 33 of the 35 students compared their CTE center to their home school. Four major themes emerged: *student autonomy*; *effective, caring teachers*; *other students with similar interests*; and *learning relevant to content*. Also noted was that, "students spoke positively about their experiences at the CTE center and negatively about their high school experiences" (Gentry et al., 2007, p. 382).

Autonomy was mentioned 17 times in the 84 responses. The students liked that the school provided them with choices, whereas their home schools did not. The students indicated that they could choose which classes to try, and even after their choices were made, they had opportunities to go on field visits to crime labs, jails, and other venues to

experience CTE first hand (Gentry et al., 2007). Effective, caring teachers elicited 26 out of 84 responses, making up the second largest number of comments. Many students made comparisons between their teachers at the center and the ones in their home school. One student indicated that the teachers and principal at the center talked to him/her frequently to see what he/she was doing, and treated him/her like he/she was perfect. This positive thinking was an effective morale booster for students and helped improve student performance (Gentry et al., 2007).

Less important to the students was the theme of students with similar interests; however, 5 out of 8 people commenting on this theme mentioned that students in the CTE programs seemed more mature. Finally, the content relevance learned in an interactive, applied setting offered the clearest explanation as to why students preferred the CTE center over their home schools (Gentry et al., 2007). Many of the students said they preferred hands-on work because it was easier to learn that way, and they felt the coursework was preparing them for jobs and life in general. Although all were not planning to go to work right away after high school, they felt the CTE center was good preparation for both college and career certification.

The results of the Gentry et al. (2007) study will help educators engage in dropout prevention and design relevant coursework of interest to students in order to keep them engaged and connected to school. The authors reiterated further research is needed on the role of CTE programs in engaging students and preventing them from dropping out of high school (Gentry et al., 2007).

While policymakers, and reformers of education discuss the best ways to increase achievement and college and career preparation, little attention has been paid to the

students and their knowledge and understanding of career preparation and development (Schultz & Stern, 2013). Additionally, a considerable amount of research exists that shows a positive relationship between self-efficacy and academic achievement, yet current state policies, which mandate standardized testing and achievement, do not appear to improve student preparation for career or college (Dykeman et al., 2003; Schultz & Stern, 2013).

Using WorkKeys assessments, Schultz and Stern (2013) sought to better understand student perceptions on education. Although the study was meant to measure student perceptions of college and career readiness, it also yielded an interesting finding because the WorkKeys testing not only revealed important information on career selection, but it raised student awareness of career planning and related educational training, providing a compass, of sorts, toward college and career readiness.

This presents a unique opportunity for educators to talk about the WorkKeys results with students, which could motivate them to plan and align their interests with the results and identify a pathway to assist them in achieving their career aspirations (Schultz & Stern, 2013). Again, this substantiates Vilhjalmsdottir's (2010) findings that indicate students exposed to career possibilities and pathways have better career identity and more organized occupational thinking.

Consequently, Schultz and Stern (2013) suggested that it is the responsibility of the education system to provide opportunities that facilitate career training. Likewise, they reported that the "literature on assessment and self-efficacy also supports this process, suggesting that by setting proximal achievement goals and developing to

improve [a] student's skills can enhance academic achievement" (Schultz & Stern, 2013, p. 166).

State of the state on career and technical education. President Barack Obama in his address to the nation, February 2009, emphasized the need to train our youth for the changing economic climate, and he reiterated the need to integrate CTE into mainstream education. Similarly, the U.S. Education Secretary, Arne Duncan, in his state of education address, April 19, 2012, pointed out that The Carl T. Perkins Act of 2006 introduced important changes in federal support for CTE and that these changes helped improve the learning experiences of students, but they did not go far enough to systemically create better outcomes for students and employers competing in a 21st century global economy. Duncan revealed that a $1 billion investment in the Obama Administration's 2013 fiscal year budget would support the Administration's plans for reauthorizing the Perkins IV Act, and it would transform the Perkins program in four key areas: alignment, collaboration, accountability and innovation (USDOE, 2012).

Furthermore, although the Obama Administration is making substantial changes in aligning classroom teaching and learning with real-world business needs, the Departments of Education and Labor are in the process of distributing $2 billion in Trade Adjustment Assistance grants to strengthen community college programs and workforce partnerships, and the Administration has proposed an additional $8 billion for a Community College to Career fund for use in training two million workers for high-growth industries such as healthcare and engineering. The fiscal year 2013 budget also proposes $1 billion to help support a 50% increase in high school student participation in

career academies that combine college curricula with an emphasis on careers (USDOE, 2012).

In a June 18, 2015 press release issued by the California-based Linked Learning Alliance, a statewide coalition of education, industry, and community organizations dedicated to improving California's high schools and preparing students for success in college, career, and life, stated that California's Governor Jerry Brown agreed to fund the California CTE Incentive Grant Program by designating $900 million over the following 3 years to help schools provide high-quality CTE programs that integrate college preparatory academics. Christopher Cabaldon, Mayor of Sacramento, California made the following statement:

> The agreement reached by the Governor and Legislature will incentivize schools to work with industry partners in providing high-quality, sequenced technical training integrated with rigorous academic coursework. This grant program will help students across the state to gain skills and earn credentials valued by employers while also preparing for college. Educators and employers collaborating on applications for these funds should draw inspiration from the success of Linked Learning to prepare students for college and career (Linked Learning Alliance, 2015).

This is a significant step in promoting the implementation of successful CTE program integration, and it will allow the State of California to move forward in meeting the U.S. Department of Education's 21st century goals.

Next-generation high schools. On November 10, 2015, the Obama administration released a statement indicating that the White House would be releasing

$375 million dollars to promote next-generation high schools, and it hosted the first-ever Next Generation High Schools Summit (H. R. 4020, 2015). The event showcased a broad federal and private response to the President's 2014 call to action. This summit came in response to President Obama's push for a national effort to create more innovative high schools that incorporate more personalized and active learning, access to hands-on learning, create experiences, and a have a focus on science, technology, engineering, and math opportunities for girls and other groups of students (White House, 2015).

A consortium of educators, policy makers, industry leaders, and private corporations gathered to discuss how best to create pathways to educational opportunities that educate our youth in order to meet current and future labor market demands (White House, 2015). Additionally, as indicated in the November 10, 2015 White House press release, Student Voice (SV) will collect input from more than 10,000 students in all 50 states on what next-generation high schools should to look like. Based on the input received, SV will create two dozen case studies of schools and organizations best using student voice in shaping the school environment. The SV's Student Bill of Rights platform will support and certify schools that use Student Voices in the school improvement process (White House, 2015).

Another important development is that of The National Academy Foundation Certification (NAFTrack) programs (NAF.org, 2015). NAFTrack certification provides job training, internships, and other career-ready development initiatives to urban students. Once students receive certifications, they receive priority interviews and hiring within industry partners in some of America's top companies. The academies are generally small learning communities that operate within a high school. Their strategy of providing

work-based learning from the classroom to the workplace and the workplace to the classroom, provides students with a well-rounded skill set that goes beyond academics and includes the soft skills needed to succeed in college and the working world. Business people are guest speakers in classrooms, host college and career skills workshops, and take part in mock interviews. Students have the opportunity to tour worksites, network with, and shadow business professionals. Work-based learning culminates in an internship that allows students to apply their classroom skills and learn more about what it takes to succeed. The NAFTrack certification program had 13,000 students enrolled in 2015, across 26 states, with goal of expanding certification to 80,000 students in 50 states (NAF.org, 2015). This reflects the need for a nationally accredited workforce certification plan designed specifically for high school students.

Additionally, at the New York State level, in an effort to address the ongoing lack of career readiness and lagging graduation rates, the New York State Board of Regents approved new high school graduation options and requirements on Monday, October 20, 2014. The new regulations permit a 2-year Global History and Geography course requirement instead of the existing Global History and Geography Regents Exam (NYSED, 2014). It also establishes multiple rigorous pathways to graduation that include CTE, science, technology, engineering and mathematics, and the arts and the humanities. The goal of the new options is to improve New York State's 74.9% graduation rate, increase the number of students graduating prepared for college and careers, and help prepare more students for the 21st century economy (NYSED, 2014). This new education policy would allow students to replace one of the five Regents examination requirements with one of the following: a humanities assessment, an additional STEM-related Regents,

an assessment in Language Other Than English, an approved CTE pathway assessment or an arts pathway assessment (NYSED, 2014).

Also, at the local level, as outlined in its most-recent action plan, the RCSD in Rochester, NY has set into motion a plan to reclaim its former status as a leader in CTE programs (RCSD, 2014). The district discovered that it offers fewer CTE opportunities than suburban students receive. Additionally, "Only seven of our 18 CTE programs are approved by the New York State Education Department" (RCSD, 2014, p. 9). Also, none of the students enrolled in CTE courses took the technical assessments that are typically routine upon completion of a CTE program. This discovery prompted a now complete and thorough evaluation of the RCSD's CTE offerings by the Career and Technical Assistance Center (CTAC) of New York State.

As a result of the evaluation, RCSD is moving immediately on CTAC recommendations and exploring long-term solutions for providing accredited CTE programs to RCSD students. Therefore, in the fall of 2015, RCSD revived the once highly successful Edison Technical High School in the hope of restoring it to its former status as an excellent CTE program (RCSD, 2014).

Summary

Although many other industrialized nations have comprehensive, integrated CTE programs, the United States still places more emphasis on standardized testing and academic achievement. While The Perkins IV Act of 2006 requires all school districts to offer at least one CTE program, concern with academic performance often outweighs the need to prepare our young people for the reality of the current middle-skills worker shortage. High dropout rates, particularly in urban high school districts, indicate the college-for-all model is not an effective way to engage all students and prepare them for the transition from school to work (Hoffman, 2012; Rosenbaum, 2011; Symonds, 2012).

Research is lacking pertaining to student outcomes for CTE completers versus non-CTE completers; however, studies have shown that CTE does not negatively impact math and reading scores. More recent investigation reveals that programs of study and career academies are having a positive effect on grades and program completion rates. Additionally, these studies reveal that student engagement and student-teacher relationships were found to be very important to students, and that having a mentor positively impacts graduation rates. It remains, however, that very little data exists regarding the student perspective on CTE access and, therefore, additional research is warranted. With ongoing talks of educational reform, high school dropout rates, low college completion rates, and a shortage of middle-skills workers, the review of the literature herein supports the need for a revival of CTE, particularly in urban settings. Furthermore, social cognitive career theory supports existing research that points to the need for career path exploration and hands-on learning opportunities for high school students.

Chapter 3 gives a description of the research setting, research design, the methodology used in the data collection and analysis phase, and a description of the research participants and accompanying demographical information.

Chapter 3: Research Design Methodology

Introduction

The United States is experiencing a skilled worker shortage. Expected job growth is shifting with pending baby boomer retirements, creating a huge need for skilled worker replacements (Neumark et al., 2013). Although most projected job vacancies will require some form of post-secondary training or education, the U.S. Bureau of Labor Statistics (2012) projected that the top 20 fastest-growing occupations will not require a bachelor's degree and, in fact, most do not require any degree at all (BLS, 2012). Although low-skilled production-type jobs are increasingly outsourced overseas, middle-skills jobs are projected to provide the largest number of job openings in the United States through 2020 (Farr & Shatkin, 2009; Stone & Lewis, 2012).

The college-for-all model has been the overarching trend in the US for decades, although current labor market demands outweigh the need for college diplomas (Rosenbaum et al., 2010). Rosenbaum posited that the latest labor market demands should prompt policy makers to reconsider the college-for-all trend, because it does not account for the thousands of students who neither graduate from high school, obtain a college degree, nor find employment in the current labor market conditions, and it does not take into account the shortage of middle-skills workers (Rosenbaum et al., 2010).

