

COUNSELOR INFLUENCES ON THE VALUATION AND IMPACT OF CAREER AND
TECHNICAL EDUCATION ON COLLEGE AND CAREER PLANNING

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Abstract

This qualitative study explores how secondary school counselor perceptions shape the advisement of students toward Career and Technical Education (CTE) pathways, a critical yet often misunderstood component of modern education. By employing grounded theory analysis of interviews, focus groups, surveys, and program artifacts from two diverse school districts, the research identifies core themes at the intersection of counselor beliefs, equity in access, and advisement practice. Findings reveal that counselors, often unconsciously, prioritize college preparatory pathways over CTE, shaped by their own experiences, professional training gaps, and regional disparities. Nevertheless, when counselors recognize the tangible value of CTE, evidenced by student engagement and post-graduation outcomes, they serve as strong advocates for these programs. The study underscores the need for continuous professional development on CTE, as increased awareness can help dispel long-standing stigmas and expand equitable access. Ultimately, by amplifying counselor voices and experiences, this dissertation highlights the pivotal role they play in student educational journeys and calls for intentional strategies to integrate CTE as an indispensable component of secondary education. Using grounded theory methods, this study generated the CTE Advisement Perception Model, which explains how counselor perspectives mediate equity, access, and preparation in CTE advisement.

Keywords: Career and Technical Education, school counseling, advisement, equity, professional development, narrative analysis, secondary education, CTE Advisement Practice Model, etc

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Dedication

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Chapter One: Introduction

My daughter is in her third year of college, working on a bachelor's degree in culinary arts. However, the degree she will earn will probably not be the deciding factor in her first job out of college. In this case, insisting she earn a four-year degree had more to do with the stigma I attached to CTE and community college certificate programs than it did with the actual education she needed to pursue her career path. Career-technical education is not a lesser form of learning; it is a different form of learning. CTE courses are rich in opportunities for teachers to integrate literacy and math skills into real-life applications. Ultimately, isn't that what learning is all about, real-life skills that benefit the individual and the community? If we want successful doctors, where better to start than in a health sciences course that blends medical knowledge with training in a community health clinic each week? If we want creative mechanical engineers who design environmentally friendly vehicles, why not cultivate those interests and skills in a high school auto mechanics class? (Gammill, 2015, p. 18).

The above quote reflected the lived experience of Deidra Gammill, a national board-certified teacher and concerned mother from Mississippi. Similarly, for many concerned students and parents, the dilemma of where to direct oneself during and after high school, and why, is common. The narration above demonstrates a mother's rationale, optimism, and thought processes regarding her child's education, future, and well-being. Career and Technical Education (CTE) is applied to schools, institutions, and educational programs specializing in skilled trades, applied sciences, modern technologies, and career preparation (Haviland & Robbins, 2021). CTE programs offer academic and career-oriented courses, and many provide students with opportunities to gain work experience through internships, job shadowing, on-the-

job training, and industry certification (Anderson, 2021). Castellano et al., 2017 stated that career and technical provide a wide range of learning experiences spanning many career tracks, fields, and industries from skilled trades such as automotive technology, construction, plumbing, or electrical contracting to fields as diverse as agriculture, architecture, culinary arts, fashion design, filmmaking, forestry, engineering, healthcare, personal training, robotics, or veterinary science. CTE's alliance with the workplace became evident when one examined its historical roots, particularly in nineteenth-century Europe (Malkus, 2019). In the early 1800s, schools were divided by social class, and the purposes of educational institutions differed significantly for those from wealthy backgrounds compared to those from working-class or indigent backgrounds. One of the most apparent differences was that manual training became a central part of the curriculum for the lower classes (Gordon & Shultz, 2020). CTE was one of the most popular education policy issues across states and at the federal level. The popularity of CTE across states might not have been possible ten or certainly not twenty years ago.

According to Malkus (2019), what we now know as CTE was once referred to as "vocational education," a term that not only carried substantial social stigma but was also associated with a general lack of egalitarianism and a specific role in tracking students by race and class. Running directly against the dominant grain of college for all, vocational education was viewed as a step backward for students, pushing them (especially low-performing students) toward dead-end jobs of yesteryear rather than the careers of the future through the promise of post-secondary education. CTE's surging popularity was bolstered by good public relations and research that challenged the stigma long associated with CTE, as advocated by organizations such as the Association for Career and Technical Education. These advocates trumpeted the promising statistics about CTE's ability to increase graduation rates, academic motivation, course

taking, and earnings. Following a successful rebranding, CTE substantially shed the negative connotations associated with vocational education.

Statement of the Problem

Malkus (2019) stated that while there were marked differences from the stereotypical vocational education, high school CTE programs, which were the main provision of CTE education in high schools, were substantially shaped by history. Since CTE changed dramatically in the last decade, studies finding some or no benefits to CTE quickly became outdated. States also differed substantially in the types of CTE offered, the policies surrounding those offerings, and the labor market. CTE delivered in more focused programs, such as dual enrollment, career academies, or regional CTE centers, had benefits that did not materialize in the regular high school programs in which most students took CTE classes. In the late 1980s and into the 1990s, vocational education came under increased scrutiny for the populations it served. Vocational programs were found to frequently serve as an inferior track that primarily diverted disadvantaged students away from academic programs, including colleges (Malkus, 2019, p. 4).

Giani (2019) stated that vocational education was once synonymous with tracking—the systematic funneling of low-income, underrepresented minority, limited English proficient, and low-achieving students into technical pathways with limited educational and economic benefit. This extreme remained relevant, although changes were made to improve students' secondary career and technical options; the perceptions stemming from the stigma placed on CTE in the past still influence how these programs were valued and advocated to students in many school districts. Malkus (2019) lamented that career and technical education were too often described as an inferior educational alternative by the public and their legislative representatives. Members of the Ohio State Association for Career and Technical Education (ACTE, 2006) articulated the

misconceptions surrounding CTE, explaining that it "is not an alternative. It is a great option, and it allows students to figure out what they are passionate about and then go into that passion" (para. 2). Malkus (2019) reported about public and official perception where both parents and state officials saw college as the sole option for students, revealing a lack of respect for the educational needs of working men and women. According to Advance CTE (2018), educational institutions were increasingly challenged to provide relevant and rigorous programs to students who demanded variety in learning venues, delivery platforms, degree options, and quality assurance. Like many evolving fields, career and technical education (CTE) was also challenged by its history, the scope of its mission, a perceived lack of a unifying definition and purpose, complex funding formulas and allocations, and the blurring of boundaries among educational providers.

Purpose of the Study

This qualitative study aimed to shed light on factors attributed to the many perceptions of Career and Technical Education (CTE), how those perceptions affected the efforts to improve the stigma of vocational education (Vo-Tech), and what impact those perceptions had on the current push to enhance CTE to a more comprehensive career readiness avenue for students on the secondary level. This study aimed to convey how the perceptions in two separate school districts influenced the implementation of those programs, as well as the quality and value placed on them. Tucker and Hughes (2020) stated that some educators still believed CTE programs maintain diminished value in improving school achievement scores or encouraging student success. Since the 20th century, CTE educators have worked to counter negative perceptions of CTE, primarily that it is only for students who are disengaged or underperforming and are perceived by core-subject teachers and the public as a lesser option, non-college-bound. This

option was only fit for unmotivated or disinterested students. Tucker and Hughes's (2020) findings revealed that students who participated in CTE came into the programs with lower grade point averages, lower self-esteem, and, for many, a fatalistic perspective on math.

In contrast, Advance CTE (2017) discovered that parents and students who engaged in CTE had significantly more satisfaction with the quality of their education and the opportunities they had for college and career readiness. In a survey administered to parents and students, 55 percent of CTE parents and students reported being "very satisfied" with their overall school experience, compared to 27 percent of prospective parents and students (Advance CTE, 2017). CTE has made significant progress in the last decade. CTE programs taught students real-world knowledge and skills and increasingly provided opportunities for dual enrollment, industry-recognized credentials, and meaningful work-based learning experiences. However, despite the many benefits of CTE – including a graduation rate for CTE students of 93 percent, compared to a national average of 82 percent – there were still challenges, including limited awareness and outdated perceptions of CTE (Advance CTE, 2017).

Significance of the Study

According to Bordage (2009), a conceptual framework is a structure that illustrates and explains the relationships between concepts and ideas, used to organize ideas and thoughts and make them clear and understandable. A conceptual framework was used in qualitative research to illustrate the relationships between the studied qualitative variables. Narrative analysis was a method that centered the individual as the unit of scrutiny, preserved the voice of the individual through close analysis and presentation of narrative data, and investigated how individuals made meaning of life's challenges and opportunities. The method fully contextualizes lives in a manner that affords analysis of such critical aspects of the self as culture, identity, and history (Bordage,

2009). It was a method with a particular history and epistemology to answer specific research questions. As part of the growing recognition of the value and legitimacy of qualitative inquiry in psychology, narrative analysis is becoming increasingly articulated and refined (Bandura, 2006).

It is essential to note that narrative is a broad concept in psychology, encompassing the role of stories in personality, human development, and psychological experience. Sarbin (1986) suggested that narratives should be considered a root metaphor for psychology because human beings impose structure on the flow of experience by organizing accounts of actions into narratives. Bruner (2004) explained this idea by stating that we live our lives as stories. More recently, scholars in personality, social, and developmental psychology have used narratives to describe any form of data collection that uses stories, regardless of the analytic approach. This qualitative study employed narrative analysis to examine stories and narratives collected from a purposefully selected sample of secondary school counselors in two school districts, intending to identify themes and patterns. Through purposeful sampling, a technique widely used in qualitative research, participants were identified and selected based on their knowledge and experience with CTE by utilizing secondary research artifacts, interviews, focus group, and surveys formulated after all other data were collected to better understand the impact of perceptions on the value placed on CTE programs in secondary school settings. This study contributed to understanding how to improve negative perceptions by dispelling the stigma surrounding CTE and determining how those perceptions affect the value placed upon CTE programs in secondary schools. CTE was one path that helped students succeed. Unfortunately, many students are unaware of how CTE can advance their skills or prepare them for their chosen career.

Research Question

Several questions guided this qualitative study regarding the significance of perceptions in determining how CTE was valued. The research questions aligned with the study's purpose and significance through the influence of the theoretical and conceptual framework presented. Based on Bandura's (1986) social cognitive theory (SCT), people are active agents who both influence and are influenced by their environment through a process called reciprocal determinism, emphasizing the role of observational learning in shaping behavior. This theoretical framework coincided with research into the perceptions of CTE, providing a comprehensive understanding of how the school environment contributes to perceptions of the value and importance of CTE programs. SCT aligns with the idea that perceptions could be influenced both positively and negatively through the dynamic interaction between personal factors, environmental influences, and behavior (Bandura, 1986). The theoretical considerations led to examining how school counselors perceive CTE and how those perceptions impact the value placed on CTE at the secondary level.

Research Question: How do secondary school counselors' perceptions of CTE impact advisement practices?

Bandura (2006) stated that conceptions of human nature have undergone significant changes. Human nature was ordained by the original divine design. Evolutionism transformed the conception to one in which human nature was shaped by environmental pressures acting on random gene mutations and reproductive recombination. This non-teleological process was devoid of deliberate plans or purposes. SCT adopted an agentic perspective toward human development, adaptation, and change. Being an agent intentionally influences one's functioning and life circumstances. In this view, personal influence was part of the causal structure. People

were self-organizing, proactive, self-regulating, and self-reflecting. They were not simply onlookers of their behavior. They were contributors to their life circumstances, not just products of them. (Bandura, 2006)

Reciprocal determinism was a central concept of this theory. To illustrate the concept of reciprocal determinism, consider a student who believed they could succeed on an exam (self-efficacy) and was more likely to put forth the necessary effort to study (behavior) (Nickerson, 2023). In that same respect, a school district that placed little to no value on CTE programs would yield administrators and teachers who would also see no value and disregard the benefits of these programs, and vice versa for a district that placed a high value on CTE programs which would garner a different result based on observed learning.

Definitions of Terms

Advance CTE (ACTE)

Established in 1920, it is the longest-standing national non-profit that represents state CTE Directors and state leaders responsible for secondary, postsecondary, and adult Career Technical Education (CTE) across all 50 states, the District of Columbia, and U.S. territories.

Conceptual Framework

Miles & Huberman (1994) defined conceptual framework as a visual or written product, one that explains either graphically or in narrative form, the main things to be studied, the key factors, concepts, or variables, and the presumed relationships among them.

Grounded Theory

Grounded theory is a method of conducting qualitative research that focuses on creating conceptual frameworks or theories through building inductive analysis from the data (Charmaz, 2014, p. 187). Grounded theory methods consist of systematic yet flexible guidelines for

collecting and analyzing qualitative data to construct theories from the data themselves.

Grounded theory begins with inductive data, invokes iterative strategies of going back and forth between data and analysis, uses comparative methods, and keeps you interacting and involved with your data and emerging analysis (Charmaz, 2014).

Perceptions

The process by which sensory stimulation is translated into an organized experience. That experience, or precept, is the joint product of the stimulation of the process itself. (West et.al., 2025)

Perkins Act

The Strengthening Career and Technical Education for the 21st Century Act (Perkins V), enacted in 2018, authorizes federal funds to support career and technical education programs. One goal of the Perkins Act is to improve access for individuals who have been underserved in the past, including nine specific “special populations” such as individuals with disabilities, low-income youth and adults, English learners, homeless individuals, and youth who are in or have aged out of the foster care system (Carl D. Perkins Career and Technical Education Act, 2018; Advance CTE, 2024).