Research indicates that only 34% of students graduating from high school have the necessary skills to attend a post-secondary institution, and up to 68% of first-time college students take at least one remedial course (Schultz & Stern, 2013). In an effort to

address the middle-skills worker shortage, CTE reform is underway in the US, although implementation and practice are not keeping up with current labor market demands (Rosenbaum et al., 2010; Symonds, 2012). Additionally, as with most reform efforts, the student perspective is left out of the equation as adults decide how and what to do to improve upon an existing educational system (Corbett & Wilson, 1995; Levin, 2000).

Hence, the purpose of this study was to investigate the urban high school students' perspective on current opportunities for CTE. The research helps to determine if high school students are aware of career and technical training programs, and if there is a need for, and interest in, accessing additional career training at the middle and high school level.

Restatement of the Problem

Currently, people ages 18 to 25 comprise 28% of unemployed individuals in the United States, compared to the national unemployment rate of 5.3% (BLS, 2015). In some urban areas, that number is as high as 48%. In contrast, there is a significant middle-skills worker shortage in the US with projected job openings upwards of 350,000 in New York State alone, partly due to the upcoming baby boomer retirements (BLS, 2015). Recent national data indicates that college enrollment has been on the rise since the 1970s, although it remains that only a minority of those enrolled actually complete a college degree (Rosenbaum et al., 2010). Although the United States' high school graduation rate is also at an all-time high at 81% (NCES, 2014), the New York State graduation rate is lower at 74.9%, and in urban school districts, the rate is even lower (NYSED, 2014). Rochester, NY, for example, has a graduation rate of only 43%, with a 9% graduation rate for African American and Latino males (Holzman et al., 2012). These

facts raise an important question: Are urban youth effectively being prepared to take advantage of the projected middle-skills worker shortage? Compared to other developed nations, the United States does not have many well-integrated CTE programs or standardized job certification credentials, and private companies have traditionally been left out of the discussion on education (Hoffman, 2011). Currently, however, with growing concern over urban high school student dropout rates (Holzman et al., 2012), high unemployment rates for our youth (BLS, 2015), and a lack of middle-skills worker training opportunities (Hoffman, 2011; Symonds 2012), proponents of education reform in several states, including New York State, are investigating the possibilities of reintegrating CTE into mainstream high school academic programs (NYSED, 2014).

In matters of education reform, however, the student voice is often overlooked (Levin, 2000). Levin argued that education reform "cannot succeed and should not proceed without much more direct involvement of students in all its aspects" (Levin, 2000, p. 155). Furthermore, he stated that students are the producers of school outcomes and, therefore, their involvement is fundamental to all improvement and would constitute an important reform in and of itself. Current literature on CTE does not reflect the student perspective on CTE and the question remains as to what urban high school students know about CTE and career preparation programs within their schools and if they would they like more or less access to CTE training and career preparation while still in high school?

Additionally, because adolescents living in an urban environment face multiple career development barriers (National Research Council [NRC], 1993) with greater challenges than those from other segments of society, the critical need for effective career-development programs is growing as career options have been affected by

globalization and technology (Teitz, 1998). The widening wage and opportunity gaps between residents of lower socioeconomic backgrounds and those from suburban environments is compounded by segregation, economic, racial, and ethnic minority statuses (Teitz, 1998).

Social cognitive career theory (SCCT) takes into account the ways that social, racial, gender, environmental, background, and contextual affordances have on career-choice decision making. Minority students, in particular, are more keenly aware of racism and the affect it has on career aspirations and goals, due to labor market discrimination experienced by family members. This is associated with urban adolescent' expectations of their own occupational futures (Alliman-Brissett & Turner, 2010; Chaves et al., 2004). Nevertheless, proper systematic exposure to career counseling and exploration in middle and high schools is shown to improve career-related aspirations and educational outcomes for urban students (Turner & Lapan, 2013). Therefore, careful listening to student' perceptions on the impact of current reforms could influence changes that might improve learning and educational outcomes (Levin, 2000).

Methodology

This research used a qualitative approach to data collection. It is the preferred method for this study as it empowers research participants to share their experiences (Creswell, 2013). The purpose of this study was to discover what urban high school students know about their college and career options following high school and if they would like more or less access to CTE. The qualitative research design provides detailed descriptions of lived experiences rather than a simple survey completion and statistical analysis of data obtained from quantitative research studies (Creswell, 2014).

Additionally, qualitative research methods encourage students to provide an assessment of their individual knowledge related to a particular subject (Manning, 1992). As with any educational reform, hearing directly from the students and listening to their ideas and concerns, while trying to understand their perspective, could provide valuable insight on successful reform implementation (Levin, 2000).

Two focus groups comprising of nine students each were asked open-ended questions related to their level of awareness and desire for access to CTE in urban high schools. Focus groups are particularly well suited to the study of attitudes and experiences and for examining how knowledge, and, more importantly, ideas, develop and operate within a given cultural context (Kitzinger, 1995). The method is basically straightforward and not intimidating for either the researcher or the researched (Kitzinger, 1995).

Participants in each focus group answered questions related to their knowledge of college and career options following high school graduation. Guided questions provided insight on the student's understanding of CTE tracks and their level of interest in access to more CTE programs at the high school level (Appendix A). The study was conducted using two separate focus groups at two different locations in Rochester, NY. The purposefully selected students at each site were chosen based on the following criteria: enrollment in RCSD and grade level at time of study. A pool of ninth grade students was invited by a program director at each site to voluntarily attend a focus group.

The population of choice was ninth and 10th graders, because they had participated in eighth grade in a home and careers classes and, presumably, they would have some understanding of career readiness and training (RCSD, 2015). Because the

students participated in a home and careers classes prior to this research, this study allows us to discover what they learned and know about CTE and available CTE tracks by the time they arrive in ninth and/or 10th grade.

Open-ended questions prompting rich discussion allowed for clarification of the terms related to CTE and career preparation. This was particularly helpful because CTE is often referred by differing terminology. Qualitative research helped uncover the level of awareness urban high school students had of post-high-school career options and career training opportunities in high school, otherwise referred to in this research as CTE. It also provided an opportunity for students to share their overall feelings about school and the way they are currently being educated.

Research Questions

The research sought to answer the following questions:

1. What do urban high school students in Rochester, NY know about their options for college and career placement following high school graduation?
2. Given their knowledge of CTE, are urban high school students in Rochester, NY interested in accessing CTE programs while attending high school?

Research Context

Although this research did not take place within RCSD, the purposive sample drew from a population who were attending RCSD. The RCSD student population at large was composed of 60.1% African American; 25.6% Hispanic; 10.2% White; and 4.1% Asian/Native American/East Indian, and Other. Of the students, 84% were eligible for a free or reduced-price lunch, and 16.5% had special needs. Of the RCSD students, 10% have limited English proficiency. Rochester, NY, which is one of the Big 5 school

districts in NY State, has the highest poverty rate of all five. Of the schools in the RCSD, 22% have students at a poverty rate of 90% or higher (RCSD, 2015).

The research was conducted via two focus groups within two after-school community programs whose population attends RCSD schools. The first focus group was conducted at the Boys and Girls Club of Rochester, NY. Since the summer of 1971, the Boys & Girls Club of Rochester has provided "mentoring and leadership specifically designed to change the lives of youth who face daily challenges such as poverty, broken homes, crime, unemployment, prejudice and difficulties in school" (Boys and Girls Club, n.d., para. 6).

The club is open Monday through Friday from 3 p.m. to 8 p.m. and on Saturdays from 10 a.m. to 4 p.m. The Boys and Girls Club is open to students enrolled in kindergarten through 12th grade, and it draws students from every school located within the City of Rochester. The Boys and Girls Club of Rochester serves students throughout the City, and is deemed a location conducive to a purposive sample of ninth grade students enrolled in RCSD schools.

The second focus group was conducted at the Rundel Library in collaboration with the City of Rochester's Teens Helping to Reinvent Identity, Values and Empowerment (THRIVE) program. THRIVE includes a work-readiness program that focuses on the skills and behaviors needed to find and keep a job (City of Rochester, 2015). The City's THRIVE partner agencies are Baden Street Settlement, Charles Settlement House, Community Place of Greater Rochester, Threshold Center for Youth Alternatives, and the YWCA of Rochester and Monroe County. The City of Rochester Community Centers, in collaboration with THRIVE, serve a wide variety of students who

attend schools throughout Rochester, NY, and, therefore, they were conducive to a purposive sampling of ninth and 10th grade students attending RCSD schools, including charter schools that had enrolled RCSD students.

Research Participants

Participants were ninth and 10th grade students and were purposively selected from two designated sites based on grade level and enrollment in the RCSD, or charter school, or the urban-suburban program. The students were invited to voluntarily opt in to participate in the focus groups, and they were made aware that they could opt out at any time without penalty. They were provided with pizza and refreshments as an incentive to participate. The students were invited to sit around a table and they were provided with an introductory statement (Appendix B) and told of their right to opt out of the focus group at any time without penalty.

All ninth and 10th grade students, regardless of gender, age, economic, and ethnic background, who attended the Boys and Girls Club and/or THRIVE program, were invited by the respective program directors to attend a focus group. This method of selection ensured the possibility of a sample that includes boys and girls and students of varied cultural and ethnic and economic backgrounds, thus providing a purposive sample reflective of the RCSD population at large.

Nine students from the Boys and Girls Club of Rochester attended a focus group on a Saturday afternoon at the Boys and Girls Club. The students' names were replaced by the colors, red, blue, green, etc., thus assuring anonymity. The research team did know the names of the students, who identified themselves only by the color they chose. A

designated staff member from The Boys and Girls Club attended the focus group to ensure a level of comfort for the student participants.

Likewise, all ninth and 10th grade students enrolled in THRIVE were invited by the program director to attend a focus group at the community center at 4:30 p.m., after school on a Thursday in November 2015. Nine student volunteers were selected to attend the focus group. The names of the students remained anonymous to the researcher, and they were replaced by an assigned even number ranging from 2 to 18. A designated staff member from the THRIVE program attended the focus group to ensure a level of comfort and familiarity for the students.

Focus group 1. The first focus group was recruited through the Teens Helping Reinvent Identity, Values and Empowerment (THRIVE) program, which is a teen pregnancy-prevention program that uses an evidence-based curriculum shown by independent research to achieve positive results for teens. Key components of the program include an engaging, relevant, and challenging curriculum; community service learning; and strong support from adults as positive role models. THRIVE is open to any youth residing in the City of Rochester between the ages of 11 and 18. THRIVE is funded with a grant from the U.S. Department of Health and Human Services, Office of Adolescent Health (C. Crawl-King, personal communication, November 9, 2015). Students enrolled in the THRIVE program were invited to voluntarily attend a focus group. From the pool of volunteers, nine students were randomly selected, five males and four females. The student eligibility criteria required that the student was in ninth or 10th grade at the time of the focus group, and he or she was a city resident who attended an

RCSD school, a charter school, or was enrolled in an urban-suburban program at the time of the focus group.

All of the participants in the THRIVE focus group identified themselves as African American, although one student identified as both African American and Hispanic (Appendix H). Two of the participants were in ninth grade and seven were in 10th grade at time of study. All nine participants reported that English was the primary language spoken at home. Two participants attend a K-8th grade school, whereas six attend a 7th-12th grade school, and one attended a K-12th grade school. Only one student reported having attended an eighth grade Home and Careers class, but further into the discussion, four participants realized they had taken a similar class in seventh or eighth grade, although it was called something else. One participant attended an urban-suburban program and three attended charter schools. An integrated demographic summary can be found in Table 4.1.

Focus group 2. The Boys and Girls Club is open Monday through Friday from 3 p.m. to 8 p.m. and on Saturdays, it is open from 10 a.m. to 4 p.m., and it is open to students enrolled in the K-12th grades. It draws students from every school located within the City of Rochester to include charter schools and those enrolled in the urban-suburban program. The mission of the Boys and Girls Club of Rochester is to inspire and enable young people of all backgrounds to realize their full potential as productive, responsible, and caring citizens by providing youth development programs that enable young people to acquire the skills and qualities needed to become responsible citizens and leaders. The focus group participants were invited by the Boys and Girls Club Program Director to participate in the research study. From the pool of volunteers, nine students were

randomly selected. Through the use of a brief demographic survey (Appendix H) it was determined that the Boys and Girls Club focus group consisted of nine male students enrolled in the ninth or 10th grade. All of the students identified as African American. Two attended the urban-suburban program, and three attended charter schools. One participant attended a K-12th grade school, and eight attend a 7-12th grade school. All of the participants reported that English was the primary language spoken at home (Table 4.1).

To ensure anonymity, each participant in the THRIVE focus group was assigned an even number ranging between 2 and 18. Each participant in the Boys and Girls Club focus group was assigned a color as their identifier. The digitally recorded focus groups lasted between 27 and 44 minutes.

Table 4.1

Participant Demographics

Category	Race	Gender	School	Grade	Configuration
African American	18				
Hispanic	1*				
Male		14			
Female		4			
9th Grade				7	
10th Grade				11	
RSCD			9		
Charter			6		
Urban/Suburban			3		
K-8					2
7-12					14
K-12					2

Note. *Identified as both African American and Hispanic

Informed consent. Once the students had been selected by the respective program director at each site, and prior to the date of the intended focus group, the corresponding parents were informed that their student could opt out at any time without penalty, and they were given a general description of the research questions (Appendix A). The parents were then provided with an introductory letter (Appendix C), outlining a synopsis of the research topic, and the nature and purpose of the focus group. Once the parents agreed to allow their child to participate in the focus group, informed consent forms were signed by the corresponding parents (Appendix D & E). The program director then assigned a color or number coding to the consent forms in accordance with ensuring student participant anonymity. At the time of the focus group, the students were asked to sign a consent form that described their ability to opt out of participating without penalty at any time before, during, or after the focus group (Appendix F & G). The parent and student consent forms were drafted in a manner that were easy to understand and navigate. The student consent forms were worded so that a ninth and 10^{th} grade population could understand them, and, therefore, they would be fully cognizant of what they were signing.

Research Design

Information gathered during the multisite focus groups was integrated into the interpretation of the overall results (Creswell, 2014). Each proposed focus group location was selected because each location drew its members from students who attended schools throughout RCSD, and, therefore, the population reflected an RCSD population. Data collection procedures and questions were replicated at each site in order to employ the logic of replication (Creswell, 2013). A discussion prompted with open-ended questions

was designed to gauge high school students' awareness of career training programs available to them while in high school and to establish if CTE was something students would like more access to.

Data Collection

As previously described, students were invited to attend the focus groups by the program director at each site. The students were encouraged to sit around a table in a designated conference room within their respective program site. In order to curb researcher bias, the pre-designed, open-ended questions were delivered to the student participants by a colleague who was not associated in any way with the research (Creswell, 2014). The informal questions were designed to prompt discussion related to student knowledge of their career and college options following high school and to determine if the students would like more access to CTE while attending high school.

Pre-existing, pre-tested questions are not relevant to qualitative research in the way they are to quantitative research (Brinkmann & Kvale, 2015; Creswell, 2014). Focus-group questions are generally derived by the situation and used for prompting discussion, the results of which are then transcribed, coded, and analyzed to reveal significant themes. The open-ended questions for this study were prepared using questions derived from interviews with six adult individuals who were familiar with a ninth and 10th grade population, and who attended city schools themselves and/or had worked with students in the greater Rochester area. During the month of July of 2015, each of the six adult interviewees was asked to draft six questions they believed would best prompt discussion related to the overall research question. The 36 questions obtained were then narrowed down to 14 pertinent question, which were derived from repeated

ideas and themes strictly related to CTE and career readiness and that were intended to pose minimal risk to the students.

The ensuing focus group discussions were digitally recorded and later transcribed by a professional transcriptionist. The investigator was present during the focus groups and took field notes, while the facilitator promoted the discussion and kept the group focused on the research questions. A staff member from each site was on hand to ensure a level of comfort amongst the students and to provide support when needed. The focus groups did not exceed 45 minutes in length. Refreshments were served at the end.

The digitally recorded discussions were transcribed by a professional transcriptionist. Data analysis consisted of seven steps: (a) organizing the data, (b) familiarization of the data, (c) generating categories and themes, (d) coding the data, (e) interpreting the data, (f) searching for alternative understandings, and (g) writing the report (Rossman & Rallis, 2003).

The research was conducted in November, 2015. Parental consent was obtained prior to the intended date of each focus group, and student consent forms were signed the day of each focus group. All related consent forms, paperwork and written notes are kept in a locked storage box in the investigator's home for and will be held for up to three years after publication of the research. Likewise, digital recordings and ensuing data are stored on the researcher's personal, password-protected computer for up to three years.

Procedures Used for Data Analysis

Researcher bias was minimal because the primary investigator neither worked in the RCSD at the time of the study, nor did she teach ninth or 10th grade students, even though she did work in the RCSD between 1999 and 2005, and she later provided after-

school enrichment programs to the RCSD students in K-8 from December 2013 through May of 2015. Although the primary investigator was familiar with RCSD students at all grade levels, she did not have an opinion on student perceptions of CTE and was genuinely interested in discovering and understanding student perceptions. Researcher bias was further reduced by virtue of the fact that none of her associations with the RCSD were CTE related in any way.

Coding. The focus groups were digitally audio recorded while the primary investigator took notes. At the conclusion of each focus group, the investigator replayed the audio recordings, listening for nuances and themes by using a primary in vivo coding technique. In vivo coding has been found particularly useful in educational ethnographies with youth, ". . . because adolescent voices are often marginalized, and coding with their actual words enhances and deepens an adult's understanding of their culture and worldview" (Saldaña, 2013, p. 91).

Upon receipt of both professionally transcribed audio recordings, the primary investigator began another round of in vivo coding to confirm recurring themes and look for new ones. A second-cycle coding technique, axial coding, revealed subthemes that extracted more meaning from the data, and in addition to identifying larger themes, found explanations in the data (Saldaña, 2012).

The use of analytic memos throughout the coding process allowed for the assembling of thematic clusters. The audio recordings, transcripts, and investigator notes were reexamined periodically to ensure the capturing of meanings and subtleties embedded in the recorded conversations. The primary investigator then consulted with a research assistant to confer on the themes and subthemes that emerged during the coding

process in an effort to uncover if the research assistant had instinctively uncovered themes that had previously been missed during the in vivo coding process. One week later, to allow time for rumination and deep thought, the process was repeated to reconfirm what was previously discovered.

Summary

The qualitative research was conducted by way of two focus groups: one was held at the Boys and Girls Club of Rochester, NY, and the other at a City of Rochester, NY THRIVE program. Both sites provided a wide range of students, both male and female, of various ethnic backgrounds and who were enrolled in grades K-12, who were reflective of the population attending RCSD schools. Each site, which serves city residents, allowed access to ninth and 10th grade students who either attended urban schools or charter schools or were enrolled in the urban-suburban program. The ninth and 10th-grade students were selected because they had presumably attended an eighth grade home and careers class, or a similar class, and were expected to have some pre-existing knowledge and understanding of CTE and related terms.

Chapter 4: Results

Research Questions

This study investigated what urban high school students know about their college and career options following high school, and it investigated the student perspective of career and technical education and if they would like more or less access to CTE or career training while still in high school. The research used a qualitative approach to the data collection as it empowers the research participants to share their experiences (Creswell, 2013). The qualitative research design provides detailed descriptions of lived experiences rather than simply the completion of a survey to gather a statistical analysis of the data obtained from quantitative research studies (Creswell, 2013. Additionally, qualitative research methods encouraged the students to provide an assessment of their individual knowledge relating to the particular subject (Manning, 1992). Hearing directly from the students and listening to their ideas and concerns, while trying to understand their perspective, provided valuable insight on successful reform implementation (Levin, 2000).

In an effort to gauge the student perspective and encourage discussion, two focus groups were used in the data collection. Each group comprised nine students who sat around a table and participated in a discussion related to the research topic. A series of 14 questions (Appendix A) were used to guide the discussion and prompt dialogue related to the two main research questions:

1. What do urban high school students in Rochester, NY know about their options for college and career placement following high school graduation?
2. Given their knowledge of CTE, are urban high school students in Rochester, NY interested in accessing CTE programs while attending high school?

Each student identified him- or herself by using an assigned color or number prior to making statements. Both group discussions were digitally audio recorded, and the investigator took notes. The focus group environment allowed the students and their peers to share what they knew about college and career preparation and to openly discuss their feelings related to their educational experiences. At times, the participants took the discussion in directions that were important to them. Follow-up questions near the end of the focus groups' time allowed the investigator to capture the overall understanding and perspective of the students and to confirm what the students had said. The focus groups were digitally audio recorded and then transcribed by a professional transcription service.

Chapter 4 describes the findings derived from the focus groups. The chapter is structured and organized according to the two research questions that guided the study. Unintended, unexpected results and findings are discussed in Chapter 5.

Data Analysis and Findings

The focus groups were digitally audio recorded while the primary investigator took notes. At the conclusion of each focus group, the investigator replayed the audio recordings, listening for nuances and themes by using a primary in vivo coding technique. In vivo coding has been found particularly useful in educational ethnographies

with youth, “because adolescent voices are often marginalized, and coding with their actual words enhances and deepens an adult’s understanding of their culture and worldview” (Saldaña, 2013, p. 91).

Upon receipt of both professionally transcribed audio recordings, the primary investigator began another round of in vivo coding to confirm recurring themes and to look for new ones. A second-cycle coding technique, axial coding, revealed subthemes (Saldaña, 2013). Use of analytic memos throughout the coding process allowed for the assembling of thematic clusters. The audio recordings, transcripts, and investigator’s notes were reexamined periodically to ensure the capture of meanings and subtleties embedded in the recorded conversations. The primary investigator then consulted with the research assistant to confer on the uncovered themes and subthemes that emerged during in vivo coding in an effort to discuss if the research assistant had instinctively heard something that might have been missed during the coding. The primary themes and subthemes were then grouped and arranged in relation to the research questions. One week later, to allow time for rumination, the process was repeated to confirm what was previously discovered.

In order to prompt a discussion regarding participants’ knowledge related to options following high school, the moderator began the discussion by stating the that as part of the RCSD curriculum, middle school education includes a Home and Careers class in the seventh or eighth grade (RCSD, 2015), and he (the moderator) asked whether the participants had taken a Home and Careers class in the eighth grade. All students in the THRIVE program said no. When asked if they took any class in the eighth grade where they learned about their options for careers and jobs after high school, three

participants indicated they had taken a class like that, but it was not called Home and Careers. An RCSD counselor subsequently explained to the primary investigator that the Home and Careers class is sometimes called Family and Consumer Sciences (Mary Gilbert, personal communication, November 12, 2015). When asked what types of things the participants learned in these classes, the participants in the THRIVE program indicated the following: getting a job, starting a business, cooking, politics, and salary prices. During the course of the discussion, several participants realized they had, in fact, taken Home and Careers or an equivalent class but not necessarily in eighth grade.

When the participants of the Boys and Girls Club focus group were asked what they learned in these classes, a variation on the THRIVE answers came forth: how to cook, career readiness, how to interview for a job, safe food preparation, and avoiding sexually transmitted diseases. When asked if they learned of college and career options following high school, Participant Turquoise indicated, "Yes, postman, baker, and fast food restaurants."

Research question 1 – Themes and subthemes. What do urban high school students in Rochester, NY know about their options for college and career placement following high school graduation?