Researcher Positionality Statement

I have been a high school counselor for eighteen years, thirteen of which I spent in a secondary CTE center setting within the largest school district in Tennessee. I strive daily to convey the importance and significance of CTE programs for our students today. At my current CTE center, we have several CTE programs of study available to students from ninth to twelfth grade, including welding, cosmetology, barbering, coding, automotive maintenance and light

repair, teaching as a profession, nursing services, and residential and commercial construction. All programs lead to an industry credential or certification.

The stigma of the past hindered the progress and access of all students. I perceived that these programs were strictly for students who struggled academically and behaviorally or were from culturally diverse backgrounds. We seldom saw honor students enrolled in our programs, and many of the changes made to how we offered programs stemmed from this fact. Recruiting students became a chore because the honor students often showed interest but were denied access due to administrators, high school counselors, and core curriculum teachers persuading them that CTE programs were not for them. It is my goal to illuminate these perceptions and provide a clear understanding of the significance CTE represents for all students, regardless of their background or academic status.

Organization of the Study

This study is organized into five chapters: Chapter One, Introduction; Chapter Two, Review of the Literature; Chapter Three, Methodology; Chapter Four, Presentation of Findings; and Chapter Five, Conclusions, Implications, and Recommendations. Chapter One is the introduction to the study. Chapter Two provides a review of professional literature. Chapter Three presents the methodology employed in the study, along with a detailed breakdown of the research method. Chapter Four presents the study findings. Lastly, Chapter Five presents the conclusions, implications, and recommendations derived from the research data and results.

Summary

The value placed on CTE programs in secondary schools has evolved due to a shifting perception, from being viewed as a lesser option to being recognized as a valuable and respectable pathway that equips students with essential skills for a prosperous future. It is

essential to note that, although perceptions have evolved, remnants of the old stigma may still be attached to CTE programs in secondary schools. Changing perceptions took time, and efforts to fully integrate CTE into the educational landscape and highlight its benefits were ongoing. The way CTE programs were promoted, the success stories of current graduates, and the partnerships between educational institutions and industries contributed to shaping perceptions in a positive direction.

Chapter Two: Review of Literature

A solid foundation in existing knowledge is crucial for researchers and scholars to make advancements. A thorough knowledge of existing literature is crucial for substantial research. To understand the evolution of career and technical education (CTE) in the United States, one must examine its historical development. The need for career readiness skills is currently very high. Apprenticeships and articulation agreements provide essential skills for navigating change. Both secondary education and society acknowledge the rising importance of CTE. Vedder et al. (2013) maintained that inadequate high school and college graduation rates prompted reconsidering how to prepare young people for future employment. Focusing too much on college education can leave graduates unprepared for today's job market, resulting in high unemployment rates and underemployment. Bandura's social cognitive theory (SCT) provided the framework for this study, which examined how behavior, personal factors, and the environment interact with one another. The prevalent biases and misunderstandings surrounding Career and Technical Education (CTE) in high schools obscure its value in skill development and career preparation, leaving many unaware of its benefits.

Many American students enter the workforce immediately after high school, with one in three having no college degree (Ross & Bateman, 2018). A study by Ecton (2023) revealed that CTE played a substantial, though sometimes controversial, role within America's public schools. While supporters argue that CTE may increase student engagement and prepare students for success in the workforce, detractors caution that CTE may limit students' access to the rigorous academic coursework required for college and high-status careers. A firm foundation in core subjects (English, math, science, social studies, world languages, and the arts) is vital for all

students, even if they do not pursue advanced subjects like calculus (Conley, 2010). Research indicates that comparable academic preparedness is required for college and careers (Gaertner et al., 2014). Historically known as vocational education, debates over CTE stemmed from fundamental questions about public education goals, such as workforce preparation, academic rigor, and equitable opportunities for all students. CTE played a prominent role in high schools.

In 2019, the U.S. Department of Education estimated that approximately 77% of students take at least one CTE course during high school. However, course-taking remains an understudied area of research at the secondary level (Ecton, 2023). CTE programs provide students with practical skills and knowledge, preparing them for diverse career pathways that contribute to economic growth and individual success. CTE has proven beneficial in providing students with practical skills; however, its full potential remains untapped. As key educational professionals, counselors play a vital role in guiding students to these opportunities by raising awareness, providing resources, and offering personalized support. Their attitudes toward them significantly affected students' enrollment in CTE programs.

This chapter examined the current literature on counselors' opinions regarding CTE programs and how these opinions influence the perceived value of CTE in secondary education. Further, the chapter integrates these findings with social cognitive theory (SCT) and social cognitive career theory (SCCT) to provide a theoretical framework for understanding how counselor attitudes shape career development and course planning for students. Key constructs highlighted in this review, including self-efficacy, outcome expectations, and goal representations, identified gaps in current research.

The Historical Evolution of Career and Technical Education

Exploring its past and evolution is crucial to understanding CTE. Education sought to equip children with workforce-relevant skills and knowledge. CTE began in its modern form in the early 1900s. Gordon and Schultz (2020) documented the impact of Rousseau and Pestalozzi on Swiss career and technical education in the 1700s, highlighting its European influences. In Rousseau's opinion, education liberates individuals from societal constraints, promoting natural sensory learning. Pestalozzi highlighted the importance of thinking and doing in children's education, thus emphasizing hands-on learning. Pestalozzi and other educational reformers influenced the early manual training programs in 19th-century regular schools. Their stress on hands-on work, activity, and industry underscored the importance of vocational education, contributing to CTE's progress. CTE has undergone significant transformations over the past two centuries, from apprenticeship-based training to a comprehensive educational system integrating academic and technical skills.

Gordon and Schultz (2020) identified several influential figures in the early 20th century who contributed to the difficulty of introducing CTE to all American educational curricula. Washington, an author, educator, orator, and leader W. E. B. Du Bois, a sociologist, historian, civil rights activist, and author; David Snedden, an educational administrator; Charles Prosser, a lawyer; and John Dewey, a philosopher, were significant on this journey to CTE. Gordon and Schultz (2020) pointed out that supporters of early vocational education devised and implemented various curricula and instructional systems.

In the view of Snedden, Prosser, and Dewey, vocational education offered a path toward democratizing public education. Thus, they advocated for it. Snedden's advocacy was to improve societal efficiency through education; this involved teaching specific knowledge, attitudes, and skills to shape individuals to meet predetermined social standards. Prosser was a proponent of

incorporating CTE into academic education. Dewey felt CTE had the potential to make education more progressive. Gordon and Schultz (2020) believed that traditional liberal education inadequately prepared people for the scientific age. The history of CTE reflects economic, political, and societal changes, with legislative efforts shaping its role in workforce preparation. This section will examine the historical foundations of CTE, key legislative milestones, and its modernization to meet the demands of the 21st-century labor market.

Foundations of Vocational Education (1862-1916). The inception of vocational education in the U.S. was marked by the Morrill Act of 1862, which allocated federal land to establish colleges focusing on agriculture and the mechanical arts. This act laid the groundwork for integrating practical skills into higher education. Gordon and Schultz (2020) highlighted that this period emphasized the need to align education with the nation's industrial and agricultural needs.

CTE in the United States has its origins in the apprenticeship system, which was widely used in the 18th and 19th centuries to train individuals in skilled trades (Gordon & Schultz, 2020). There has been a resurgence of interest in apprenticeship programs, particularly in the manufacturing, technology, and healthcare industries. For example, the expansion of initiatives like the U.S. Department of Labor's Apprenticeship USA program has aimed to connect young people with skilled artisans and professionals, allowing them to gain hands-on experience and practical skills directly related to their future careers. Many organizations have developed collaborations with educational institutions to create youth apprenticeship models, providing students the opportunity to work alongside experienced mentors in real-world settings. This trend reflected a broader acknowledgment of the value of learning through practical experience, paralleling historical practices in which apprentices worked closely under skilled artisans to build

their expertise (Ravichandran, 2023). These apprenticeships were essential when formal educational institutions were scarce, and most occupations required direct skill transfer from experienced workers. The passage of the Smith-Hughes Act of 1917 marked the beginning of federal investment in secondary vocational education (Steffes, 2020).

Initially, the focus of vocational programs centered on agriculture, industrial careers, and homemaking as a means of defending the nation. Emphasis was placed on providing students with training-aligned skills necessary for factory jobs; however, over time, CTE programs adapted to meet the needs of business and industry (Boettcher, 2017). As a result, manual training schools emerged, integrating technical instruction with academic subjects. One of the earliest examples was the St. Louis Manual Training School, established in 1879, which combined mechanical education with science and mathematics to prepare students for industrial careers (Imperatore & Hyslop, 2017).

Advance CTE (2020) provided information on the development of the industrialized nation. They focused on the main areas of growth within the industry. They outlined industrial progression from water and steam-powered manufacturing to electrically powered mass production, followed by electronics and information technology that support automation. Industrialization has profoundly shaped the evolution of career and technical education in the United States. The transition from an agrarian economy to an industrialized society necessitated a workforce equipped with specialized skills to operate complex machinery and adapt to new manufacturing processes. This shift led to the formalization of vocational education programs designed to prepare individuals for specific trades and industries (Gordon & Schultz, 2020). The resurgence of industrialization, particularly through advancements in technology and automation, has further influenced CTE programs. The integration of Industry 4.0 technologies has created a

demand for workers who are proficient in both technical skills and digital literacy. Consequently, modern CTE programs have evolved to include training in areas such as robotics, information technology, and advanced manufacturing (Gordon & Schultz, 2020). Studies have highlighted the positive outcomes associated with participation in CTE programs. Olivera-Aguilar et al. (2022) found that high school students who concentrated on CTE courses reported higher income levels and job satisfaction eight years after graduation compared to their peers. This suggested that CTE programs effectively equip students with skills that are directly applicable to the labor market. Similarly, Stevens et al. (2015) analyzed data from California Community College and discovered that individuals who completed CTE certificates or degrees experienced earnings increases ranging from 14% to 45%, with the most significant gains observed in the healthcare sector. These findings support the economic benefits of CTE programs and their role in meeting the demands of an evolving industrial landscape. The ongoing impact of industrialization continued to shape the structure and content of CTE programs. By aligning educational curricula with the needs of modern industries, CTE serves as a vital conduit for preparing a skilled workforce that can thrive in a technologically advanced economy.

Institutionalization and Federal Support (1917-1963). The Smith-Hughes Act of 1917 was pivotal in vocational education. It provided federal funding to promote vocational education in agriculture, trades, and industry. This legislation established the Federal Board of Vocational Education, formalizing vocational training within the public education system. Gordon and Schultz (2020) discussed how this act led to the segregation of vocational education from the general curriculum, influencing its development for decades. Federal legislation significantly influenced the formalization of vocational education in the United States. The Smith-Hughes Act of 1917 was a landmark law that provided federal funding to support vocational education in

public schools, with a focus on agriculture, industrial trades, and home economics. This legislation established separate vocational education systems and created distinct pathways for students pursuing traditional academic routes (Gordon & Schultz, 2020). The Vocational Education Act of 1963 shifted the CTE policy by broadening its scope beyond traditional trades and increasing federal investment in career-oriented programs. This legislation responded to a changing labor market by expanding CTE offerings to include business, health, and technical occupations. Over time, additional amendments strengthened vocational education, making it more inclusive and adaptable to industry needs (Imperatore & Hyslop, 2017).

Expansion and Reforms (1963-2005). The Vocational Education Act of 1963 and its subsequent amendments, including the Carl D. Perkins Vocational and Technical Education Act of 1984, expanded federal support and introduced reforms to modernize vocational education. These acts aimed to improve program quality and accessibility. Gordon and Schultz (2020) noted that these reforms sought to integrate academic and vocational education, promoting a more holistic approach to student development. By the late 20th century, vocational education had transformed into career and technical education, reflecting a broader emphasis on integrating academic learning with workforce preparation. The Carl D. Perkins Career and Technical Education Act has undergone multiple reauthorizations. It has helped to shape modern CTE. The Perkins Act funded efforts to enhance the quality of CTE programs, support innovation, and ensure equitable access to career pathways (Gordon & Schultz, 2020). Modern CTE programming offers specialized training in high-demand fields, including healthcare, information technology, and advanced manufacturing. These programs incorporated industry-recognized credentials, work-based learning opportunities, and industry partnerships to align students' skills with the needs of the workforce (Suffren & Mezera, 2018).

The evolution of CTE in the United States reflects broader economic, technological, and societal changes. From its roots in apprenticeships to its current role in workforce development, CTE has continuously adapted to meet the labor market's needs. As industries evolve, CTE will equip students with the skills and credentials necessary for success in the 21st-century workforce. The continuous evolution of workplace technology had consistently driven a demand for operationally capable employees. In 1963, President Lyndon Johnson signed the Vocational Act, the most comprehensive CTE legislation ever enacted. Initially, a different bill, the Perkins Act legislation, focused on providing CTE training for individuals facing academic or socioeconomic disadvantages (Gordon & Schultz, 2020). The Carl D. Perkins Career and Technical Education Act was initially designed to promote equity in access to vocational training, aiming to close opportunity gaps for marginalized students, including those from low-income families, students with disabilities, and English language learners. According to Dougherty et al. (2018), students with disabilities who participate in CTE programs aligned with the Perkins framework demonstrate improved academic performance, increased engagement, and stronger postsecondary outcomes. Research suggested that CTE participation helped mitigate the disadvantages faced by low-income students by providing access to industry-aligned credentials and work-based learning opportunities, thereby narrowing college and career readiness gaps (Kreisman & Stange, 2020).