College. The participants in both groups were asked what they planned to do once they graduate high school, and 89% indicated they are going to college. When asked how often teachers and counselors talked to them about going to college, nine participants indicated not very often, and nine participants indicated often. Three participants indicated that their teachers assume they are going to college and do not talk about other options. Participant 6 said, "My teacher says things like, when you go to college, or once

you are in college, or you want to learn this so you can do well in college." Participant 12 said, "Yeah, they just assume that's what we're all going to do. They don't talk about other options." However, Participant 8 said, "Yeah, I go to College Club, and they tell us about all the different programs we can go in. We go on college tours and stuff," supporting the prevalence of after-school programs that informs student choice. Participant blue in the urban-suburban program said, "Our homeroom teacher tells us about careers and things we need to do to get ready for them," and Participant 8 indicated, "I feel like they don't have time to talk to us about that kind of stuff, because we don't have a class on it, so they're too busy teaching what they're supposed to be teaching us."

College costs. A topic that emerged was that of student loans. Although the majority of the participants planned to attend college, several of them talked about the fact that they think college should be free. They also discussed their fear of not being able to attend college because they could not afford it. One student indicated he would like to go to work prior to going to college so he could afford the things he needs to make his college experience better. Participant 14 said, "College would be good, but if I can get a good paying job, that's enough for me, then what's the point of college . . . but if I don't have to go to college for so many years and pay for college, I would rather get trained."

Choice. When asked how did they found out about college and career options that were available to them while in high school, 17 participants responded variations of the following, "We don't have any choice of what we take, they just put classes on our schedule," and "We only have three electives, music, art, and computer science. I'd rather be learning something I can use."

Participant White, who attended the newly re-opened Edison Technical High School knew about CTE classes and who was in a painting class, said, "We get to try different classes, and so does P-Tech High School. They are in our building and have a whole floor. They are learning about technology, so I have heard about CTE from them too." Edison Technical High School was once a school centered around vocational education and career and technical education. It experienced a shift in focus in 2002 when the U.S. Department of Education required a refocusing on academics and standardization. Amidst a renewed interest in CTE, the school re-opened in 2015 with the hopes of, once again, serving as a leader in CTE (RCSD, 2014). P-Tech High School also opened in Rochester, NY in 2015, and it is housed on the third floor of Edison Technical High School. P-Tech is based on a national model of next-generation high schools, which emphasizes STEM disciplines, technology, and an additional focus on encouraging young women to embark on careers in science.

How college and career knowledge is acquired. When the moderator asked where the students learned about their college and career options, an unanticipated theme emerged where the students revealed that they had most of their experiences related to college and career exploration come via interactions in after-school programs at their schools. The College Club was mentioned several times, and eight participants indicated they attended. The participants reportedly explored options beyond high school, filled out college applications, navigated loan applications, and went on college tours. One student said he was in a club that was run by the Rochester Institute of Technology, where they build robots and compete for prizes. Other students who attend Wilson Magnet High School said they participated in X-Cats, an engineering group run by college students,

and they also built robots and entered competitions. Several students mentioned the Hillside Work Scholarship Connection and said the students in that group have great opportunities to learn a lot of things about life and college. Participant 14 brought up the Hillside Work Scholarship Connection and indicated, "My friend is in Hillside, and they do all kinds of fun stuff. They go on trips and get jobs. I wish we had that." Participant 10 said, "Yeah, not every school has Hillside, but I think we should."

When asked how often their counselors or teachers talked to them about their options after high school, half of the participants said they did not see their counselor often. Participant Orange, though, who attended a charter school said, "I talk to my counselor all the time. I ask her to make sure I have the right classes so I can go to med school." When asked who else the participants talked to regarding their future plans, the answers varied. Answers included Mom, Dad, older brother, counselors, teachers, friends, and people in their after-school programs. Participant Turquoise said, "Whoever asks me about my future plans is who I talk to. If they're asking, they must care right?"

Participant 14 shared that the only reason he planned to go to college was to get a good job, but he said if he could get a good job without going to college, he would prefer that. Participant 6 said he would like to have access to a career-exploration class that highlights career options and jobs available in the Rochester area, and Participant 14 said she'd like to know more about extraordinary jobs related to the entertainment industry. She felt that the School of the Arts does a good job of making those options clear and several participants said they thought it was unfair that their schools do not provide the same opportunities as the School of the Arts.

Research question 2. – Themes and subthemes. Given what the students know about CTE, are urban high school students in Rochester, NY interested in accessing CTE programs while attending high school?

Because the students were not consistently familiar with the term career and technical education or CTE, they were given an explanation and a comparative set of words. The words CTE were interchanged with the words career training opportunities and opportunities to train for a career while still in high school. When the participants in both groups were asked if they would prefer project-based learning classes where they actually experienced hands-on learning instead of mainly lecture-type classes, 100% said yes. Participant 12 indicated, "We don't all learn the same, and some of us are visual learners. I would like to build things and do things, cause I learn better that way," and participants began speaking excitedly about dissecting frogs, building robots, doing real science experiments, examining marine life, and talking about forensic science and criminal justice.

The urban-suburban participants in this study who live within the City of Rochester and, therefore, hail from the same demographics as RCSD students, continued to talk about their educational experiences, and one urban-suburban student, Participant 12 said, "We have WEMOCO at our school, where the students go half a day to career training classes in another building and spend the other half day in regular school. They learn about careers and things. They have engineering programs, graphic design programs, and cooking programs at WEMOCO." Several participants indicated they wished they had that at their school. Participant Blue, also an urban-suburban student, said,

> I took sports management in the ninth grade, and we learned how to set ticket prices for our concessions, and schedule games, and run the business side of things. We're going to Nashville for a competition, and we can put that on our resume, and we can get money, like a scholarship. Now I want to go into sports management.

He also indicated that they have career training classes at his school, but he did not take any of them, even though he had previously indicated he took a sports management class, which may or may not have qualified as a CTE class.

Career and technical education. When participants were asked if they had been told in Home and Careers or an equivalent class about CTE classes or career training opportunities that they could sign up for in the city high schools, 100% said no. All of the participants indicated that they would like to know more about options available to them. At which point, Participant 18 revealed that her homeroom teacher talked to them about CTE every morning and told them about opportunities they should explore. One of the students who attends Edison Technical School said he takes CTE course and so do the students at the newly opened P-Tech High School. He said the students talk about CTE with each other.

When the participants were asked if they would like an opportunity to train for careers while still in high school, 100% said yes. When asked to explain why they wanted to train for careers while in high school, if 89% of them previously indicated they planned to go to college, Participant Blue replied, "I think it would be good to have a backup plan for when I finish college in case I can't find a job," and Participant Turquoise said, "Yeah, I think an internship might be good on my resume and might

shorten the time I need to spend in college." However, one student, Participant Orange, who had indicated he wanted to become a doctor, said "I want to take more Advanced Placement classes in high school so I'll have a jump on the classes I need to take in college," and Participant 10 said, "Yeah, it might cut down on the number of student loans I have." Participant 4 said he wanted to be a plumber, and when asked if he knows of an option to train for that skill while in high school, he said no.

Participant 16 indicated, "I don't want to go to college without any money, and I would like to work first, so I can get a car and the things I need before I start college." At which point, Participant 14 , who was unsure if he wanted to go to college said, "Yeah, the only reason I might want to go to college is so I can get a job. If I could get a job without going to college, I would rather do that."

Examples. When asked what type of career training options the students would like to have, they brainstormed and came up with a list of things that they would like to explore. The participants spoke enthusiastically and freely about the things that interested them. The resulting list contained: robotics, learning to build computers, building houses, forensic science and criminology, advanced science, music production, sports management, business, accounting, painting houses, digital art, pre-med, plumbing, metal working and welding, culinary arts, astronomy, economics, and physical therapy and sports medicine. Participant 10 said, "I want to take a science class where we do more than just mess with test tubes and water." Participant Gold said he'd like to be a marine biologist and wants opportunities to explore that field.

Summary of Results

The research used a qualitative approach in gauging the thoughts and perceptions of ninth- and 10th-grade students in an urban school district regarding their knowledge of college and career options following high school and their desire for more or less access to CTE. Focus groups were used in gathering the data as they provided an opportunity for students to share their experiences and discuss things that were important to them as it relates to the research questions (Creswell, 2013; Kitzinger, 1995).

Two groups, one from the City of Rochester's THRIVE program, and one from the Boys and Girls Club of Rochester, met on separate occasions to talk about their experiences. Each group had nine randomly selected students for a total of 18 participants. The results from both focus groups were integrated in order to employ the logic of replication (Creswell, 2014).

The results reveal that 89% of the students plan to attend college following graduation, however, 100% of them would like to train for a career while in high school. The reasons given varied, though some participants indicated that the only reason they were going to college was to get a good job, and if they could train for a career instead and get a good job, they would prefer to do that. Others said they would like to train for a career so they would have a back-up plan in the event that they couldn't find work following college graduation. Participant 16 indicated that he would like to work first and accumulate some of the things he needs before he goes to college. Participant Turquoise said he felt the opportunity to train for a job and participate in an internship might actually reduce the amount of time he would need to spend in college.

The participants revealed that they did not hear much about options following high school graduation in school, but they learned a lot about such options via their participation in after-school clubs and programs. They also said that their teachers spoke to them as if they were going to college and assumed they all were. The students did not feel that they had options, although the students who participated in the urban-suburban program indicated that they had a lot more options for career training.

Although the students were not asked about the New York State Regents exams, this theme emerged unexpectedly. The students indicated that they were not pleased with spending so much time preparing for tests and not enough time to learn interesting things. They talked of how teachers are on such a strict timeline that they do not have the time to teach students interesting things, and they do not take the time to make sure that everyone understands the material before they move on. None of the participants were aware of the 2014 New York State policy that allows for the substitution of a Regents class for a CTE class.

The participants also revealed that they were aware that urban school district students do not have the same opportunities as suburban school district students, and they felt it was unfair because everyone is the same even if their skin color is different. The students wanted access to some of the programs that suburban schools, expeditionary learning schools, charter schools, technical schools, and the School of the Arts had to offer, and they felt it was unfair that everyone was not provided with the same opportunities. When given time to brainstorm on classes and training the students would like to have in high school, their answers were indicative of a group of students who had

high expectations for themselves and who were interested in training for middle-skills careers.

Overall, the research reveals that the participants were largely unaware, other than about attending college, of their options following high school, and they were very interested in training for a career while still in high school. It also reveals that there are inconsistencies in the curriculum at each school and that some students, depending on the type of school they attend, have more or less opportunities than others. The students indicated they got most of their information from after-school clubs and programs, and 50% of them said they did not have many opportunities to meet with their school counselors. The research also reveals that the majority of students were tired of being taught to merely pass a test and were interested in project-based learning where they would have opportunities to learn by doing instead of by listening.

Chapter 5 summarizes the research and outlines the implications of the results. Also included is a description of the unanticipated results and several recommendations for future research and policy development, followed by a synopsis of the entire research study.

Chapter 5: Discussion

Introduction

The purpose of this study was to discover what urban high school students know about their college and career options following high school, and if they would like more or less access to career and technical education while in high school. A qualitative approach was used in data collection by way of two focus groups. The focus groups were the preferred method for this study as they empowered the research participants to share their experiences (Creswell, 2013). Qualitative research design provides detailed descriptions of lived experiences rather than simple survey completion and statistical analysis of data obtained from quantitative research studies (Creswell, 2014). Additionally, qualitative research methods encouraged the students to provide an assessment of their individual knowledge relating to a particular subject (Manning, 1992). Also, hearing directly from the students and listening to their ideas and concerns, while trying to understand their perspective, provided valuable insight on successful reform implementation (Levin, 2000).

The study reveals that the students did not know much about their college and career options following high school graduation. Three main themes emerged: (a) they mostly learned about options via their participation in after-school clubs and programs, (b) their teachers spoke to them as if they were going to college and assume they all are, and (c) a lot of students cannot afford college and fear they will not be able to go.