Contemporary Developments and Challenges (2006-Present). The reauthorization of the Perkins Act in 2006 and later the Perkins V Act in 2018 marked a shift towards Career and Technical Education (CTE), emphasizing college and career readiness. Recent studies affirmed that the reauthorizations of the Perkins Act, such as the Strengthening Career and Technical Education for the 21st Century Act (Perkins V) of 2018, continued to emphasize equity, local

needs assessment, and program alignment with labor market demands (Advance CTE, 2020). These legislations introduced accountability measures and encouraged the development of programs of study that align with secondary and postsecondary education. Gordon and Schultz (2020) emphasized the importance of adapting CTE programs to meet the demands of a rapidly changing workforce. Despite significant advancements, CTE faces challenges, including overcoming historical stigmas, ensuring equitable access for underrepresented students, and keeping pace with technological advancements. The increasing demand for specialized skills in the workforce has historically led to a limited recognition of the value of CTE compared to traditional academic pathways.

As Haviland and Robbins (2021) noted, despite the critical role CTE plays in preparing students for the growing job market, its full potential is undervalued. However, "these programs incorporated industry-recognized certifications, hands-on experiences, and partnerships with local businesses to ensure that students were equipped with the skills necessary to succeed in a rapidly changing job market (Imperatore & Hyslop, 2017)." The future of CTE involves expanding access to diverse student populations, integrating emerging technologies, such as artificial intelligence and automation, into curricula, and enhancing collaboration between educational institutions and industry stakeholders (Gordon & Schultz, 2020). A growing emphasis on soft skills, including communication, problem-solving, and teamwork, was critical to preparing students for a dynamic labor market (Polakova et al., 2023).

The emergence of new jobs in this novel workforce category, driven by technological advancements during the Industrial Revolution, led to a need for new educational options. The Industrial Revolution gave rise to production line positions, which required sophisticated technological knowledge. Increased accidents, poor working conditions, production-related

layoffs, silencing employee protests, and financial strain on families lacking a primary income provider were all consequences of technological advancements. Industrial and political leaders' failure to recognize and react to shifting worker conditions is primarily to blame for these situations (Gordon & Schultz, 2020). Various curriculum and instructional systems were planned, developed, and implemented from early apprenticeship programs to the present day. Education for all was foremost in the early arguments for establishing vocational education at the dawn of the 20th century. At the turn of the century, the public secondary schools served fewer than 15 percent of the school-age population, and vocational education should provide programs for those not served by the public education system. The liberal education of the early 1900s, especially at the secondary level, was neither liberal nor liberating for the masses, who did not attend school beyond the sixth grade (Gordon & Schultz, 2020).

Understanding the historical evolution of career and technical education provided critical context for examining its broader purpose within society. As CTE programs have adapted to meet the shifting demands of industry and policy, their role in shaping educational and socioeconomic outcomes has become increasingly prominent. This evolution has prompted a closer examination of how education serves not only as a means of knowledge transmission but also as a powerful tool for workforce development, social mobility, and civic engagement. The following sections explored the multifaceted role of education, particularly CTE, in addressing societal needs and preparing individuals for meaningful contributions to a dynamic global economy.

The CTE Debate: Booker T. Washington and W. E. B. Du Bois

In African American history, W. E. B. Du Bois and Booker T. Washington played crucial roles in education and vocational training. Clashing ideas affected the evolution of

African American education from the late 1800s to the 1900s. The philosophical distinction between vocational and academic education comes from them. Washington supported vocational skills as a means of success for African Americans. Du Bois stated that improved cognitive abilities were crucial for African Americans seeking managerial and executive success. Unfortunately, the disparity between these arguments continues (Gordon & Shultz, 2020). The Booker T. Washington-W. E. B. Du Bois's debate centered on their contrasting approaches to Black education and social advancement. Washington advocated for industrial education and vocational training for African Americans, emphasizing practical skills that fostered economic independence. This method, he felt, would improve social integration by stimulating the economy.

Today's CTE still reflects the views of Washington and Du Bois. The core mission of CTE, is to provide students with specialized career skills, aligned with Washington's prioritization of vocational training. Its fulfillment of labor market demands and generation of employment opportunities indicate the strategy's effectiveness. However, Du Bois believed that better CTE programs must focus on critical thinking skills, leadership training, and a solid academic foundation. Washington advocated for vocational training for African Americans to achieve economic self-sufficiency, while Du Bois emphasized the importance of a liberal arts education to develop leadership and intellectual capacities. This dichotomy has shaped educational policies and perceptions, particularly within the Black community (Gordon & Schultz, 2020). For instance, the Black community has dealt with the economic impact of segregation for years. This force has led to a lack of generational wealth and a significant economic divide between Black Americans and other ethnic groups. Although extensive research

highlighted a high demand for skilled workers, systemic barriers and limited access to resources hinder Black American students from fully taking advantage of these opportunities.

This lack of participation in CTE can be attributed to the differing perspectives of Washington and Du Bois. Several studies on economic mobility and skill gaps revealed the need to expose Black Americans to careers that create generational wealth. For example, 25% of African American students who graduated from secondary schools did not meet the college admission requirements and had to be equipped with employability skills for the labor market (Williams, 2021). The core mission of CTE is to provide students with specialized career skills, consistent with Washington's prioritization of vocational training. This strategy addresses labor market demands and creates employment opportunities. However, Du Bois believed that better CTE programs must focus on critical thinking skills, leadership training, and a solid academic foundation (Gordon & Schultz, 2020).

Many contemporary CTE programs focus on building students' technical skills and critical leadership thinking for specific jobs. For instance, professions in healthcare, business, and technology offer specialized training and pathways that lead to higher education, self-improvement, and professional growth. Stronger integration of math, science, literacy, and technology better equips students for higher education and leadership, which aligns with Du Bois' philosophy. Washington's focus on practical skills and self-sufficiency contrasts with the theoretical aspects of a liberal arts education. Current CTE students gain job skills, higher education opportunities, personal development, and community engagement support. By integrating these elements, CTE remains relevant in a competitive job market that requires technical skills and intellectual curiosity (Haviland & Robbins, 2021).

Despite their methodological differences, both Washington and Du Bois furthered modern CTE. Washington's focus on vocational training underpins CTE's practical side, contrasting with Du Bois's liberal arts and leadership advocacy, which informs CTE's academic and personal growth. Offering students job-relevant technical skills and leadership preparation combines these two philosophies in today's CTE system. This debate parallels modern-day discussions about the value of CTE versus traditional college pathways. While college degrees remain highly valued, there is growing recognition that CTE programs offer substantial economic mobility, particularly for underrepresented populations (Adams, 2015; Whithun, 2022). Scholars argue that a balanced approach integrating vocational and academic training aligns with contemporary workforce needs (Rosenbaum et al., 2015).

The Role of Career and Technical Education

Education has long been regarded as a cornerstone of social and economic development. Theorists such as John Dewey emphasized that education is not merely about acquiring facts but cultivating individuals capable of contributing meaningfully to a democratic society (Gordon & Schultz, 2020). Paulo Freire (2018) expanded on this by framing education as a liberatory practice. In modern workforce development theory, Carnevale and Smith (2018) argued that the future of economic growth depends on aligning education systems with labor market demands. Symonds et al. (2011) reinforced this view, emphasizing the need to prepare students through programs that combine rigorous academic and real-world experiences.

Questions about the role of career and technical education arise due to the increasing economic importance of college. The United States educational system faces consistent criticism for its "college for all" mindset, which critics argue does not create workable outcomes for all students. The current overemphasis on the "college" aspect of college career and military

readiness (CCMR) standards creates a limited view for students, implying that their success or lack thereof in college defines them (DeSabato, 2022). Federal funding for vocational education, as defined in the 1990 law and rooted in the 1917 Smith-Hughes Act (the first federal funding of its kind), focused on preparing individuals for careers that do not require a bachelor's degree or higher (Steffes, 2020).

A study by Gordon and Schultz (2020) revealed that only 3.3% of adults held a bachelor's degree or higher. Adult employment grew throughout the 21st century. However, the limited definition of "vocational education" remains. Despite the official explanation, CTE has significantly transformed. Even after securing employment, Gentry et al. (2007) suggested that ongoing self-education is essential for navigating the global job market. Quality education, allowing students to explore interests and careers within the regular curriculum, should be the goal of all programs. An approach to achieving this is combining CTE with academic education.

Education reform during the early 1990s actively strived to enhance student involvement in career and technical education to secure their readiness for educational and economic achievement (Stone & Aliaga, 2005). Rahdiyanta et al. (2019) showed that the reform focused on improving students' work and academic skills based on the positive link between work-based learning and academic success. Stone and Aliaga (2005) revealed a decline in CTE concentrators between 1982 and 1998 in an analysis of the 1988 National Educational Longitudinal Study. Increased CTE course enrollment meant less time for students to take specialized CTE courses. The primary goal of the Carl D. Perkins Vocational and Technical Education Act continues to be improving academic performance and preparing young people for college and careers (Haviland & Robbins, 2021).

Integrating robust academic and professional skills within Career and Technical Education (CTE) programs provides students with optimal preparation for further education and future employment (Aliaga et al., 2014). After high school, CTE concentrators successfully pursue a range of post-graduation options, including immediate employment, further education, or both simultaneously. Recent research and national surveys have also found that students participating in these combined CTE, and academic pathways tend to demonstrate higher math, reading, and science proficiency compared to peers who do not experience such integration (Castellano et al., 2017). Stone (2014) concluded that CTE programs are key to the nation's future economic success, providing career pathways that enable students to achieve their career goals through more calculated work and life preparation approaches.

Finlayson (2009) examined the perceptions of middle and high school counselors and their influence on students' career and educational planning. The study highlighted that students who perceive a direct connection between their schooling and future careers tend to have more defined postsecondary goals. This reinforces the importance of integrating CTE into school counseling programs to enhance students' career readiness and planning. This concept is key to the "New American High School," as defined by the U.S. Department of Education (Finlayson, 2009). Policy reforms at all governmental levels aim to counter the belief that career and technical education results in low academic achievement. According to Webb (2021), recommendations from the Association of Career and Technical Education (ACTE) and ongoing developments in CTE have prompted many high schools to rethink their educational approaches in order to better prepare students for diverse postsecondary pathways, successful careers, and active community participation. This evolving focus has influenced changes in school culture, teaching strategies, and organizational priorities to help meet the needs of 21st-century students.

Tennessee Redefines CTE

Tennessee high schools needed to develop rigorous and relevant CTE programs to prepare students for their careers and fulfill accountability requirements based on test scores and graduation rates. Daggett (2003) qualified CTE's purpose as providing a foundation of skills that enable high school students to become gainfully employed after graduation, either full time or while continuing their education or training. Career and technical education has undergone significant transformation over the past two decades, driven by policy reforms, technological advancements, and shifting workforce demands. Perkins V marked a significant turning point. This modern iteration reflected a departure from the historical view of vocational education as a secondary track. Dougherty (2016) found that students enrolled in CTE programs that combine academic and technical coursework experience higher graduation rates and improved labor market outcomes. Castellano et al. (2017) found positive outcomes in college enrollment and persistence. The state of Tennessee's CTE reforms reflected a growing commitment to rebranding and enhancing Career and Technical Education (CTE).

As previously discussed, CTE's history demonstrates how vocational education evolved from segregated manual training to a rigorous, career-focused educational path. Tennessee's modernized CTE system reflects national trends of integrating academic and technical education. The state's reforms align with the Perkins Act and SCCT framework, focusing on equity, workforce alignment, and data-driven outcomes. Thornburg (2016) found that 67% of CTE graduates continued their education, contradicting the idea that vocational training is only for lower-income students who do not plan to attend college. Tennessee also demonstrated this progress through programs like Tennessee Promise and LEAP, which increased college enrollment, supported industry credentials, and linked education to in-demand jobs. Modern CTE

programs, particularly in Tennessee, have demonstrated improved career outcomes in recent studies, especially when combined with strong guidance. According to Blustein et al. (2019), integrating career and technical education (CTE) into labor markets is crucial for addressing workforce shortages and promoting equity. Thornburg (2016) highlighted that robust CTE programs equip students for lucrative careers, countering the misconception that vocational training is associated with lower socioeconomic status. Tennessee's use of 16 nationally recognized career clusters and early career exploration models exemplifies this approach, promoting equitable access and higher graduation and workforce entry rates across diverse populations.

The sixteen overarching career cluster categories, as defined by Tennessee's Department of Education (TDOE) College, Career, and Technical Education (CCTE) Division (2024), encompassed nearly every occupation, from beginner to expert, and aligned with the U.S. Department of Education's Career and Technical Education (CTE) structure. Policy initiatives reflect a shift toward valuing CTE. The Strengthening Career and Technical Education for the 21st Century Act (Perkins V) aims to expand CTE access and improve program quality, emphasizing the need for counselors to be well-informed about diverse career pathways (TDOE, 2020). Career clusters comprised educational pathways that aligned with career objectives, including participation in career and technical student organizations (CTSOs), earning industry credentials, and engaging in work-based learning opportunities.

Tennessee has implemented several initiatives to redefine CTE to better align with the developing workforce demand and enhance student outcomes. The adequate preparation of students for high-wage, in-demand jobs and the establishment of robust education-to-employment pathways by Tennessee's Career and Technical Education (CTE) initiatives have

earned national recognition. As the job market continues to develop, counselors' ability to provide unbiased and well-rounded guidance will be essential for student success (ASCA, 2019). A study examined CTE graduation rates in eight school districts in upper East Tennessee for the 2007-2008 and 2008-2009 academic school years found that CTE concentrators graduated at rates comparable to or higher than the overall student population, suggesting that participation in CTE programs may positively influence student retention and completion (Loveless, 2011).