Although it was discovered that 89% of the participants planned on attending college following high school graduation, 100% said they would like access to CTE and career training while in high school. The reasons cited were: (a) as a back-up plan following college graduation, (b) work experience and an internship would look good on my resume, (c) it might shorten the amount of time they would need to spend in college, (d) they were tired of spending time in uninteresting classes with the sole purpose of passing a test, (e) they were only going to college to get a good job, if they could train for a job in high school, they would rather do that, and (f) CTE or AP courses might cut down on college loans. Chapter 5 presents the implications of these findings and the limitations of the study. The chapter concludes with recommendations for future research and a summary of the dissertation.

Implications of Findings

The findings from this study contribute to the existing body of literature on CTE, and they have implications related to the way we prepare our urban youth for employment. The study reveals that the college-for-all model still dominates the urban high school experience, even though students expressed a desire for access to CTE. It also reveals that urban students believe they do not have the same opportunities as suburban students. While the participants shared each other's experiences, some realized that the urban-suburban students had more opportunities for career training and CTE. Based on the focus group discussions, the participants expressed that they felt students attending charter schools, expeditionary learning schools, and the School of the Arts were provided with more opportunities. The students clearly stated they felt everyone should have the same opportunities for college and career development.

College-for-all implications. The findings are consistent with previous research that indicates the United States has come to think of a bachelor's degree as necessary in obtaining a good job, and, therefore, educators have been predominantly encouraging students to attend college (Rosenbaum et al., 2010). Most of the participants in this study indicated they planned to go to college after high school graduation and most were not aware of alternate pathways to career preparation. Unfortunately, previous research shows that once in college, many students discover they must take remedial classes, and drop out without obtaining any college credit or career training.

Furthermore, the findings reveal that most students were not aware of the CTE options in their high schools, and that their teachers talk as if the students are all going to college. This implies that school counselors and teachers are still heavily indoctrinated in the college-for-all model that permeates U.S. society, although this model is no longer realistic in addressing the middle-skills worker shortage.

For effective CTE reform, counselors and teachers cannot be left out of the equation, and efforts should be made to counterbalance the college-for-all model that dominates the U.S. educational system. It is recommended that school district leaders, high school administrators, and developers of teacher and counselor education programs come together to improve systems, CTE knowledge, teaching practices, and curriculum that impact urban high school students' preparation in order to meet the current and projected labor market demands. Furthermore, Stone et al. (2004) found that teachers are not always sure which courses qualify as CTE (Stone et al., 2004). If school counselors and teachers are ill-prepared to guide their students towards CTE and other occupational thinking and training, reform will undoubtedly fail.

Policy implications. As in other industrialized nations, the U.S. Department of Education should encourage industry partnerships in designing and aligning curriculum, training, and certification programs that allow students with opportunities to find job placement during high school and following high school graduation (Hoffman, 2012). I recommend that the U.S. Department of Labor and U.S. Department of Education continue to encourage industry partnerships and collaborations in an effort to create educational experiences that prepare U.S. youth for the middle-skills worker shortage.

Although several partnerships have emerged at the federal level in conjunction with the Next Generation High Schools' initiative (Fact Sheet, 2015), we must widen industry participation in preparing the country's youth for 21st century skills. Some industrialized nations provide subsidies to companies that hire young interns in order to offset the costs of training and development and to make partnerships more appealing (Hoffman, 2012).

Implications from the student perspective. The findings from this study support information obtained from the 2006 HSSSE, which was administered to 81,499 students from 110 schools in 26 different states, in urban, suburban, and rural communities in 2006. When students were asked, "If you have been bored in class, why?" students reported the material was not interesting, and the material was not relevant to them. The results of this study are consistent with the HSSSE findings that indicate that one of the most prevalent reasons for dropping out was: "I didn't see the value in the work I was being asked to do" (Yazzie-Mintz, 2007). The students in this study shared that students are depressed and dropping out partly because they do not find the material relevant to their lives, and they are not making connections with the teachers.

In light of the 43% graduation rate in Rochester, NY with a 9% graduation rate for African American and Latino males, the findings from this study reveal the student perspective is consistent with the Harvard report, *Pathways to Prosperity* (Symonds, 2012), which reveals that those who are most at risk for failure are those who are the least prepared academically and those with the least information about specific career paths (Symonds, 2012). The college-for-all model may cause the most harm to those who are socially disadvantaged and can least afford to attend college. Rather than accepting college-for-all as an unqualified good for society, research suggests that policy makers critically examine this norm and reevaluate the model (Rosenbaum, 2001; Schneider & Stevenson, 1999; Symonds, 2012). The findings from this study shed light on the student perspective relating to previous research that suggests that high school graduation rates, and low college completion rates require reconsideration of the way we prepare our youth to meet projected labor market demands (Rosenbaum, 2001; Symonds, 2012).

Theoretical implications of findings. Theories of career development help us understand the process students undergo during the development of career identity. For many students, this process does not take place systematically, as it should, and students drop out of high school for lack of a clear pathway to careers and, consequently, employment (Vilhjalmsdottir, 2010). Social cognitive career theory encompasses a set of personal, behavioral, and environmental factors that are thought to guide academic and career development processes. The theory emphasizes the role of self-efficacy beliefs, outcome expectations, and goals that shape people's own career-related efforts (Lent et al., 1994).

Environmental variables are thought to promote or restrict choice options for individuals and provide a context for improving self-efficacy and outcome expectations over time. Socio-demographic variables, such as race/ethnicity, culture, and gender, are also thought to have an influence on career outcomes because of overall learning experiences and existing opportunity structures (Lent et al., 1994). Additionally, minority students can be jaded by their parents' career-related experiences and are keenly aware of racism and its effect on career goals, related opportunities, and outcomes (Alliman-Brissett & Turner, 2009).

The career-choice process is clouded by a lack of knowledge of varied occupational paths, and of one's lack of confidence in their ability to perform well in a given field (Lent et al., 1994). Urban high school students would benefit from career exploration and exposure, which would broaden their perceived scope of opportunities and them to choose training opportunities in which they are interested and in which they believe they would reach a level of self-efficacy and satisfaction (Alliman-Brissett & Turner, 2009; Lent et al., 1994; Vilhjalmsdottir, 2010).

Unanticipated Results

The overarching research questions sought to uncover what students know about their college and career options following high school graduation, and if students would like more or less access to CTE while in high school. The open-ended questions used in guiding the discussions were designed to attend to the overall research questions, however, at times the students took the discussion in unexpected directions.

New York State Regents exams. A topic that emerged several times, although participants were not asked, was that of the New York State Regents exams. Regents

exams are New York State standardized examinations in core high school subjects that students must pass in order to graduate (NYSED, 2015). The participants expressed their displeasure at spending so much time learning how to pass a Regents exam and not enough time learning interesting topics in high school. Participant 12 stated, "I hate that we spend all our time preparing for exams. We are not learning anything, just going over material so we can pass a test." None of the participants were aware of the 2014 New York State policy that allows a student to take a CTE class in lieu of a Regents exam toward graduation (NYSED, 2014). The participants also talked considerably about having to take classes they do not think will help them toward their career plans, and they felt that the classes needed to be more current and less focused on the past, and the participants also stated that they do not feel like the classes are helping them prepare for the future.

Unequal opportunities. The participants in the urban-suburban program revealed opportunities the students have in their schools to participate in career development and training, including a half-day program available to interested students where they attend school for half a day and then go to CTE classes the other half of the day. The students that attend charter schools also seemed more optimistic and shared that they participate in partnerships with Bryant and Stratton and other career-development organizations. The urban students said they wished they had the same opportunities.

The students who were not in an urban-suburban, in expeditionary learning, charter school, or technically centered program indicated they wish they had the same opportunities as everyone else. Participant 12, who is enrolled in the urban-suburban program said, "I think urban schools should have the same things suburban schools have.

We should all have the chance to do things like that. Not all people have the same opportunities. Participant 2 said, “We’re all the same and just because we have different skin color doesn’t mean we shouldn’t have the same chances as other people. We can all learn from each other.” The discussion illustrates that participants, all who are city residents, realize that all students do not have the same opportunities, and they feel it is unfair.

Discouraged students. Neither the primary investigator nor the moderator brought up low graduation rates in public schools; however, Participant 12 began a discussion on why students get discouraged and feel that what they are learning is not going to serve them well. She said that parents recount how they went to school and just did the work and that students should just do their work and get it done, but several participants said school is not like it used to be. When people do not understand the material in school, they get discouraged, and then they get further behind and eventually drop out. Participant 2 indicated, “The teachers are on such a tight schedule that they don’t make sure everyone understands a topic before they move on, and sometimes students fear being the only one who doesn’t understand and say they understand when they don’t.” Participant 10 said she thinks people drop out of school because they get stressed out and do not really enjoy school, because the teachers and people just push them away, and some of their parents do not care. Participant 12 agreed and said that most kids are really depressed and do not want to go to school because they feel they aren’t learning anything. Participant 8 said he feels school is a waste of time because of the type of stuff they learn. Several participants agreed that school is very stressful and that most people do not understand that.

This feeling is consistent with an earlier quantitative study, conducted in 2006, which revealed that the most prevalent reasons for dropping out were: "I don't like the school"; "I don't like the teachers"; and "I didn't see the value in the work I was being asked to do" (Yazzie-Mintz, 2007). Later, in 2015, students are still reporting the same unsatisfactory experiences. As a nation, we must learn to listen to the students' voice when designing schools, hiring teachers, planning curriculum, and giving instruction (Levin, 2000).

After-school programs. Another theme that emerged during the focus groups was the fact that most of the students' positive experiences of college and career exploration were had via interactions in after-school programs within their schools. The College Club was mentioned several times, and the students reported the benefits of exploring college options and enjoyed going to visit college campuses and finding out more about their college options. Participant Orange said he is in a club run by the Rochester Institute of Technology, where they build robots and compete for prizes. Other students, who attended Wilson Magnet High School, said they participated in X-Cats, an engineering group run by college students, and they also built robots and entered competitions. Several students mentioned the Hillside Work Scholarship Connection and said the students in that group have great opportunities to learn a lot of things about life and college. Two students lamented over the fact that not all high schools have the same access to after-school programs and, again, they are not afforded the same opportunities as other students. These comments indicate that students want to learn skills and enjoy meaningful experiences but, overall, the students believe all schools are not providing these same experiences. While obviously all learning is not going to be fun, the

importance of after-school clubs and supplemental programs became evident during the study.

Limitations

There were several limitations within the study. The first involves the sample size and the extent to which the findings can be generalized to all urban school districts and to all students who attend RCSD. Although the research took place in one urban school district, and the students were from a variety of schools within that district, it is unclear if the students may have taken CTE classes without realizing it. For example, one student had taken a business course, another took a sports management class, and another indicated her homeroom teacher spends time talking about college and career opportunities during homeroom class. Perhaps those classes qualify as CTE credits, but the students may not have been able to identify them as such. It became evident that no consistent delivery of CTE and other career-related classes exist in every school and that some students are receiving relevant information and opportunities where others are not.

Another limitation of the study could be the fact that all of the participants in this study attended The Boys and Girls Club or the THRIVE program, both off-campus after-school mentorship programs, and therefore, the participants might have a heightened perspective in comparison to students who do not attend such programs. The fact that students in these programs must obtain parental consent could imply that these students have more parental support than others, and therefore, the level of awareness the students exhibited may not be representative of that of students who do not attend such programs.

The final limitation would be the impact my participation in the research might have had on the results. Although I am not employed in RCSD, I am familiar with the

district, the curriculum, and the graduation rates. My position during the focus groups was mainly as note taker; however, the fact that I am a strong proponent of CTE for urban students might have been evident, and it might have influenced the student responses, although it cannot be said, for sure, how much of an impact it truly had.