Introducing the Tennessee Promise program, which offered tuition-free community and technical college education, notably increased postsecondary CTE enrollment. The research utilized federal data to demonstrate a causal effect of Tennessee Promise on increasing enrollment in postsecondary Career and Technical Education (CTE) programs (Carruthers, 2019). Despite these successes, challenges remain particularly concerning the CTE teacher workforce. Many high schools, including those in Tennessee, have faced difficulties in staffing qualified CTE instructors, which has affected the quality and availability of CTE programs (Kistler & Dougherty, 2024).

Faced with the challenges of high school dropout rates, inadequate communication, insufficient math and science skills, high postsecondary remediation rates, and significant achievement gaps by race among our young adults in the United States, we must grasp the concept of ensuring that our students have access to quality Career and Technical Education (CTE) programs. ACTE (2010) stated that far too many students earn high school diplomas without possessing the knowledge and skills necessary to succeed in postsecondary education and the workforce.

Given the realities of the twenty-first-century global economy and the continuing demand for increased knowledge and skills in the workforce, ACTE (2010) found that the traditional

model of high school education in the United States, which has been in place for over fifty years, is now obsolete. To address these issues, Tennessee's State Plan for Strengthening Career and Technical Education for the 21st Century Act (2020-2024) outlined strategies to enhance CTE, including aligning programs with labor market needs, improving program quality, and expanding student access (TDOE, 2020). Educators designed past CTE programs for students showing strong aptitudes in technology, repair, and skilled trades. A growing focus on the importance of postsecondary career and technical education has developed. The Perkins Vocational and Technical Act of 1998 stated that career-oriented programs are required to supplement and support academic skills. Building positive relationships with students and enhancing academic content improves CTE. A global economy where economic competitiveness was linked to workforce readiness and technology influences the nature of skills necessary for successful and high-performance in organizations, affecting career and technical education (Coleman, 2018). Hirschy et al. (2011) stated that state and federal governments focused on student retention and completion of higher education in all forms to increase the workforce's skills to meet the challenges of a better global economy.

Increasing Postsecondary CTE Capacity in Tennessee. The Tennessee Department of Education (TDOE) (2020) proposed a more comprehensive capacity expansion plan for the state of Tennessee. Tennessee provided a detailed example of how community and technical colleges can enhance their postsecondary Career and Technical Education (CTE) programs. TDOE (2020) found that many participants successfully implemented updated Career and Technical Education (CTE) programs. Some design elements in the LEAP and GIVE programs helped lead to their success. The state government has clearly defined the goals of these programs. Policymakers, frequently touting the life-improving benefits of U.S. education initiatives for low-income and

marginalized communities, often highlighted them. The 1944 GI Bill revolutionized U.S. postsecondary education, leading policymakers to frame their subsequent initiatives as similarly transformative reforms. Policymakers and the public they serve widely consider postsecondary education a socioeconomic ladder (Collom, 2021).

Having started as small, community-based free college scholarships, promise programs to have become a key part of state and federal policymakers' progressive postsecondary education reform agenda. According to scholars and politicians, U.S. postsecondary education policy faces a critical turning point. Higher college tuition resulted from substantial cuts to state and federal appropriations starting in the early 1990s. Even though student loans will probably continue to play a central role in higher education (Perna, 2015), the focus on promise programs and tuition elimination has shifted from a secondary to a primary policy driver in the United States (Li et al., 2025; Monaghan et al., 2024). Simultaneously, policymakers and education advocates advocate for higher rates of postsecondary degrees and credentials in the U.S. The U.S. is witnessing a rise in support for programs focused on postsecondary career and technical education, as well as increased credential attainment among adults and students with some college education but no degree (Advance CTE, 2025). The economic repercussions of not completing postsecondary education can be significant and long-lasting. On average, a four-year degree holder earns about \$17,680 more annually than someone with only a high school diploma. A substantial part of the wage gap might be closed by promoting the acquisition of post-secondary certificates and two-year degrees among students. According to another study, increased earnings associated with two-year degrees were reported; however, these benefits were restricted to individuals holding degrees or vocational certificates in healthcare or STEM fields (Pew Research Center, 2014).

Academic Integration in CTE

According to Finlayson (2009), today's CTE programs are academically demanding and directly applicable to careers. CTE strengthened academics by providing real-world applications and context to educators through various assessment methods, such as in-school projects, work experiences, portfolios, and exhibits. A successful school or program utilizes modern technology, offers rigorous academics, provides the knowledge and skills necessary for careers, and provides sound career planning. In contrast, schools and programs are often isolated from the workplace for which they are intended to prepare students, frequently have a high percentage of students from disadvantaged populations, and an inadequate staff and equipment budget, especially for special populations, which can lead to unsuccessful outcomes.

Finlayson (2009) argued for an evaluation system to measure CTE accountability. This evaluation assessed whether schools offer relevant and successful job training programs that align with existing employment opportunities. It argued that preparing students for work was one of the most critical issues in public education from 2000 to 2020. Researchers found that courses taken in high school play a critical role in students' transition to post-secondary education. According to the study, career and technical concentrators had the lowest mathematics level of all groups.

As Finlayson (2009) noted, high schools have traditionally focused on either preparing students for entry-level jobs or post-secondary education. As high school graduation requirements have increased and students' training levels have evolved, graduates are entering the workforce with a broader range of skills. Integrating academic courses, such as mathematics, science, reading, and writing, with career-focused courses will facilitate the transition to postsecondary education. The study argued that updated career and technical programs give students more options post-graduation by preparing them for both college and careers. Students

can attend a two- or four-year college before entering the workforce, work full-time before attending college, or pursue higher education while employed. A rigorous combination of academic CTE courses is required for students to achieve dual concentration (Finlayson, 2009).

This academic plan aims to increase enrollment in mathematics and science courses among career and technical education students, which may result in reduced time spent on CTE and other electives. Realizing this goal requires that high schools undergo reform to equip all students for postsecondary education and successful entry into the workforce. The study revealed that program completers, achieving an equivalent to a college education, experienced higher earnings than their non-completing counterparts. Analysis revealed that the performance standards successfully integrated academic and technical coursework, demonstrating no statistically significant difference in contextualized learning between students with dual and single concentrations. Notwithstanding heightened academic demands, recent data indicate that student credit accumulation has increased without corresponding reductions in CTE coursework. According to the National Center for Educational Statistics (NCES, 2022), high school graduates continue to enroll in Career and Technical Education (CTE) courses alongside their academic studies. This trend aligns with findings by Haviland & Robbins (2021), who observed that CTE participation remains robust even as students pursue more rigorous academic pathways.

From 1982 to 1998, enrollment in career and technical education courses declined more slowly than enrollment in academic courses. In response to Finlayson's (2009) findings presented at the 2005 Tennessee Education forum, the SREB outlined five objectives to enhance student pathways from high school to higher education or careers. Reducing the need for remedial coursework in college is vital, as 40% of Tennessee's first-time freshmen required it in Fall 2005. Another result is rising enrollment. The lottery scholarship program is one initiative that has

leveled the playing field in college access for students. Tennessee students gained career insights by completing challenging courses within their chosen academic or professional area. High schools addressed this by developing career-oriented programs that prepared students for well-compensated, sought-after positions. In short, the changes to the high school curriculum increased the number of students prepared for jobs or college. Finlayson's study (2009) showed that, despite increased academic demands leaving less time for career-technical courses, many students earned more overall credits instead of reducing their coursework. Compared to the rise in academic courses, the drop in career technical course enrollment between 1982 and 1998 was minor.

Although high schools aim to prepare students for college and careers, a YouScience survey found that 75% of graduates felt unprepared to choose a path after graduation. A noteworthy finding by Klein and Sosu (2024) showed that 57% of respondents had five or fewer conversations with teachers or counselors regarding their post-secondary plans. To be effective within high school reform, CTE programs must show accountability in raising academic achievement, graduation rates, and postsecondary educational attainment (Finlayson, 2009). Malkus (2019) reported postsecondary course enrollment to be 77% among high school students. Within the cohort, 82% had prior work experience, 59% remained employed, and 3% had enlisted in the armed forces. A subsequent study conducted by Finlayson (2009) indicated that intentions to pursue postsecondary education were reported by 87% of academic concentrators, 79% of dual concentrators, and 56% of CTE concentrators. In his 2019 commentary, Malkus analyzed data from the High School Longitudinal Study of 2009 (HSLs;09), a nationally representative survey conducted by the NCES, which followed over 23,000 ninth-grade students through high school and into their postsecondary and career transitions. This analysis revealed

that 60% of graduates felt their education should have included a stronger mathematics curriculum, more comprehensive information regarding postsecondary education, an increased emphasis on technical programs, mandatory development of verbal communication skills, and increased class reading requirements. The report recommended enhancing student and parental awareness of educational and career pathways, strengthening career and technical education programs, and improving mathematics instruction. These findings reflect the growing dissatisfaction among students with the alignment between high school preparation and real-world demands. Supporting this, Bozick and DeLuca (2010) empirically demonstrated that institutional factors, such as the availability of career guidance and academic rigor, significantly influence students' college and career decision-making, reinforcing the critical role schools play in shaping equitable postsecondary outcomes. Falco and Steen's (2018) study examined the integration of career and technical education and academic instruction within the high school setting, addressing a long-standing divide between vocational preparation and college-readiness curricula. Their findings highlighted the potential for a more holistic educational experience when academic rigor and career-focused instruction are delivered concurrently. Specifically, the study emphasized that students exposed to integrated instructional models were not forced to choose between preparing for the workforce or pursuing higher education. Instead, they were equipped with both practical job skills and foundational academic competencies, enabling them to pursue a variety of attractive post-secondary pathways, including immediate employment, apprenticeships, technical certification programs, and traditional college degrees. This dual focus approach contributed to dismantling the false dichotomy between college and career preparation and aligned with education reform efforts that sought to personalize learning, address skills gaps in the labor market, and increase postsecondary attainment rates (Falco & Steen, 2018).

Thematic Changes in CTE

Over the past decade, career and technical education have undergone a substantial transformation as educational systems respond to the demands of a rapidly developing labor market and increased expectations for college and career readiness (Dougherty, 2016; Park et al., 2017). Historically viewed as a separate track for non-college-bound students, Career and Technical Education (CTE) is now being reimagined as a rigorous and relevant component of the broader secondary curriculum, supporting students across various academic levels and career aspirations (Castellano et al., 2017). Empirical studies have emphasized the need for integrative models that blend academic instruction with technical skills to improve student engagement, achievement, and long-term outcomes (Blowe & Price, 2012; Gordon & Schultz, 2020). These thematic shifts reflected a growing recognition that CTE serves as a vehicle for workforce preparation and a critical strategy for promoting educational equity and post-secondary opportunity. This will explore emerging themes in CTE literature, including early career planning, curriculum modernization, integration with core academics, and strategies to overcome persistent stigmas associated with technical education.

Finlayson's (2009) research on CTE incorporated extensive investigation, through participation in state and national conferences, interviews with industry and business leaders, and teacher surveys. Four themes emerged that informed his conclusion that comprehensive CTE restructuring is urgent and necessary. One of the most prominent themes emphasized the importance of integrating career planning early in a student's academic curriculum, beginning in pre-K and continuing through secondary education to encompass career awareness, exploration, and preparation. This recommendation is reinforced by more recent studies, such as Solberg et al. (2014), which found that early and developmentally appropriate career interventions

significantly improved students' career readiness and future planning. Similarly, research from the National Center for Education Statistics (NCES, 2022) supported embedding career exploration in the early grades, linking it to increased student motivation and long-term academic achievement (Irwin et al., 2022).

Another essential component of high school reform, as Finlayson argued, is the inclusion of comprehensive Career and Technical Education (CTE) programs that serve as foundational pillars of secondary education. This assertion was empirically supported by Dougherty (2016), who demonstrated that students who completed CTE pathways were more likely to graduate on time, enroll in postsecondary education, and secure higher wage employment. In addition, Castellano et al. (2017) provided compelling evidence that students engaged in high-quality CTE programs demonstrated improved academic performance in core subjects, such as math and science. These findings highlighted the synergy between academic rigor and technical instruction, affirming Finlayson's assertion of the strong correlation between academic education and the curriculum and instruction within CTE programs. The body of recent evidence supports the call for the systemic integration of career and technical education as a central component of educational reform, beginning with early career education and culminating in robust high school CTE pathways.

Advance CTE (2018) third identified theme was the imperative to modernize CTE. The fourth theme emphasizes that high schools need to improve their programs to be more rigorous and demanding, which requires students to show higher proficiency in reading and mathematics. This theme outlined that graduates should be equipped for the labor market and further education. Economic forecasts suggest that nearly everyone will require formal postsecondary education, adult education, or corporate training to manage successful transitions in the workplace (Advance

CTE, 2011). To succeed, students must gain practical learning skills. Many parents expect their children to pursue higher education and rely on public schools to provide academic preparation and career education that prepares them for modern employment (Finlayson, 2009).

Since the era when students could easily transition into careers such as hairstyling, auto repair, and carpentry, significant advances have improved Career and Technical Education (CTE). However, requiring every student to enroll in CTE courses is not an easy sell. Butrymowicz et al. (2020) reported that parents observed that mandating vocational coursework for knowledgeable and academically advanced students may negatively affect their chances of acceptance into undergraduate and graduate programs. Even after over ten years of striving, the reputation of technical education remains unfavorable (Butrymowicz et al., 2020). Despite the rapid expansion of college preparatory graduation requirements, significant resistance to technical education persists among parents from both high- and low-socioeconomic backgrounds, stemming from a belief that it is not conducive to higher education. Fitzgerald's (2018) research demonstrated that providing more information about real-world learning opportunities, such as internships and hands-on projects, as well as the college and career pathways offered through CTE (including dual enrollment, internships, mentorships, and networking), reduces parental and student resistance.

Benefits of CTE

CTE has been a significant element of the educational system, as it represents a chief contributing factor to the nation's workforce. CTE programs offer students the opportunity to earn industry-based credentials (IBCs), receive dual enrollment college credit, and participate in experiential, work-based learning, which is recognized as on-the-job training. Students in relevant public high school CTE programs could gain industry certifications, including those

from Microsoft, Adobe, CompTIA, OSHA 10, ServSafe, NCCER, and CIW. Such certifications offer students a potential shortcut, saving them the time and money associated with a traditional four-year degree (Dadgar & Trimble, 2015).

An IBC or associate degree significantly increases your chances of better employment and higher pay. Students with high IBC scores are more prepared to enter the workforce. Gray (2004) reported that participants in the CTE program achieved improved academic skills relative to a control group. High school students in CTE programs achieved a 93% graduation rate, significantly higher than the national average of 80% (ACTE, 2020).

Pennsylvania awarded 42,515 associate degrees and certificates in 2017, representing 23% of the state's total, according to ACTE (2020). Finlayson (2009) reported that data from the U.S. Department of Education's Office of Career, Technical, and Adult Education (OCTAE) indicated that 99% of secondary career and technical education (CTE) concentrators graduated.

Despite infrequent encouragement, Gentry et al. (2007) reported positive outcomes for gifted students taking part in CTE programs. Blowe and Price's 2012 study examined the relationship between academic achievement and Virginia's high school graduation rates. Blowe and Price's 2012 study revealed positive CTE outcomes. The data indicate that a larger proportion of students who completed CTE programs met the 11th-grade English reading SOL standards than those who did not participate in CTE programs. Students who finished CTE programs graduated at rates 6 to 13 percentage points higher than those who did not.

According to Imperatore and Hyslop (2017), effective CTE programs counter the negative image of older vocational training models. Coleman (2018) indicates a growing trend of CTE preparation for higher education. The CTE program provides high school students with practical experience in their chosen fields, laying a solid foundation for future academic pursuits.

A 2017 Advance CTE flyer, based on research funded by the National Research Center for Career and Technical Education (NRCCTE) and conducted by Aliaga et al. (2014), addressed the myth that only disadvantaged students benefit from Career and Technical Education (CTE). Against expectations, a surprising 33% of the highest and 44% of the second-highest socioeconomic quartiles took at least three CTE credits.

Klein and Sosu (2024) linked CTE with increased school attendance, engagement, and improved academic skills. Research on career academies suggests that participation in career and technical education programs often improves employment prospects. Kemple and Willner (2008) found that enhanced high school career experiences positively correlate with improved post-secondary employment prospects, particularly for young men, without compromising academic achievement.

The Economic Impact of CTE

CTE is vital in today's education, giving students the skills and knowledge needed for workforce success. CTE programs offer students a non-traditional academic path, providing diverse options ranging from technical fields (such as healthcare, manufacturing, and information technology (IT)) to business and culinary arts. The economic impact of CTE is substantial, influencing not only individual earning potential but also broader economic growth and workforce development. One of the primary economic benefits of CTE is its role in enhancing workforce readiness. Unlike traditional education, which often focuses on theoretical knowledge, CTE programs provide hands-on experience and skills that directly apply to the job market. Emphasis on practical skills leads to more prepared graduates, thus reducing employers' training costs and time (Dougherty, 2016). Employers benefit from a pipeline of skilled workers who can contribute to productivity from day one, enhancing businesses' overall efficiency and

competitiveness. CTE helps to address the skills gap that exists in many industries. The skills gap, defined as the difference between the skills an employer needs and the skills available in the workforce, has been a persistent issue in the U.S. economy. The Advance CTE (2022) report revealed that industries like advanced manufacturing, healthcare, and IT face worker shortages due to insufficiently aligned education and industry requirements.

CTE bridges the gap between education and industry needs, resulting in lower unemployment and economic growth by aligning programs with industry demands. CTE also has a direct impact on individual earning potential. Often, students who complete CTE programs secure higher-paying jobs than those who only complete a traditional high school education. The high demand for specialized skills in technical fields makes this clear. Certifications and credentials included in many CTE programs enhance graduates' employability and increase their earning potential. This rise in earnings improves individual well-being while simultaneously stimulating consumer spending and economic expansion (Haviland & Robbins, 2021).

Promoting Equity in CTE

Thornburg (2016) demonstrated that discussions of educational equity in CTE created a contrast: promoting economic opportunity through job opportunities while simultaneously reinforcing educational stratification. To address the barriers to equity in career and technical education, it is essential to implement strategies that promote inclusivity and ensure all students can succeed. These strategies include increasing access to high-quality CTE programs, addressing systemic biases, providing targeted support for underserved populations, and fostering partnerships with industry and community organizations. Expanding dual enrollment opportunities, where students can earn both high school and college credits through CTE courses, can help bridge the gap between secondary and postsecondary education, giving

students a head start on their careers (Coleman, 2018). Fostering partnerships with industry and community organizations can help promote equity in CTE by providing students with access to internships, apprenticeships, and job shadowing opportunities, which are crucial for gaining hands-on experience and building professional networks. By aligning CTE programs with current workforce needs, industry partners can increase students' employability and earning potential (Hyslop, 2009).

Equity access to career and technical education is a vital issue that requires ongoing attention and action. By addressing the barriers that prevent underserved populations from fully participating in and benefiting from CTE, we can create a more inclusive and equitable education system that supports the success of all students. As the economy continues to strengthen, the importance of fair access to career and technical education will only grow, making it essential for policymakers, educators, and industry leaders to collaborate to ensure that all students succeed in their chosen careers (Estes & McCain, 2019).

Ensuring Fair Access and Equity in CTE Programs. Ensuring equitable access to CTE programs remains a central concern, as research consistently shows disparities in participation and outcomes based on gender, race, social locale, and disability status (Carruthers et al., 2021; Advance CTE, 2019). Factors such as transportation, scheduling, staff training, and state/local policies can create or perpetuate inequities (Francis et al., 2019; Robson et al., 2021). For example, students in rural and under-resourced schools often have limited access to advanced Career and Technical Education (CTE) pathways or industry-aligned equipment. To address these gaps, studies advocate for a multifaceted approach, including the provision of wraparound services, professional development for CTE staff, and the utilization of federal and local data to monitor and close equity gaps (Advance CTE, 2023). The CTE Research Network's Equity

Framework further recommended forming equity committees, centering the voices of marginalized students, and embedding equity goals into program improvement cycles (Advanced CTE, 2019). These strategies have been demonstrated to enhance participation and improve success rates among historically underrepresented populations.

Overcoming Traditional Bias in CTE. Despite significant reforms, traditional biases persist in career and technical education, often steering underrepresented groups into or away from specific pathways based on gender, race, or socioeconomic status. Historically, vocational education was viewed as a secondary track, disproportionately enrolling students of color and those from lower socioeconomic backgrounds in programs with limited academic rigor and post-secondary opportunities (Malkus, 2019). Policy shifts, particularly under the reauthorizations of the Carl D. Perkins Act, have emphasized Career and Technical Education (CTE) as a pathway for both college and career readiness, aiming to dismantle outdated tracking practices (Advance CTE, 2019; Malkus, 2019).

Empirical research highlighted that implicit bias and systemic barriers continued to influence CTE enrollment patterns, with disparities in access to high-quality programs, industry certifications, and work-based learning opportunities (Thompson et al., 2022). Advance CTE (2023) researched promising practices to counteract these biases, including professional development for educators and counselors, targeted outreach to underrepresented students, and leveraging data to identify and address participation gaps. Centering student and community voices in program design and evaluation is also critical for dismantling stereotypes and ensuring that all students view CTE as a viable, high-status option (Advance CTE, 2023).

Integrating Technology in CTE

Integrating technology into career and technical education has become increasingly essential as the demands of the 21st-century workforce continue to develop. As industries rapidly adopt modern technologies, the need for a workforce equipped with the relevant technical skills has never been greater. Students must be tech-savvy, as demanded by modern culture. Given today's fast-paced technological advancements, digital literacy is now essential for students to prepare them for the future workplace. Navigating and leveraging digital tools and platforms is essential for success as industries continue digital transformation. The rise of globalization has caused a need for digital literacy among students. They need the right skills to handle the complex changes ahead. Traditionally focused on providing students with hands-on skills and vocational training, CTE programs now integrate advanced technologies to better prepare students for the modern workplace. Technology integration is crucial for several reasons.

First, it aligned with the current and future needs of the workforce. As industries across sectors become more reliant on technology, from automation in manufacturing to data analytics in business, CTE programs must adapt to ensure that students are prepared to work in these environments. Second, integrating technology into CTE enhanced the learning experience by providing students with access to tools and resources that mirror those used in the industry (Chandra et al., 2024).

This hands-on experience is vital for developing the technical competencies and critical thinking skills required in today's job market. Technology integration enhances student learning by providing interactive, practical experiences closely aligned with industry standards. For example, computer-aided design (CAD) software in engineering and architecture programs allows students to develop skills that directly apply to the workplace. Similarly, in healthcare-related CTE programs, the use of simulation technology enables students to practice medical

procedures in a controlled environment, thereby improving their competency and confidence before entering clinical settings (Gonzalez-Perez & Ramirez-Montoya, 2024).

While the benefits of technology integration in CTE were clear, challenges remain, particularly concerning the digital divide. The digital divide referred to the gap between individuals who have access to technology and those who do not, often due to socioeconomic factors. The disparity in access to digital tools and resources may limit the effectiveness of technology integration in Career and Technical Education (CTE) for students from low-income backgrounds (U.S. Department of Education, 2024). Schools in underfunded areas may also struggle to provide the necessary infrastructure, such as high-speed internet and up-to-date equipment, to implement technology-based career and technical education programs fully. Addressing the digital divide is crucial for ensuring equitable access to high-quality CTE programs. To achieve this, we must invest strategically in technology infrastructure and programs that give students access to devices and software beyond the classroom. Effective technology integration in teaching facilitates professional development for educators, enabling them to acquire crucial skills and knowledge.

In the past decade, artificial intelligence (AI) has garnered significant interest in the educational domain, promising to revolutionize teaching and learning. AI significantly improves education by personalizing learning, motivating students, and making teaching more efficient (Holmes et al., 2023; Zawacki-Richter et al., 2019). However, challenges such as teacher resistance, high costs, ethical considerations, and the need for extensive teacher training have been identified as barriers to the widespread adoption of this approach (Holmes et al., 2023). While AI has a history in education, recent technological breakthroughs have significantly increased its presence (Azzam & Charles, 2024). Integrating AI in K-12 and higher education is

well-established, but its potential impact on the vital and growing field of career and technical education is unclear. To facilitate a more systematic adoption of AI, research suggests that educational policymakers and leaders should recognize AI's potential to enhance CTE (Holmes et al., 2023).

Integrating Emerging Technologies into the CTE Curriculum. The rapid evolution of technology in the workforce has driven CTE programs to integrate digital tools and emerging technologies to better prepare students for modern careers. Research emphasized that digital simulations, virtual reality, and industry-standard software enhance student engagement and learning outcomes by providing immersive, hands-on experiences that mirror real-world environments (Advance CTE, 2023). Virtual labs and online modules enable students to practice complex skills without the constraints of physical resources, while digital portfolios and certification platforms help students demonstrate their competencies to employers.

Emerging technologies such as artificial intelligence, augmented reality (AR), and the Internet of Things (IoT) are increasingly being incorporated into CTE curricula, enabling personalized learning, real-time feedback, and collaborative problem-solving (Advance CTE, 2023). However, the digital divide remains a significant barrier, with students in underfunded schools often lacking access to the necessary devices and high-speed internet (Holmes & Tuomi, 2022). Addressing these disparities requires strategic investment in infrastructure and ongoing professional development for educators to ensure that all students benefit from technology-rich CTE environments.

Theoretical Structure: An Overview

This chapter will explore the theoretical and conceptual framework guiding the study, with a specific focus on Social Cognitive Theory (SCT) and Social Cognitive Career Theory

(SCCT). It is organized to build an understanding of how these theories evolved and are applied in CTE contexts. The chapter begins with the foundation of SCT, moves into the development and structure of SCCT, and concludes with applications to counselor beliefs and student career outcomes.

Social Cognitive Theory (SCT): Foundations and Applications

Developed by Albert Bandura (1986), SCT emphasizes the dynamic interaction of personal factors, behaviors, and environmental influences as triadic reciprocal causation. This theory positions individuals as proactive agents capable of learning through observation, reflection, and regulation of their actions. A central concept in Bandura's theory is self-efficacy, which refers to an individual's belief in their ability to perform tasks and achieve goals. High self-efficacy influences persistence, goal setting, and resilience in the face of obstacles (Bandura, 1997).

Zimmerman (2002) extended SCT to academic settings by focusing on self-regulated learning, wherein students use forethought, performance, and self-reflection to monitor and improve their learning. Self-efficacy plays a vital role in this process, as students with stronger self-belief are more likely to engage in and sustain effective learning strategies. Schunk and Greene (2017) also made a significant contribution by demonstrating motivational processes, such as goal setting, feedback, and modeling, enhance learning and achievement through their impact on self-efficacy and task value.