Recommendations for Further Research

It is recommended that district-wide and nationwide quantitative studies be conducted in urban high schools in order to obtain a broader sample that is more reflective of urban high schools nationwide. Furthermore, it is imperative to commence a national longitudinal study tracking CTE completers versus non CTE completers to determine the effectiveness of current CTE has on career readiness. It is also recommended that research be conducted to gauge the business community's willingness to partner with urban school districts in developing curriculum, providing training, internships, and apprenticeships to urban high school students.

Conclusion

People ages 18 to 25 comprise 28% of the unemployed individuals in the United States, compared to a national unemployment rate of 5.3%. In some urban areas, that number is as high as 48% (BLS, 2015). Meanwhile, there is a significant middle-skills worker shortage in the US with projected job openings upwards of 350,000 in New York State, alone, partly due to upcoming baby boomer retirements (BLS, 2015; Neumark et al., 2013). Middle-skills jobs are projected to provide the largest number of job openings in the United States through 2020 (Farr & Shatkin, 2009). These facts raise an important question: Are urban youth effectively being prepared to take advantage of the projected middle-skills worker shortage?

Adolescents living in an urban environments face multiple career-development barriers (NRC, 1993), with greater challenges than those from other segments of society. The critical need for effective career development programs is growing as career options have been affected by globalization and technology (Teitz, 1998). The widening wage and opportunity gaps between residents of lower socio-economic backgrounds and those from suburban environments is compounded by segregation, economic, racial, and ethnic minority statuses (Alliman-Brissett & Turner, 2009; Teitz, 1998).

In establishing a theoretical basis for career exploration and development while in high school, the use of social cognitive career theory provides a framework for understanding the way social, racial, gender, environmental, background, and contextual affordances have on career-choice decision making. Because minority students are more keenly aware of racism and the affect it has on career aspirations and goals, due to labor market discrimination experienced by their family members, it is important that urban high school students be provided with career exploration and training opportunities in order to help promote urban adolescents' expectations of their own occupational futures (Alliman-Brissett & Turner, 2010; Chaves et al., 2004). Proper, systematic exposure to career counseling, training, and exploration in middle and high schools is shown to improve career-related aspirations and educational outcomes for urban students (Turner & Lapan, 2013, Vilhjalmsdottir, 2010).

Traditionally, in matters of education, the student voice is overlooked (Levin, 2000). Levin argued that education reform "cannot succeed and should not proceed without much more direct involvement of students in all its aspects" (Levin, 2000, p. 155). Students are the producers of school outcomes, and, therefore, their involvement

is fundamental to all improvement and would constitute an important reform in and of itself (Levin, 2000). Very little literature on CTE exists that reflects the student perspective on it, and the question remains as to what urban high school students know about CTE and career preparation programs within their schools and if they would like more or less access to CTE at the high school level.

This study sought to uncover the students' voice relating to their knowledge of college and career options following high school graduation and their desire for more or less access to CTE while in high school. The research was conducted using two separate focus groups at two different locations in Rochester, NY. Focus groups are particularly well-suited to the study of attitudes and experiences and for examining how knowledge, and more importantly, ideas, develop and operate within a given cultural context (Kitzinger, 1995). The method is basically straightforward and not intimidating for either the researcher or the researched (Kitzinger, 1995).

Because the college-for-all model has been the overarching theme in U.S. education since 2002, students are still predominantly directed toward college, but only 40% of high school graduates actually attend college, and only 20% of college attendees graduate with a 4-year degree within 6 years. Only 28% of the employed persons in the US hold a bachelor's degree, and recent research indicates that new college graduates currently earn less, on average, than trained, middle-skills workers, indicating that middle-skills occupations have the potential to provide high wages (Farr & Shatkin, 2009).

With ongoing concern over urban high school student dropout rates (Holzman et al., 2012), high unemployment rates for U.S. youth (BLS, 2015), and a lack of middle-

skills worker training opportunities (Hoffman, 2011; Symonds 2012), proponents of education reform in several states, including New York State, are investigating the possibilities of reintegrating CTE into mainstream high school academic programs (NYSED, 2014). Research suggests that one CTE course to every two academic courses is the most effective way to introduce CTE to high school students and an effective tool in dropout prevention (Plank et al., 2008).

Therefore, the current graduation rates in urban high schools must be addressed and the necessary steps taken to ensure urban high school students have the same opportunities as those in suburban and rural areas. The growing economic divide will continue unless we ensure that all students have opportunities to train for projected job openings. The students in this study clearly stated their desire for more access to CTE while in high school, and it is the position of this researcher that it would be a social injustice to ignore the relevance of their perspective. The students in both focus groups were eager to share their ideas and were clear they felt their current classes were not relevant to life and were not preparing them for careers. Additionally, the participants in this study had multiple ideas about what type of courses they would like to take in preparation for earning a living. Ideas included robotics, computer design, forensic science, plumbing, criminology, engineering, medicine, painting and construction, recreational assistants, culinary arts, sound engineering, and sports management and communications. Their ideas are reflective of the new CTE and not so with the former model of vocational education, which once mainly targeted students that had little interest in academics. The students in this study reflect a new generation of young people who wish to train for jobs that pay good wages and fulfill a need for productivity. Two

students clearly articulated these sentiments, the first, by indicating he was only planning to go to college to get a good job, but if he could train for a job while in high school and get a good job, he would rather do that. The second student indicated would like to train for a career while in high school as a back-up plan for when he graduates college, so his time spent training for a career might cut down on the time spent in college accumulating student loans.

In summary, the college-for-all model that still permeates our U.S. educational system is not effective for meeting the projected middle-skills worker shortage, and it does not account for the fact that only 43% of high school students in some school districts are graduating, only 40% of those graduates will attend college, with only 20% of them graduating from college with a 4-year degree within 6 years. What is going to happen to the majority of students who neither graduate from high school, nor prepare for a career, nor graduate college? It is imperative that the nation address this situation in a manner consistent with closing the economic divide that is threatening the very future of urban youth. The current state of affairs in urban high schools is much too serious to neglect the extra efforts required to increase the likelihood that urban high schools provide equal opportunities to urban high school students in preparing and qualifying them to find work, leading to the earning of a living wage, thus addressing the projected middle-skills worker shortage.

School district leaders, high school administrators, and developers of teacher and counselor education programs must come together to improve systems, educational environments, teaching practices, and curriculum that impact urban high school student preparation in order to meet current and projected labor market demands. Based on the

findings of this study, the importance of the student voice must not be neglected in creating educational environments that engage students in subjects relevant to their lives and occupational goals.

References

Alliman-Brissett, A. E., & Turner, S. L. (2009). Racism, parent support, and math-based career interests, efficacy, and outcome expectations among African American adolescents. *Journal of Black Psychology, 36*(2), 197-225.

Association for Career and Technical Education. (2014). Retrieved from https://www.acteonline.org/factsheets/#.U-u1yk0g_mI

Bae, S. H., Gray, K., & Yeager, G. (2007). A retrospective cohort comparison of career and technical education participants and non-participants on a state-mandated proficiency test. *Career and Technical Education Research*, *32*(1), 9-22.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology*, *4*(3), 359-373.

Bandura, A. (1977). *Self-efficacy: The exercise of control*. New York, NY: Macmillan.

Bandura, A., & Walters, R. H. (1963). *Social learning and personality development*. New York, NY: Holt, Rinehart, and Winston.

Bennett, J. V. (2007). Work-based learning and social support: Relative influences on high school senior' occupational engagement orientations. *Career and Technical Education Research, 32*(3), 187-214

Blowe, E. H., & Price, T. (2012). *Career and technical education: Academic achievement and graduation rates of students in the Commonwealth of Virginia.* Retrieved from SAGE Open.

Boys and Girls Club of Rochester. (n.d.). Retrieved from https://bgcrochester.org/About-Us/Mission

Bozick, R., & Dalton, B. (2013). Balancing career and technical education with academic course work: The consequences for mathematics achievement in high school. *American Educational Research Association, 35*(2), 123-138.

Brinkmann, S., & Kvale, S. (2015). *Interviews: Learning the craft of qualitative research interviewing*. Thousand Oaks, CA: Sage Publications, Incorporated.

Bureau of Labor Statistics (2012). Retrieved May 15, 2015 from http://www.bls.gov/bls/occupation.htm

Bureau of Labor Statistics. (2015). Data are from the Occupational Employment Statistics Program, U.S. Department of Labor, U.S. Bureau of Labor Statistics. Source: Employment Projections Program, U.S. Department of Labor. Retrieved September 4, 2015 from http://www.bls.gov/emp/ep_table_103.htm

Career, C. D. P. (2006). Technical education improvement Act of 2006, S. 250. In *109th Congress*. Retrieved September 4, 2015 from http://scholar.google.com/scholar?hl=en&q=S.250+-+Carl+D.+Perkins+Career+and+Technical+Education+Improvement+Act+of+2006&btnG=&as_sdt=1%2C33&as_sdtp=

Castellano, M., Stringfield, S., & Stone III, J. R. (2001). *Career and technical education reforms and comprehensive school reforms in high schools and community colleges: Their impact on educational outcomes for at-risk youth.* St. Paul, MN: National Research Center for Career and Technical Education.

Chaves, A. P., Diemer, M. A., Blustein, D. L., Gallagher, L. A., DeVoy, J. E., Casares, M. T., & Perry, J. C. (2004). Conceptions of work: The view from urban youth. *Journal of Counseling Psychology*, *51*(3), 275-286.

Corbett, D., & Wilson, B. (1995). Make a difference with, not for, students: A plea to researchers and reformers. *Educational Researcher*, *24*(5), 12-17.

Creswell, J. W. (2013). *Qualitative inquiry & research design. Choosing among five approaches*. Thousand Oaks, CA: Sage.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*(1), 71-75.

Dixon, M. L., Cotner, B. A., Wilson, T. C., & Borman, K. M. (2011). Implementing career academies in Florida: A case study approach to understanding successes and obstacles. *Career and Technical Education Research, 36*(3), 207-227.

Dykeman, C., Wood, C., Ingram, M., & Herr, E. L. (2003). *Career development, interventions and academic self-efficacy and motivation: A pilot study.* St. Paul, MN: National Research Center for Career and Technical Education.

Encyclopedia of Education. (2002). *Vocational Education (VE) Act of 1963.* Retrieved from http://www.encyclopedia.com/topic/vocational_education.aspx

Farr, J. M., & Shatkin, L. (2009). *Best jobs for the 21st century* (5th ed.). Indianapolis, IN: Jist Works.

Fletcher, E., & Zirkle, C. (2009). The relationship of high school curriculum tracks to degree attainment and occupational earnings. *Career & Technical Education Research, 34*(2). 81-102

France, A. (2003). *The educator's book of quotes*. Thousand Oaks, CA. Corwin Press.

Gentry, M., Peters, S. J., & Mann, R. L. (2007). Differences between general and talented students' perceptions of their career and technical education experiences compared to their traditional high school experiences. *Journal of Advanced Academics*, *18*(3), 372-401.

Google Dictionary. (2015). Retrieved from https://www.google.ca/?gws_rd=cr,ssl&ei=Wx_mVduBCYXPet78kYAF#q=definition+of+baby+boomer

Goyette, K. A. (2008). College for some to college for all: Social background, occupational expectations, and educational expectations over time. *Social Science Research*, *37*(2), 461-484.

Hackett G., & Betz N. (1981). A self-efficacy approach to the career development of women. *Journal of Vocational Behavior*, *18*, 326-339.

Hersperger, S. L., Slate, J. R., & Edmonson, S. L. (2013). A review of the career and technical education research literature. *Journal of Education Research*, *7*(3), 157.

Hoffman, N. (2011). *Schooling in the workplace. How six of the world's best vocational education systems prepare young people for jobs and life.* Cambridge, MA: Harvard Education Press.

Holland, J. L. (1966). *The psychology of vocational choice: A theory of personality types and model environments.* Oxford, England: Blaisdell.