From SCT to SCCT: The Development of Social Cognitive Career Theory (SCCT)

Building on SCT, Lent, Brown, and Hackett developed SCCT in 1994 to explain career-related behaviors. SCCT emphasizes the roles of self-efficacy, outcome expectations, and personal goals in shaping career interests and choices. Unlike traditional development models

that focus on age or stage, SCCT considers both contextual and cognitive influences across the lifespan (Brown & Lent, 2019). Wang et al. (2022) explained that SCCT helps describe how individuals shape career interests, set goals, and achieve career accomplishments. The theory integrates social influences, cognitive processes, and personal experiences, making it a dynamic tool for career development research. Garriott (2020) used SCCT to examine the experiences of first-generation and economically marginalized students, reinforcing the theory's applicability to diverse populations.

SCT and CTE

In the vocational context, SCT provides a foundation for understanding how individuals form career interests, make career-related decisions, and persist in professional development. Firmansyah and Saepuloh (2022) found that self-efficacy and outcome expectations significantly predicted vocational interests and planning behaviors. SCCT suggests that students are more likely to pursue careers in fields where they believe they can succeed, particularly when supported by hands-on experiences that reinforce competence.

Aure et al. (2019) emphasized the importance of counselor training in enhancing self-efficacy and accurate outcome expectations related to career and technical education (CTE). Thornburg (2016) further demonstrated that SCCT positively affects high school students' career decision-making and self-efficacy. Miftah (2019) linked learning goal orientation to career adaptability, reinforcing the connection between cognitive variables and career readiness.

Counselor Practice and SCCT

SCCT is a critical tool for school counselors supporting students in career and technical education pathways. As Wang et al. (2022) illustrated, SCCT enhances student motivation, engagement, and readiness by focusing on building self-efficacy, clarifying outcome

expectations, and setting achievable career goals. Counselors who believe in the value of CTE are more likely to advocate for these programs. Appling et al. (2022) showed that integrating SCCT principles improves counselors' ability to guide students effectively. When counselors are confident in their understanding of vocational pathways and anticipate positive student outcomes, they become better positioned to foster informed career decision-making.

The theory highlighted the barriers and resources that can affect career progression, especially for marginalized populations. Garriott (2020) employed SCCT to examine the career progress of first-generation and economically marginalized college students, emphasizing the significance of cultural wealth and systemic factors. SCCT has become a model for understanding individual adaptation to strengthening 21st-century work (Wang et al., 2022).

Conceptual Framework: SCCT in Counseling Practice

Lent and Brown (2019) proposed a content-process-context model rooted in SCCT to assess counseling needs and tailor interventions. This approach involves identifying barriers, building support, setting goals, and promoting self-regulation. SCCT acknowledges the role of contextual variables, including background experiences and environmental influences, in shaping career choices. Wang et al., (2022) asserted that SCCT interventions develop self-efficacy, mitigate perceived barriers, and support goal setting. Burkhalter (2024) found that SCCT has a positive impact on the career self-efficacy and career planning of high school students. The theory's focus on adaptability, learning experiences, and goal selection offers a comprehensive framework for counselor practice in today's evolving workforce landscape. For instance, when counselors observe successful role models in vocational settings or receive professional development that reinforces their competence in career and technical education, their self-efficacy increases, which in turn positively shapes their recommendations (Aure et al., 2019).

Counselors who expect participation in CTE to yield positive career outcomes for students are more likely to endorse those programs. Evidence suggesting that positive outcome expectations were linked to increased student engagement in career-related activities and higher enrollment rates in vocational programs supports this perspective. In examining the impact of the SCCT career program, Thornburg (2016) noted that the theoretical framework had a positive effect on high school students' career development and decision-making self-efficacy. However, if counselors believe CTE limits career options, they may steer students toward traditional academics instead of vocational training.

The SCCT framework posits that interest stems from self-efficacy and outcome expectations, which evolve in response to changing learning experiences and shifting developmental perspectives on career development. SCCT highlights the dynamic nature of goal selection in the current boundaryless era while acknowledging the impact of environmental factors on goal setting. SCCT expanded to include how experience, learning, genetic factors, and the environment affect career decision-making (Wang et al., 2022).

Adapting Comprehensive Career Counseling Models. Comprehensive career counseling models are crucial for helping students navigate the increasingly complex educational and workforce pathways. Empirical studies highlight the effectiveness of school-based career development programs that integrate academic, technical, and social-emotional guidance, particularly when grounded in frameworks such as Social Cognitive Career Theory and Career Construction Theory (CCT) (Falco & Steen, 2018; Wang et al., 2022). These models emphasized early and continuous career interventions, individualized planning, and collaboration with families and industry partners. Digital tools, such as computer-assisted guidance systems (CACGS), have expanded the reach and personalization of career counseling, enabling students

to explore pathways, assess interests, and set actionable goals (Chan, 2019; Mak, 2022). Studies have shown that students who participate in comprehensive, equity-centered counseling programs demonstrate higher career adaptability, more transparent decision-making, and increased post-secondary enrollment, particularly among first-generation and marginalized students (Garriott, 2020; Gashi et al., 2023).

The School Counselor and Career Development

Under the SCCT counseling concept, it can be argued that a failure to transition to adulthood, stemming from behavioral issues, can leave many high school graduates unprepared for entry-level work. As a result, parents typically expect schools to provide a curriculum that encompasses both academic learning and career development (Wang et al., 2022). Therefore, school counselors should prioritize student success by offering enhanced, targeted guidance and counseling programs to assist students better. Adopted in 2017, the American School Counselor Association (ASCA) (2023) formally acknowledged that school counselors play a critical role in promoting academic, career, and social-emotional development. In doing so, they emphasized that counselors must help all students develop career plans while fostering an understanding of rigorous CTE programs. Counselors also collaborate with CTE stakeholders to advocate for these programs, which are instrumental in preparing students for success in postsecondary education and the modern workforce. Empirical evidence from the past decade supports this position.

For instance, Morgan et al. (2014) found that, although school counselors recognize their role in career development, many report challenges in delivering career counseling due to limited training and competing responsibilities. Still, when implemented effectively, school counseling interventions positively influence students' readiness for college and careers (Bryan et al., 2019;

Summers & Falco, 2017). Lapan et al. (2017) highlighted the long-term benefits of comprehensive career guidance, including smoother transitions to postsecondary education.

Ferguson et al. (2019) reported that counselors' limited awareness of technical and vocational careers, especially in STEM fields, can restrict students' access to these viable career paths. These findings underscore the necessity for professional development and systemic support to enhance counselor competencies in career and technical advising. When adequately prepared and actively engaged, school counselors help dismantle outdated stigmas surrounding CTE and promote equitable access to programs that align with students' interests and labor market demands (Lekes et al., 2007). This concept aligned with ASCA's commitment to ensuring that all students benefit from intentional career development and exposure to high-quality Career and Technical Education (CTE) pathways.

In collaboration with students, families, educational staff, and the community, school counselors ensure that all students select a postsecondary path to productive citizenship (e.g., military, career technical certificates, or two- or four-year degree programs) that is appropriate for them. School counselors recognize that career education begins in kindergarten and is exemplified by students who are knowledgeable about options and prepared to enroll and succeed in the postsecondary experience without needing remediation (ASCA, 2023).

Researchers accentuated the critical role of school counselors in guiding students toward suitable postsecondary pathways. High school counselors are uniquely positioned to promote college and career readiness (CCR) for all students (Li et al., 2025). They possess expertise in instruction, counseling, appraisal, advisement, and collaboration, making them integral team members in preparing students for post-secondary education and employment. Research supported this essential role of counselors in fostering postsecondary success. Studies have shown that school

counselors have a positive impact on students' postsecondary outcomes, including higher enrollment rates in postsecondary institutions and improved career pathways (Hurwitz & Howell, 2014; Velez, 2016). However, the current role and practices of school counselors in supporting postsecondary transitions are not adequately understood, as highlighted by Lapan and Harrington (2010), who have called for further investigation into how counselors can more effectively support students during these critical transitions.

Bottoms (2022) found that best practices indicate that CTE activities should begin in middle school to assist with postsecondary planning and academic motivation. Engagement in hands-on activities increases student motivation as students make tangible connections in their classroom learning to the real world. Bottoms (2022) reiterated this point by acknowledging that middle and high school students fluctuate in their ways of thinking, their respective interests, and their wants; hence, exposure to various options and careers further supports their growth.

The School Counselor's Role in CTE

As CTE becomes more central to student success, the role of school counselors in guiding students toward these opportunities has grown in importance. Counselors serve as gatekeepers, helping students navigate postsecondary options (ASCA, 2023). However, many counselors feel underprepared to advise students on technical careers (Ferguson et al., 2019). SCCT explained how interactions with an advisor shape students' beliefs and decisions (Lent et al., 1994). Cashdollar (2023) emphasized the importance of equitable advising, while Akos and Duquette (2022) stressed the need for training counselors on CTE navigation.

Counselor Education Programs: Preparing Future CTE Advocates. The preparation of school counselors remained uneven in addressing career development and CTE promotion. Researchers have found that many graduate counseling programs lack robust coursework on

career and technical education systems, labor market trends, and equity-centered advocacy (Morgan et al., 2014; Akos & Duquette, 2022). This gap limits counselors' ability to guide diverse students into high-quality CTE pathways and to serve as informed liaisons between education and industry. Best practices for counselor preparation include integrating labor market information, CTE policy, and equity frameworks into graduate curricula, as well as providing ongoing professional development focused on emerging technologies and workforce trends (Akos & Duquette, 2022). When counselors are well-prepared, they are more likely to promote CTE as a rigorous and rewarding option, advocate for underrepresented students, and collaborate effectively with educators and employers (Falco & Steen, 2018; Morgan et al., 2014).

Counselors' Perceptions of CTE

Counselors' perceptions of CTE are multifaceted and can range from a high regard for its practical applicability to a diminished view, often rooted in longstanding societal biases. Research over the past decade suggests that counselors' attitudes have developed through a complex interplay of personal experiences, institutional culture, and broader societal narratives surrounding vocational education (Thornburg, 2016). Some counselors view CTE as a dynamic pathway that aligns education with industry demands, providing students with opportunities to gain hands-on experience and secure viable career options. In contrast, other counselors maintained skepticism about CTE, sometimes viewing it as a "second choice" option for students who fail in traditional academic tracks (Coleman, 2018).

This ambivalence partially stems from historical educational paradigms that traditionally valued academic achievement over vocational training. For example, some counselors report that the lack of institutional support and professional development related to CTE reinforces negative perceptions (Thornburg, 2016). Counselors often link positive perceptions to their direct

observations of student success in CTE programs and collaborations with local industries, underscoring the tangible benefits of vocational training (Coleman, 2018). These divergent views underscore the need for a more nuanced understanding of how counselor beliefs developed and how they ultimately influenced educational counseling practices.

The literature reveals that counselor perceptions are not static; they evolve in response to emerging labor market trends and reforms in education policy. A study documented a gradual shift toward recognizing the importance of CTE in addressing skills gaps in the modern economy. Despite these positive shifts, lingering negative perceptions continue to influence counselor recommendations, which may lead to a devaluation of CTE in the eyes of students and parents alike (Brewington & Kushner, 2020).

The Impact of Counselors' Perceptions on the Valuation of CTE

This section will comprehensively examine the factors contributing to counselors' perceptions of CTE, including historical context, policy developments, societal attitudes, and professional training. By exploring these elements, this review highlighted the impact of counselors' perspectives on student engagement with CTE programs and the broader implications for workforce readiness and educational equity. For instance, Margana (2022) demonstrated that counselors with manageable caseloads and a stronger emphasis on career advising experienced a significant increase in student participation in technical coursework. According to Margana (2022), school administrators, district leaders, and policy makers must work to reduce large student caseloads and prioritize the school counselor's role with career counseling and interventions, because school counselors play a crucial role in providing students with equitable access to CTE information, resources, and pathways (Margana, 2022). Hooten et al. (2024) found that counselors who actively advocate for CTE, sharing its connection to viable career

opportunities, foster high enrollment and commitment among students, especially those from marginalized groups. Equity-minded counseling practices that bolster self-efficacy (Summers & Falco, 2017) have been linked to greater persistence in CTE/STEM tracks among diverse learners. Counselors' perspectives influence how schools and the broader community value CTE. When counselors view CTE as a credible and valuable pathway, they are more likely to encourage students to explore these options, highlight the benefits of hands-on learning, and connect students with industry resources. This view contributes to a higher valuation of CTE among students, parents, and policymakers (Burkhalter, 2024). Alternatively, consider counselors' unfavorable views of the effectiveness or reputation of CTE programs. In this respect, counselors might subtly steer students away from these career paths, thus continuing the devaluation of vocational education.

According to Gashi et al. (2023), the impact of counselor-provided learning and support on students' career self-efficacy is a stronger indicator of success than innate qualities, such as grit. A key mechanism in this process is the role of counselor communication. The language and framing used by counselors during career guidance sessions can either enhance or detract from the perceived legitimacy of CTE programs. For example, research has shown that when counselors use positive, strength-based language to describe CTE, students are more likely to view these programs as viable career options. In contrast, a dismissive tone or the implicit assumption that CTE is a fallback option can undermine students' self-confidence and limit their career aspirations (Coleman, 2018).

Counselors also serve as role models whose attitudes students internalize. When counselors show high levels of self-efficacy in their understanding of CTE and are well-informed about its advantages, they can foster similar confidence in their students (Coleman, 2018).