Holland, J. L. (1973). *Making vocational choices: A theory of careers*. New York, NY: Prentice Hall.

Holzer, H. J., & Lerman, R. I. (2009). *The future of middle-skill jobs* (Vol. 41). Washington, DC: The Brookings Institute, Center on Children and Families. Retrieved from http://www.brookings.edu/~/media/research/files/papers/2009/2/middle-skill-jobs-holzer/02_middle_skill_jobs_holzer.pdf

Holzman, M., Jackson, J., & Beaudry, A. (2012). *The urgency of now: The Schott 50 state report on public education and black males.* Cambridge, MA: The Schott Foundation for Public Education. Retrieved from http://blackboysreport.org/bbreport2012.pdf

Kirst, M. W., & Wirt, F. M. (2009). *The political dynamics of American education*. Richmond, CA: McCutchan Publishing Corporation.

Kitzinger, J. (1995). Qualitative research. Introducing focus groups. *BMJ: British Medical Journal*, *311*(7000), 299-302.

Lakes, R. D. (2007). Four key themes in Perkins III Reauthorization: A political analysis. *Journal of Career and Technical Education*, *23*(1), 109-120.

Lambeth, J. M., Joerger, R. M., & Elliot, J. (2009). Implications for focusing research in career and technical education and workforce development. *Career and Technical Education Research, 34*(3), 137-153

Lent, R. W., & Brown, S. D. (1996). Social cognitive approach to career development: An overview. *Career Development Quarterly*, *44*, 310-321.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior, 45*(1), 79-122.

Levin, B. (2000). Putting students at the centre in education reform. *Journal of Educational Change*, *1*(2), 155-172.

Next Generation High Schools Act (H. R. 2040). (2015). *CONGRESS.GOV.* Retrieved from https://www.congress.gov/bill/114th-congress/senate-bill/696/all-info

Link, S. (2008). Self-determination theory. *EBSCO Research Starters.* Retrieved from http://dswleads.com/Ebsco/Self%20Determination%20Theory.pdf

Linked Learning Alliance. (2015). *Linked Learning Alliance praises budget agreement on career technical education, an essential component of linked learning.* Retrieved from http://www.linkedlearning.org/linked-learning-alliance-praises-budget-agreement-on-career-technical-education-an-essential-component-of-linked-learning/

Loera, G., Nakamoto, J., Oh, Y. J., & Rueda, R. (2013). Factors that promote motivation and academic engagement in a career technical education context. *Career and Technical Education Research, 38*(3), 173-190

Manning, K. (1992). A rationale for using qualitative research in student affairs. *Journal of College Student Development*, *33*(2), 132-136.

NAF.org. (2015). *NAFTRACK certified hiring.* Retrieved from http://naf.org/our-approach/naftrack-certified-hiring

National Center for Education Statistics. (2014). Retrieved from http://nces.ed.gov/programs/coe/indicator_coi.asp

National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform.* Washington, DC: Government Printing Office.

National Research Center on Career and Technical Education. (2014).

National Research Council, Commission on Behavioral and Social Sciences and Education, Panel on High-Risk Youth. (1993). *Losing generations: Adolescents in high-risk settings.* Washington, DC: National Academy Press.

Neild, R. C., Stoner-Eby, S., & Furstenberg, F. (2008). Connecting entrance and departure the transition to ninth grade and high school dropout. *Education and Urban Society*, *40*(5), 543-569.

Neumark, D., Johnson, H., & Mejia, M. C. (2013). *Future skill shortages in the U.S. economy?*. (Working paper 17213). Cambridge, MA: National Bureau of Economic Research. doi:10.1016/j.econedurev.2012.09.004

New York State Education Department. (2014). Retrieved from http://data.nysed.gov/gradrate.php?year=2014&instid=800000050065

No Child Left Behind (NCLB) Act of 2001, 20 U.S.C.A. § 6301 et seq. (2003).

Perna, L. W. (Ed.). (2012). *City in the twenty-first century: Preparing today's students for tomorrow's jobs in metropolitan America.* Philadelphia, PA: University of Pennsylvania Press.

Plank, S. B., DeLuca, S., & Estacion, A. (2008). High school dropout and the role of career and technical education: A survival analysis of surviving high school. *Sociology of Education*, *81*(4), 345-370.

Reynolds, J. R., Stewart, M., MacDonald, R., & Sischo, L. (2006). Have adolescents become too ambitious? High school seniors educational and occupational plans, 1976 to 2000. *Social Problems, 53*(2), 186-206.

Rochester City School District (RCSD). (2014). *An action plan for the Rochester city school district 2014-2018.* Retrieved from http://www.rcsdk12.org/cms/lib04/NY01001156/Centricity/Domain/8/RCSDActionPlan_3-26-14_WEB.pdf

Rosenbaum, J. (2001). *Beyond college for all: Career paths for the forgotten half.* New York, NY: Russell Sage Foundation.

Rosenbaum, J. E., Miller, S. R., & Krei, M. S. (1996). Gatekeeping in an era of more open gates: High school counselors' views of their influence on student college plans. *American Journal of Education, 10*4(4), 257-279.

Rosenbaum, J. E., Stephan, J. L., & Rosenbaum, J. E. (2010). Beyond one-size-fits-all college dreams: Alternative pathways to desirable careers. *American Educator*, *34*(3), 2-8.

Rossman, G. B., & Rallis, S. F. (2003). *Learning in the field: An introduction to qualitative research*. Thousand Oaks, CA: Sage.

Saldaña, J. (2012). *The coding manual for qualitative researchers*. Thousand Oaks, CA: Sage.

Schneider, B. L., & Stevenson, D. (1999). *The ambitious generation: America's teenagers, motivated but directionless.* New Haven, CT: Yale University Press.

Schultz, D., & Stern, S. (2013). College and career ready? Perceptions of high school students related to WorkKeys assessments. *Career and Technical Education Research*, *38*(2), 157-169.

Stone III, J. R., Kowske, B., & Alfeld, C. (2004). Career and technical education in the late 1990s. A descriptive study. *Journal of Vocational Education Research, 29*(3), 195-223.

Stone, J. R., & Lewis, M. V. (2012). *College and career ready in the 21st century: Making high school matter*. New York, NY: Teachers College Press.

Stringfield, S., Shumer, R., Stipanovic, N., & Murphy, N. (2013). Programs of study: A cross-study examination of programs in three states. *International Journal of Educational Reform, 22*(4), 313-333.

Symonds, W. C. (2012). Pathways to prosperity. *Educational Leadership*, *69*(7), 35-39.

Teitz, M. B. (1998). The causes of inner-city poverty: Eight hypotheses in search of reality. *Cityscape: A Journal of Policy Development and Research, 3,* 33-70

Turner, S. L., & Lapan, R. T. (2013). Promotion of career awareness, development, and school success in children and adolescents. In *Career development and counseling. Putting theory and research to work* (2nd ed.), pp. 539-564. Hoboken, NJ: John Wiley and Sons Inc.

U.S. Department of Education. (2012). *U.S. Department of Education releases blueprint to transform career and technical education.* Retrieved from http://www.ed.gov/news/press-releases/us-department-education-releases-blueprint-transform-career-and-technical-education

U.S. Department of Education. (2014a). Retrieved from http://www.ed.gov/race-top/district-competition/definitions

U.S. Department of Education. (2014b). Retrieved from https://www2.ed.gov/about/offices/list/ovae/pi/cte/factsh/faq-080528.pdf

Vilhjalmsdottir, G. (2007). Outcomes of two different methods in careers education. *International Journal for Educational and Vocational Guidance*, *7*(2), 97-110.

Vilhjalmsdottir, G. (2010). Occupational thinking and its relation to school dropout. *Journal of Career Development*, *37*(4), 677-691.

Weinstein, C. E., Palmer, D. R., & Schulte, A. C. (1987). *Learning and study strategies inventory.* Clearwater, FL: H & H Publishing Co.

White House Fact Sheet. (2015, November). Obama administration announces more than $375 million in support for next-generation high schools. *The WHITE HOUSE.* Retrieved from https://www.whitehouse.gov/the-press-office/2015/11/10/fact-sheet-obama-administration-announces-more-375-million-support-next

Wonacott, M. E. (2003). *History and evolution of vocational and career-technical education. A compilation.* Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education.

Yazzie-Mintz, E. (2007). *Voices of students on engagement: A report on the 2006 high school survey of student engagement.* Bloomington, IN: Center for Evaluation & Education Policy, Indiana University.

Appendix A

Sample Focus Group Questions

1. What do you know about your career options following high school graduation?
2. Would you like to train for a job or trade while you are still in high school?
3. Give examples of jobs you would like to train for?
4. List some reasons why you think CTE would be an interesting option for you
5. How much do you know about Career and Technical Education?
6. Which CTE programs does your high school offer?
7. Did you take Home and Careers in 8th Grade?
8. What were you told about CTE?
9. How likely are you to go to college after high school?
10. How likely would you be to complete a CTE program in high school?
11. How often do the adults in your school talk to you about CTE?
12. Has your school counselor ever suggested you enroll in a CTE program?
13. Has your school counselor ever suggested you go to college?
14. Do you know anyone who completed a CTE program while in high school?

Appendix B

Focus Group Introductory Letter

"Welcome! Thank you for joining us to talk about Career and Technical Education. My name is Wandah Gibbs, and this is *Moderator Name*. I am completing a doctorate at St. John Fisher College. I am interested in finding out what you know about job training at your high school and if you would like more training programs at your school. The information you provide me with will help educators better understand what students want to learn while in high school.

"You have been invited to this group because you are in the ninth grade and go to RCSD schools. There are no wrong answers. We expect that you will have differing points of view. That is okay. You do not have to agree. Please feel free to share your point of view even if it differs from what others have said. We really want to hear what you have to say but you can stop participating in the group whenever you want without penalty. Please feel free to ask questions at any time. The session will not last longer than 60 minutes.

You have probably noticed the microphone. We are tape-recording the session because we do not want to miss any of your comments. People often say very helpful things in these discussions, and we want to make sure we capture everything. We will not use any names in our reports, and we will keep what you say confidential. I have 14 questions to ask. Our job is to listen to you and to make sure everybody has a chance to say what he/she wants to say. You do not need to respond directly to the *Moderator Name* all the time. Feel free to follow-up on something someone else says. You may want

to add something or share a different experience. I will ask a question, and then you can feel free to have a conversation about it.

When you speak, please introduce yourself by the color or number you were assigned when you filled out the questionnaire at the beginning of this session. For example: "Blue speaking and I think……" This will help us to remember who said what when we listen to the audio recording so that our notes will be more specific. If you decide you do not want to participate in this discussion, you can tell us and you can opt out at any time without any consequences. You are allowed to change your mind about participating in this focus group.

Well, let us begin. Let us find out some more about one another by going around the table. As an ice-breaker, please tell us your number or color and one of your favorite things to do when you are not in school.

Note: After the first question is completed, students will be informed of the following; "We will not be going around the circle anymore, so just feel free to jump into the conversation whenever you want, just remember to use your assigned color or number when speaking."

Appendix C

Parent Letter of Introduction

Dear Parent/Guardian,

My name is Wandah Gibbs and I am a student at St. John Fisher College. I am studying the availability of Career and Technical Education (CTE) in urban high schools. This research is part of my doctoral dissertation. Your child was selected to participate in a focus group because he/she is in the ninth grade and attends a school within the Rochester City School District.

If you agree to allow your child to participate in this research, please sign the attached consent form. If you agree, and have signed the attached consent form, your child will be invited to sit around a table with six to eight other students to talk about what he/she knows about college and career options and Career and Technical Education.

Your child's name will be kept anonymous and he/she may opt out of participating at any time. If your child experiences emotional or physical discomfort before, during or after the focus group, I will call you right away, and you may contact the Health and Wellness Center at St. John Fisher College: [redacted]. Participation in the study in no way affects enrollment in the child's after school program. There are no wrong answers and I am not evaluating the students in any way. Your child will be provided pizza, a salad and juice at the end of the session in exchange for his/her participation.

The 60 minute session will be audio recorded so we can capture everything that is said. The recording will only be used for transcribing the words onto paper for the research. The students will be asked 14 questions related to what they know about Career

and Technical Education of which a copy is provided you herein attached. I will be happy to share the results of my research with you upon request. Please contact me at any time if you have questions:

Phone: [redacted]. e-mail: [redacted]

I want to thank you for considering allowing your child to participate in this research. I believe the data I gather could impact the way we prepare our youth for employment.

Sincerely,

Wandah Gibbs

Appendix D

Informed Consents for Parents

St. John Fisher College
Informed Consent

Title of Study: **The Student Perspective on Access to Career and Technical Education in an Urban School District in the US**

Name(s) of Researcher(s): Wandah Gibbs

Faculty Supervisor: Idonia Owens, Ed. D. Phone: [redacted]
E-mail: [redacted]

Purpose of Study:

To find out what students know about career training and preparation, and whether or not they would like more or less access to Career and Technical Education while attending high school.

Place of Study: The Boys and Girls Club of Rochester, NY Length of Study: 60 minutes

Risks and Benefits: There are no risks to this study. The benefits of the research are that your child will be helping urban public school educators better understand how to prepare students for employment (work). Specifically, students will be asked to reflect on what they learned in Home and Careers class and on what they know about Career and Technical Education. Their responses may help provide school personnel with the tools to develop potentially effective school-based interventions that address career preparation and readiness.

If your child does not wish to participate in the interview, he/she has the right to withdraw from the study, without consequences or penalty, at any time.

Method for protecting confidentiality: To maintain confidentiality each participant will be provided with a color (pink, blue, green, etc.) with which to identify themselves. To emphasize, no participant's name will be used in the study. The focus group will be audiotaped and then transcribed by a professional service, however, the only person who will know your identity is the investigator. Please be advised that all of the data retrieved from the study will be stored and locked with a key in a secure location at the investigator's home for three years; no one other than the investigator will have access to the data. Again, no one will have access to the data except the investigator. Information obtained during the focus group will be used for the sole purpose previously outlined in the aforementioned paragraphs (See Purpose of the Study).

Method of Compensation: Your child will be provided with pizza, salad, and juice for his/her participation.

Your rights: As the parent/guardian of a research participant, you have the right to:

1. Have the purpose of the study, and the expected risks and benefits fully explained to you
   before you choose to allow your minor child to participate.
2. Withdraw from participation at any time without penalty.
3. Refuse to answer a particular question without penalty.
4. Be informed of appropriate alternative procedures or courses of treatment, if any, that might be advantageous to you or your minor child.
5. Be informed of the results of the study.

I ,_____the parent or guardian of
_____,

a minor _____ years of age, consent to his/her participation in the above-named study.

I have received a copy of this form.

Print name (Parent/Guardian) _____ Signature
Date_____

Print name (Investigator) _____ Signature
Date_____

If you have any further questions regarding this study, please contact the researcher listed above. If you or your child experiences emotional or physical discomfort due to participation in this study, contact the Office of Academic Affairs at 385-8034 or the Health &Wellness Center at 385-8280 for appropriate referrals.

The Institutional Review Board (IRB) of St. John Fisher College has reviewed this project. For any concerns regarding confidentiality, please call Jill Rathbun at [redacted]. She will direct your call to a member of the IRB at St. John Fisher College.

Appendix E

John Fisher College
Informed Consent Parents

Title of Study: **The Student Perspective on Access to Career and Technical Education in an Urban School District in the US**

Name(s) of Researcher(s): Wandah Gibbs

Faculty Supervisor: Idonia Owens, Ed. D. Phone: [redacted]
E-mail: [redacted]

Purpose of Study:

To find out what students know about career training and preparation, and whether or not they would like more or less access to Career and Technical Education while attending high school.

Place of Study: THRIVE, Rochester, NY Length of Study: 60 minutes

Risks and Benefits: There are no risks to this study. The benefits of the research are that your child will be helping urban public school educators better understand how to prepare students for employment (work). Specifically, students will be asked to reflect on what they learned in Home and Careers class and on what they know about Career and Technical Education. Their responses may help provide school personnel with the tools to develop potentially effective school-based interventions that address career preparation and readiness.

If your child does not wish to participate in the interview, he/she has the right to withdraw from the study, without consequences or penalty, at any time.

Method for protecting confidentiality: To maintain confidentiality each participant will be provided with a number with which to identify themselves. To emphasize, no participant's name will be used in the study. The focus group will be audiotaped and then transcribed by a professional service, however, the only person who will know your identity is the investigator. Please be advised that all of the data retrieved from the study will be stored and locked with a key in a secure location at the investigator's home for three years; no one other than the investigator will have access to the data. Again, no one will have access to the data except the investigator. Information obtained during the focus group will be used for the sole purpose previously outlined in the aforementioned paragraphs (See Purpose of the Study).

Method of Compensation: Your child will be provided with pizza, salad, and juice for his/her participation.

Your rights: As the parent/guardian of a research participant, you have the right to:

1. Have the purpose of the study, and the expected risks and benefits fully explained to you
   before you choose to allow your minor child to participate.
2. Withdraw from participation at any time without penalty.
3. Refuse to answer a particular question without penalty.
4. Be informed of appropriate alternative procedures or courses of treatment, if any, that might be advantageous to you or your minor child.
5. Be informed of the results of the study.

I, _____the parent or guardian of _____,

a minor _____ years of age, consent to his/her participation in the above-named study.

I have received a copy of this form.

Print name (Parent/Guardian) _____ Signature Date_____

Print name (Investigator) _____ Signature Date_____

If you have any further questions regarding this study, please contact the researcher listed above. If you or your child experiences emotional or physical discomfort due to participation in this study, contact the Office of Academic Affairs at [redacted] or the Health &Wellness Center at [redacted] for appropriate referrals.

The Institutional Review Board (IRB) of St. John Fisher College has reviewed this project. For any concerns regarding confidentiality, please call Jill Rathbun at [redacted]. She will direct your call to a member of the IRB at St. John Fisher College.

Appendix F

Informed Consent for Students

St. John Fisher College
Informed Consent – Boys and Girls Club

Title of Study: **The Student Perspective on Access to Career and Technical Education in an Urban School District in the US**

Name(s) of Researcher(s): Wandah Gibbs

Faculty Supervisor: Idonia Owens, Ed. D. Phone: [redacted]
E-mail: [redacted]

Purpose of Study:

To find out what you know about career training and preparation, and whether or not you would like more or less access to Career and Technical Education while attending high school.

Place of Study: The Boys and Girls Club of Rochester, NY Length of Study: 60 minutes

Risks and Benefits: There are no risks to this study. The benefits of the research are that you will be helping urban public school educators better understand how to prepare students for employment (work). Specifically, you will be asked to reflect on what you learned in Home and Careers class and on what you know about Career and Technical Education. Your responses may help provide school personnel with the tools to develop potentially effective school-based interventions that address career preparation and readiness.

If you do not wish to participate in the interview, you have the right to withdraw from the study, without consequences or penalty, at any time.

Method for protecting confidentiality: To maintain confidentiality you and each participant will be provided with a color that you will use to identify yourself with (pink, blue, green, etc.). To emphasize, no participant's name will be used in the study. The focus group will be audiotaped and then transcribed by a professional service, however, the only person who will know your identity is the investigator. Please be advised that all of the data retrieved from the study will be stored and locked with a key in a secure location at the investigator's home for three years; no one other than the investigator will have access to the data. Again, no one will have access to the data except the investigator. Information obtained during the focus group will be used for the sole purpose previously outlined in the aforementioned paragraphs (See Purpose of the Study).

Participant's Rights: As a participant you have the right to:

1. Have the purpose of the study, and any risks and benefits, explained to you prior to your participation.
2. Withdraw from participation at any time without penalty.
3. Refuse to answer a particular question without penalty.
4. Be informed of appropriate alternative procedures or courses of treatment, if any, that would be advantageous to you.
5. Be informed of your results of this study.

I have read the above, received a copy of this form, and I agree to participate in this study.

_____	_____	_____
Print Name (Participant)	Signature (participant)	Date

_____	_____	
Print Name (Investigator)	Signature (Investigator)	Date

If you have any further questions regarding this study, please contact the researcher Wandah Gibbs at [redacted] or by email [redacted] If you experience emotional or physical discomfort due to participation in this study, please contact Dr. Idonia Owens at [redacted] or [redacted] The Institutional Review Board (IRB) of St. John Fisher College has reviewed this project. For any concerns regarding confidentiality, please call Jill Rathbun [redacted]. She will direct your call to a member of the IRB at St. John Fisher College.

Appendix G

St. John Fisher College
Informed Consent Students - THRIVE

Title of Study: **The Student Perspective on Access to Career and Technical Education in an Urban School District in the US**

Name(s) of Researcher(s): Wandah Gibbs

Faculty Supervisor: Idonia Owens, Ed. D. Phone: [redacted]
E-mail: [redacted]

Purpose of Study:

To find out what you know about career training and preparation, and whether or not you would like more or less access to Career and Technical Education while attending high school.

Place of Study: THRIVE, Rochester, NY Length of Study: 60 minutes

Risks and Benefits: There are no risks to this study. The benefits of the research are that you will be helping urban public school educators better understand how to prepare students for employment (work). Specifically, you will be asked to reflect on what you learned in Home and Careers class and on what you know about Career and Technical Education. Your responses may help provide school personnel with the tools to develop potentially effective school-based interventions that address career preparation and readiness.

If you do not wish to participate in the interview, you have the right to withdraw from the study, without consequences or penalty, at any time.

Method for protecting confidentiality: To maintain confidentiality you and each participant will be provided with a number with which you will identify yourself. To emphasize, no participant's name will be used in the study. The focus group will be audiotaped and then transcribed by a professional service, however, the only person who will know your identity is the investigator. Please be advised that all of the data retrieved from the study will be stored and locked with a key in a secure location at the investigator's home for three years; no one other than the investigator will have access to the data. Again, no one will have access to the data except the investigator. Information obtained during the focus group will be used for the sole purpose previously outlined in the aforementioned paragraphs (See Purpose of the Study).

Participant's Rights: As a participant you have the right to:

1. Have the purpose of the study, and any risks and benefits, explained to you prior to your participation.
2. Withdraw from participation at any time without penalty.
3. Refuse to answer a particular question without penalty.
4. Be informed of appropriate alternative procedures or courses of treatment, if any, that would be advantageous to you.
5. Be informed of your results of this study.

I have read the above, received a copy of this form, and I agree to participate in this study.

_____	_____	_____
Print Name (Participant)	Signature (participant)	Date

_____	_____	
Print Name (Investigator)	Signature (Investigator)	Date

If you have any further questions regarding this study, please contact the researcher Wandah Gibbs at [redacted] or by email [redacted]. If you experience emotional or physical discomfort due to participation in this study, please contact Dr. Idonia Owens at [redacted] or [redacted]. The Institutional Review Board (IRB) of St. John Fisher College has reviewed this project. For any concerns regarding confidentiality, please call Jill Rathbun [redacted]. She will direct your call to a member of the IRB at St. John Fisher College.

Appendix H

Demographic Survey

Students: Please complete this form as best you can. Do not put your name on the form.

You will be given a color or number. Put the color or number on the form instead.

Assigned Color_____ or Number_____

Race:

African American _____

Hispanic _____

Asian _____

White _____

Other _____

Gender:

Female _____

Male _____

Other _____

Do not wish to disclose _____

Language you speak at home:

English _____

Spanish _____

Other _____

What grade are you in now?

_____

If you list other, please indicate what language you speak at home:

_____

Question: Did you take a home and careers class in 8th grade?

Yes_____ No_____