However, suppose counselors themselves exhibit uncertainty or negativity. In that case, this can create barriers to student engagement with CTE, as students may believe these programs do not offer the same opportunities for personal or professional advancement as traditional academic routes.

Besides individual interactions, the institutional context also plays a critical role. Schools prioritizing professional development around CTE and providing counselors with updated information about labor market trends foster more positive perceptions. This institutional support can help counteract the negative stereotypes plaguing vocational education. In addition, partnerships between schools and local industries can give counselors direct evidence of the achievements of CTE graduates, thereby emphasizing the importance of these programs for schools and college students (Coleman, 2018).

Findings from these studies consistently show that when counselors exhibit a strong belief in the benefits of CTE, as reflected in their self-efficacy and outcome expectations, students are more likely to consider vocational education as a viable and attractive option (Burkhalter, 2024). These insights not only reinforce the validity of SCCT in educational guidance but also underscore the critical roles of counselors as mediators between students and career opportunities.

Integrating Social Cognitive Theories with Counselors' Perceptions of CTE

Integrating the insights from SCT and SCCT with the literature on counselor perceptions provided a robust framework for understanding how counselor beliefs influence the valuation of CTE. Both theories emphasize the central role of self-efficacy and outcome expectations in shaping behavior. When applied in counseling practices, these constructs helped to explain when counselors with high self-efficacy and positive outcome expectations were more effective in

promoting CTE as a credible and valuable pathway for students. For instance, counselors who have received targeted professional development that enhanced their technical knowledge and familiarity with industry trends develop stronger self-efficacy regarding CTE (Appling et al., 2022).

The boost in self-assurance led to more confident and knowledgeable career counseling, enabling counselors to articulate the advantages of technical education and debunk prevalent misconceptions about its limitations. In alignment with SCT, these counselors were likely to engage in observational learning by seeking successful CTE role models, further reinforcing their positive attitudes and advocacy efforts (Artino, 2012). Mitchell (2014) argued that the reciprocal determinism inherent in SCT suggested that counselors' behaviors stem from their personal beliefs and actively shape the educational environment. Counselors communicating positive messages about CTE contributed to a broader cultural shift that normalized and validated vocational education. This shift is critical in challenging the historical bias that had often relegated CTE to a lower status than academic tracks. As a result, students exposed to positive counselor messages may experience enhanced self-efficacy and develop more favorable expectations regarding technical careers, creating a virtuous cycle of empowerment and engagement (Mullen et al., 2024).

SCCT further enriched the integrated perspective by emphasizing the importance of goal setting and translating counselor beliefs into actionable career guidance practices. Counselors who set clear career goals for their students and provided structured pathways for achieving those goals were better positioned to influence students' career interests. For example, through individualized counseling sessions, counselors could help students identify specific technical certifications or apprenticeship opportunities aligned with their career aspirations. This goal-

oriented approach reinforced the practical benefits of CTE and aligned with students' intrinsic motivations and long-term career objectives (Wang et al., 2022).

In addition, recent research showed that interventions aimed at enhancing counselors' self-efficacy and updating their knowledge of current industry practices have a measurable impact on the valuation of CTE within schools (Coleman, 2018). These interventions often included workshops, mentorship programs, and collaborative partnerships with local industries, all building counselors' confidence and competence in promoting CTE. When integrated with the constructs of SCCT, such interventions underscored the potential for systemic change as counselors become more effective advocates for CTE, the educational environment adapted to support vocational pathways better, ultimately benefiting students and communities alike (Brown & Lent, 2019).

Overall, integrating social cognitive theories with research on counselor perceptions revealed that improving the valuation of CTE required addressing both individual and systemic factors. Enhancing counselor self-efficacy, reshaping outcome expectations, and fostering clear career goal setting were critical steps in ensuring that students received balanced and informed career guidance. This integrated framework provided a robust theoretical basis for the current study and offered practical insight for policymakers and educational leaders to elevate the status of career and technical education.

Summary

Career development remained a core domain of the ASCA model, yet there is a persistent gap between student needs and counseling practice (Anctil et al., 2012; Morgan et al., 2014). High student-to-counselor ratios and increasing accountability pressures often reduce the emphasis on career counseling. Many school counselors continue to hold biases that favor four-

year college pathways, often viewing career and technical education as a lesser option (Hines et al., 2020; Jackson, 2021). These perceptions influence how students are advised, shaping their enrollment decisions and long-term career outcomes (Lapan et al., 2017). When counselors lack training or undervalue CTE, students may miss out on high skill, high wage opportunities (Advance CTE, 2018). Holistic career counseling that includes both academic and vocational pathways has been shown to improve student success and workforce readiness (Anctil et al., 2012). Effective counselor preparation programs are essential. Poorly designed programs limit counselors' ability to support students' diverse career goals and adapt to evolving labor market demands (Akos & Duquette, 2022). As pressure mounts for schools to align academics with 21st century career needs, CTE plays an increasingly important role in bridging education and industry (Dougherty, 2016). Research showed that students who participate in both academic and CTE coursework perform better academically and are less likely to drop out (Thornburg, 2016). However, tracking lower-performing students into CTE perpetuates outdated stereotypes, making it critical for counselors to use data-driven, equitable practices (Aliaga et al., 2014). Counselors are pivotal in guiding course selection, yet studies show they are not always viewed as strong influencers compared to parents or peers (Gaunt & Palmer, 2005). Students often viewed CTE positively and reject the notion that it is only for the unmotivated (Coleman, 2018). Counselor perceptions and advocacy therefore remain essential for equitable CTE access (Mobley et al., 2017). This chapter explored the evolution and value of CTE, counselor roles in student decision-making, and the ideological roots of vocational education debates. Drawing from SCT and SCCT, it examined how counselor beliefs shaped student engagement, and how modern challenges such as overcoming bias, ensuring equity, integrating technology, and

improving counselor preparation must be addressed to support all learners in a changing workforce.

Chapter Three: Methodology

The purpose of this qualitative, grounded theory study was to explore the various factors shaping perceptions of Career and Technical Education (CTE), how those perceptions influence the efforts to reduce the stigma associated with vocational education (Vo-Tech), and how these views impact the advancement of CTE as a comprehensive career readiness pathway for secondary students. Guided by a constructivist grounded-theory stance, the study assumes that the meanings ascribed to CTE are socially constructed through interactions between counselors and their institutional contexts. This paradigm supports the iterative comparison of data to develop a theory explaining how counselors' perceptions are translated into day-to-day advising practices.

Research Question

1. How do secondary school counselors' perceptions of CTE impact their advisement practices?

Description of the Setting and Study Participants

Four middle and four high schools in two public school districts in Tennessee that offered career and technical education programs were selected to acquire an initial purposeful sample, followed by theoretical sampling. The participants were purposefully selected middle and high school counselors from eight schools. Within these bounds, emergent categories guided the choice of interview and focus group participants (e.g., counselors expressing contradictory stances on CTE). Permission was obtained from both school districts to conduct research. The potential participants were notified via their district emails.

Description of the Specific Research Approach

Research Design

According to Ary et al. (2019), the objective of qualitative research was to develop theories grounded in observed phenomena, focusing on the quality of activities, relationships, contexts, and underlying purposes of human behavior. In this study, a constructivist grounded theory research design was used to systematically explore and explain how secondary school counselors' perceptions of CTE shape their advisement practices. Constructivist grounded theory, as advanced by Charmaz (2014), emphasizes meaning co-constructed between researcher and participants, contrasting with the more objectivist approach of traditional grounded theories. The analytic process was guided by constant comparative analysis, involving iterative cycles of open, axial, and selective coding, along with memo-writing, to refine conceptual categories emerging from the data (Charmaz, 2014; Creswell & Poth, 2018).

Sampling and Participants

Purposeful sampling of middle and high school counselors was used before the application of theoretical sampling, which further selected participants as analytic categories emerged from data (Birks & Mills, 2015). The study initially included four middle and four high schools in two public school districts in Tennessee, each offering CTE programs. Participants were middle and high school counselors with at least three years of CTE counseling experience from both urban and rural areas. Within these bounds, emerging analytic categories guided the selection of interview and focus group participants (e.g., counselors expressing contrasting stances on CTE). Permission was obtained from both school districts, and potential participants were notified via their district emails.

Data Generation Procedures

Survey

An online survey consisting of both closed and open-ended questions was administered to 26 middle and high school counselors. The survey aimed to identify participants' strengths, preferences, and initial perceptions related to CTE, generating sensitizing concepts for subsequent data collection and analysis. Open-ended items were designed to elicit participants' views on the perceived value of CTE programs and their influence on student career planning at the secondary level.

Individual Interviews

Semi-structured individual interviews were conducted with a subset of counselors purposively selected to represent diverse perspectives and experiences identified in the survey phase. The interview protocol incorporated questions aimed at deepening understanding of participants' attitudes toward CTE and uncovering nuanced factors influencing their advisement practices. Interviews were audio recorded and professionally transcribed for accuracy.

Focus Group

Following the completion of interviews, a focus group was conducted with selected participants to evaluate the fit and relevance of emerging analytic categories. This collaborative dialogue enabled more in-depth analysis, allowing participants to validate, refine, or challenge the preliminary theoretical model. The session was audio-recorded and transcribed to facilitate comprehensive analysis.

Data Analysis

Data analysis followed classic grounded theory procedures (Strauss & Corbin, 1997):

- **Open Coding:** The initial identification and labeling of significant concepts and themes found in the data.

- Axial Coding: Organizing and connecting open codes into related categories and subcategories, exploring relationships between them.
- Selective Coding: Integrating refined themes to identify a core category or central phenomenon that unifies the analysis.

The coding process adhered to Creswell's (2014) interactive six-step analysis process. Using open, axial, and selective coding, data analysis was conducted iteratively after interviews, then after the focus group, and finally after the artifact collection. This cyclical approach bolstered thematic saturation and allowed methodological triangulation. Coding reliability was ensured through peer checking, analytic memos, a codebook, and a transparent audit trail documenting analytic decisions (Lincoln & Guba, 1985). (See Table 1)

Theoretical Saturation

Theoretical saturation was defined as the point at which no new properties, dimensions, or relationships emerged after the focus group transcript. This criterion justified the sample size beyond convenience and ensured theoretical completeness.

Trustworthiness

Trustworthiness referred to the quality, authenticity, and truthfulness of the qualitative research findings. Following Guba and Lincoln (1989), trustworthiness in this qualitative study was established through the following criteria:

- Credibility—confidence in the 'truth' of the findings;
- Transferability—showing that the findings had applicability in other contexts;
- Dependability—showing that the findings were consistent and could be repeated, and
- Confirmability—a degree of neutrality or the extent to which the respondents shaped the findings of a study, not researcher bias, motivation, or interest.

Credibility

Credibility was addressed via triangulation across data sources (surveys, interviews, focus groups), member checking (participants validated findings or themes), and ongoing reflexivity through memo-writing and audit trails.

Triangulation. Triangulation was defined as “a qualitative research strategy to assess validity through the convergence of information from different sources” (Carter et al., 2014, p. 545). This study emphasized convergence of categories rather than merely source triangulation, comparing codes across data types to validate the emerging grounded theory of Counselor Perception-Driven Advisement Bias. The end goal was to use triangulation to reduce systematic bias (Patton, 1999), which could improve the evaluation of the findings (Golafshani, 2003). This study incorporated surveys, interviews, and a focus group.

Peer Debriefing. A peer debriefer was used to provide an external check on the research process to increase credibility. It involved allowing a qualified, impartial colleague to review and assess the transcripts, methodology, and findings. The role of peer debriefer was to help uncover errors, detect biases, and improve the quality of the research (Delve, 2022).

Member Checking. In a member check, the researcher gave participants feedback about emerging interpretations and obtained participants’ reactions. This method allowed participants to validate whether the researchers’ interpretations accurately represented their realities. Credibility was operationalized through the member-checking process to assess the findings and interpretations with the participants. Verifying interview transcripts with participants ensured that the raw data were accurately transcribed and represented their expressed intent.

Transferability

Shenton (2004) explained that “since the findings of a qualitative project are specific to a small number of particular environments and individuals, it is impossible to demonstrate that the findings and conclusions apply to other situations” (p. 69). Thick, rich descriptions of the research context, participant characteristics, and study procedures were provided to support readers’ assessment of similarities to other settings (Shenton, 2004).

Therefore, transferability refers to findings applied to other settings or groups (Stalmeijer et al., 2024). The researcher did not know the sites to which the findings would hopefully transfer; however, the researcher was responsible for providing thick descriptions so those who sought to transfer the findings to their site could judge transferability (Guba & Lincoln, 1989).

Thick Description. Ponterotto (2006) described thick descriptions used in qualitative research, which focused on interpreting observations to provide meaning from cultural and social interactions. So, beyond observation, one had to describe, interpret, and analyze the situation in question. In contrast, a thin description was common in quantitative studies and focused on observation, which provided a surface-level explanation. Guba and Lincoln (1989) explained that by describing a phenomenon in sufficient detail, one could begin to evaluate the extent to which conclusions were transferable to other times, settings, situations, and people. A rich and vigorous presentation of the findings and appropriate quotations also facilitated and enhanced transferability (Graneheim & Lundman, 2004).

Dependability

To achieve dependability, researchers could ensure the research process was logical, traceable, and documented (Tobin & Begley, 2004) through data stability over time and conditions. When readers could examine the research process, they could better judge the

dependability of the research itself (Lincoln & Guba, 1985). Dependability was maintained through comprehensive documentation of procedures, analytic logs, coding audit trails, and a detailed research journal outlining all decisions throughout data collection and analysis.

Audit Trail. One way a research study demonstrated dependability was through auditing its process (Koch, 1994). An audit trail provided evidence of the decisions and choices made by the researcher regarding theoretical and methodological issues throughout the study (Koch, 1994). Furthermore, Koch (1994) argued that another researcher with the same data, perspective, and situation could arrive at the same comparable, but not contradictory, conclusions. A record of the raw data, field notes, transcripts, and a reflexive journal aided the researcher in systemizing, relating, and cross-referencing data, as well as easing the reporting of the research process—all means of creating a clear audit trail (Halpren, 1983).

Confirmability

Confirmability was concerned with establishing that the researcher's interpretations and findings were derived from the data, which required the researcher to demonstrate how conclusions and interpretations were reached (Tobin & Begley, 2004). Confirmability was strengthened by maintaining a clear audit trail of all research activities and analytic decisions, including raw data, coding records, and memos, to ensure findings were shaped as much as possible by participants' voices rather than the researcher's bias.

Limitations, Delimitations, and Assumptions

The limitations of any study were related to a small sample size, resources, funding constraints, and potential bias in answers, according to Lincoln & Guba (1985). A range of factors affecting the methodology were beyond the control of the researcher. Limitations may have impacted the results of this study. The study was conducted in two school districts,

including a small rural and a large urban school district. School counselors with differing levels of experience and predetermined perceptions of Career and Technical Education were purposefully sampled. Based on the demographics of both districts, a middle and high school sample was selected. The emergent theory is conceptually transferable to settings sharing similar counselor role structures, though empirical testing in other contexts is encouraged.

Interviews and surveys, according to Westland (2022), did not yield highly generalized results, but they offered a deeper understanding of the perception affecting conditions. A survey with open-ended questions, for example, produced more negative comments. A limitation of the survey was the use of the Likert scale to formulate perception questions. Several participants may have chosen middle degrees like "neither agree" or "neither disagree" instead of the most extreme measures like "strongly agree" and "strongly disagree."

According to Simon (2011), there are many delimitations in a study, including the idea of a purpose, the variables of interest, the research questions, the chosen population, and theoretical framework. The study was restricted to a small number of middle and high school counselors in eight chosen schools within two school districts. While the sample size was representative of two completely different school districts, the study's procedures acknowledged that the findings could not be transferred to other school districts with different grade levels and demographics. This study focused on counselors with at least three years of CTE experience. Furthermore, this study involved only four middle and four high schools within two school districts.

A key assumption of this study was that counselors' accounts of their own experiences were authentic and truthful. As Simon (2011) described, beliefs are independent of a researcher's control, but they are crucial to the study's relevance. In this study, it was assumed that the sample was representative of the entire study population and that participants within the study were

similar. A commitment to honesty was emphasized to all participants, and interviews were conducted to gauge a clear understanding of counselors' experiences and beliefs as they relate to CTE in a secondary school setting. As a final assumption, determining accuracy involved clarifying the information with participants from various sources. To increase transparency and credibility, these aspects can be documented and acknowledged, which motivated the researcher in choosing a research design that allowed for personal and participant expression of a lived experience.

Ethical Considerations

Anonymity, privacy, power, and informed consent were critical considerations for participants in this educational research study, consistent with established ethical guidelines (American Educational Research Association (AERA), 2011; British Educational Research Association (BERA), 2018). Approval was obtained from relevant school district authorities and the Carson-Newman University Institutional Review Board (IRB). Informed consent forms were provided and explained to all participants, who were assured of their rights, voluntary participation, and ability to withdraw at any time. Signed consent was obtained before participation in the study. All data were stored securely on a password-protected laptop, and participant confidentiality was maintained during all phases of the research.

Summary

This qualitative, grounded theory study investigated how secondary school counselors' perceptions of Career and Technical Education (CTE) influence their advisement practices with students. Guided by a constructivist grounded theory paradigm, the research emphasized the social construction of meaning around CTE through counselor experiences and institutional contexts. The study employed an iterative research process: beginning with a purposeful sample

of middle and high school counselors across two Tennessee school districts (four middle and four high schools), progressing to theoretical sampling within this group as analytic categories emerged. Data collection involved an online survey (n=26), followed by targeted individual interviews and a focus group, each selected to deepen and refine emerging theoretical categories. The analysis followed classic grounded theory procedures, utilizing open, axial, and selective coding, constant comparative analysis, and memo-writing to trace the evolution of core categories. Triangulation was achieved by systematically comparing findings across surveys, interviews, and the focus group, with a particular focus on the convergence and divergence of counselors' perceptions and how these shaped advisement behaviors. The study established trustworthiness through credibility, transferability, dependability (including analytic memo logs), and confirmability. The Carson-Newman University IRB approval maintained informed consent and all ethical safeguards. The emergent grounded theory offers a conceptual model that explains how counselors' perceptions of CTE drive their advisement decisions, shaping student access and engagement with career readiness pathways.

Chapter Four: Presentation of Findings

This qualitative study presented findings crucial for understanding the impact of secondary school counselors' perceptions of Career and Technical Education (CTE) and their influence on advisement practices. Findings culminated in the articulation of a new model explaining the relationship between counselor perceptions and CTE advisement practices, generated by systematic grounded theory analysis. Despite the national push to redefine CTE, many longstanding perceptions limit students from fully benefiting from its offerings. Through surveys, semi-structured interviews, and a focus group, insights were drawn from a diverse pool of professional school counselors. Combining empirical evidence with the historical context of the Washington and Du Bois debate created a strong framework for interpreting these findings, which are significant for educators, researchers, and policymakers interested in career and technical education.

Grounded Theory Analysis Process and Constant Comparative Method

The analysis of data in this constructivist grounded theory study followed Charmaz's (2014) systematic approach, employing constant comparative analysis as the primary analytical strategy. This iterative process involves continuously comparing data within and across all sources, surveys, interviews, and focus groups to identify patterns, relationships, and emerging theoretical concepts. The constant comparative method operated at multiple levels throughout the analysis, beginning with the incident-to-incident comparisons within individual transcripts, progressing to concept-to-concept across different data sources, and culminating in theoretical comparisons that refined and integrated emerging categories.

During the open coding phase, each segment of data were compared with other segments to identify initial conceptual similarities and differences. For example, when analyzing counselor

responses about CTE advisement practices, statements such as “ I often prioritize college prep over CTE without meaning to” were constantly compared with contrasting statements like “Our CTE grads are employed before they even get their diplomas.” This comparative process revealed tensions between counselors stated beliefs about CTE value and their actual advisement behaviors. The axial coding phase employed constant comparison to examine relationships between categories, leading to the identification of conditions, contexts, and consequences that shaped counselor perceptions and practices. Through this process, it became evident that counselor self-efficacy in CTE knowledge directly influenced their confidence in advisement, while institutional pressures created contextual barriers to equitable CTE promotion. The selective coding phase used constant comparison to integrate all categories around the central phenomenon, ultimately revealing how counselor perceptions operated as the core factor shaping advisement practices across multiple dimensions. This constant comparative process was essential in developing the theoretical understanding that emerged from the data, as it enabled the systematic identification of patterns that transcended individual perspectives and revealed the underlying social processes governing CTE advisement in secondary schools.

The initial survey, designed as a descriptive cross-sectional study, gathered responses from twenty-six secondary school counselors. Respondents answered questions regarding their years of counseling experience, prior teaching experience, highest educational attainment, types of school scheduling, number of students served, number of CTE programs available, and factors influencing advisement decisions, including graduation requirements, parental expectations, student exposure to CTE, and the counselor's knowledge. Specifically, five to six counselors responded to each item, offering critical insights into career-bound versus college-bound student advisement practices and perceptions of the value of CTE coursework. Following the survey,

qualitative data were collected through six individual semi-structured interviews and one focus group session. Individual interviews were scheduled for 60 minutes and ranged between approximately 45 and 55 minutes, depending on the depth of the responses. The focus group session was scheduled for 60 minutes and lasted approximately 75 minutes, allowing for extended dialogue across thematic areas. All interviews and the focus group were conducted in April 2025. Open and axial coding methods were applied systematically to the transcripts to identify emerging patterns. Throughout this chapter, findings were supported by empirical evidence and contextualized within the historical vocational education debate between Booker T. Washington and W. E. B. Du Bois demonstrated the thoroughness of the data collection process.

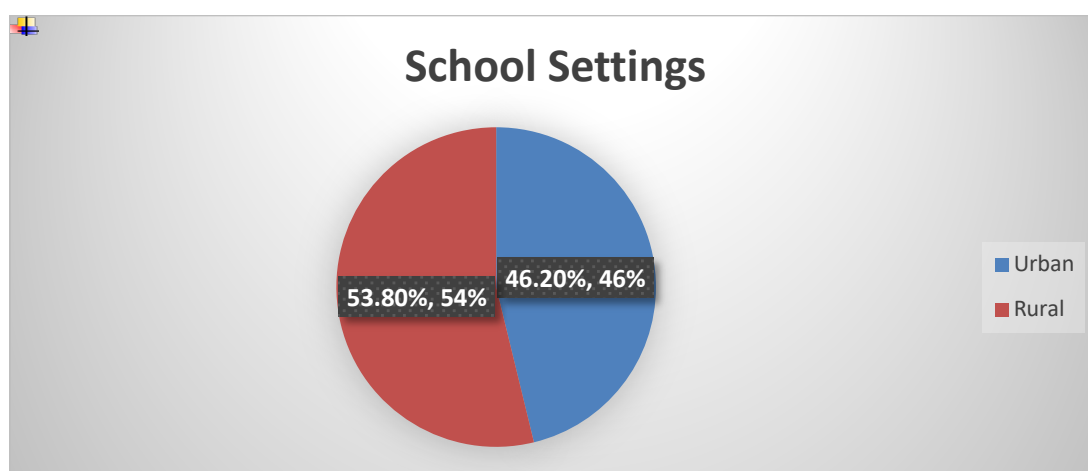
Descriptive Characteristics of Participants

Participants in this study were purposefully selected from a diverse group of twenty-six survey respondents to ensure a range of professional backgrounds, experience levels, and school contexts. This purposeful selection ensured that voices from both urban and rural schools were included, alongside counselors with varying degrees of familiarity with CTE. Combining the survey, interviews, and the focus group allowed for triangulation, improving the study's credibility. The survey gathered demographic information, professional background, school characteristics, CTE knowledge, and advising practices, providing a comprehensive overview of the broader counseling population. From the twenty-six survey respondents, six counselors were invited to participate in an individual semi-structured interview based on their willingness to elaborate on their survey responses and their diversity of experience levels, educational backgrounds, and school contexts, and all of whom completed the informed consent form before the individual interviews were scheduled (see Appendix A). These six interview participants represented a balanced cross-section of counselors who had differing degrees of prior teaching

experience and CTE exposure, ensuring a range of perspectives were captured. A focus group was also conducted with four willing participants who completed the informed consent form to facilitate collaborative dialogue and explore consensus and divergence across advising practices, counselor perceptions, and systemic barriers to CTE promotion based on specific formulated questions (see Appendix B). The purposeful selection of participants and questions ensured that the qualitative findings reflected a broad spectrum of counselor experience while remaining closely tied to the survey data trends.

Figure 1

Distribution of Participants by School Settings



Note. The figure shows near-equal representation between rural and urban counselors, enhancing contextual diversity.

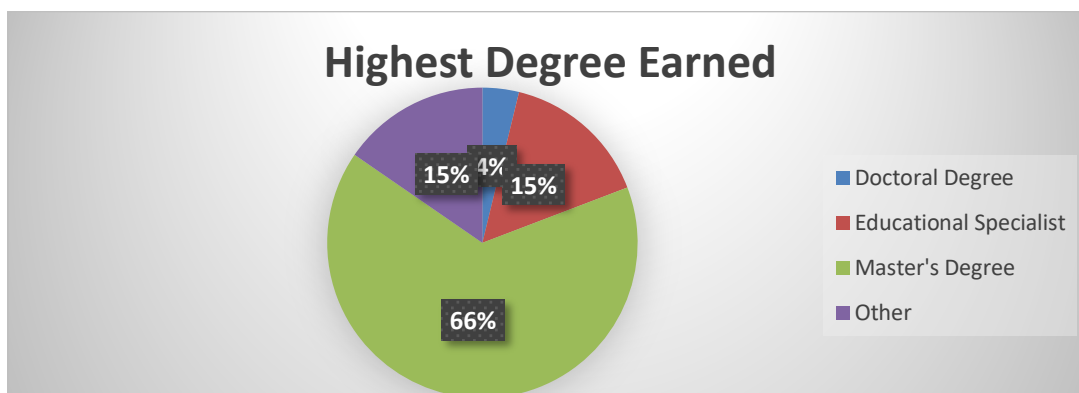
Participants Demographics

The participants in this study represented a broad demographic spectrum, strengthening the transferability of the findings. Among the twenty-six respondents, the majority were primarily female, comprising 85%, with only 15% male representation. The majority held a master's degree (65%), followed by an educational specialist degree (15%), a doctoral degree (4%), and other degrees (16%) (see Figure 2). School settings were diverse, with twelve

counselors serving urban schools and fourteen serving rural communities (see Figure 1). The years of counseling experience ranged from 1 to 30, with most falling within the 1-10-year and 10-20-year ranges (see Figure 3). Fifty percent of the counselors reported prior teaching experience in areas such as English Language Arts (ELA), Social Studies, CTE, and Health. Most schools operated under either block or traditional scheduling, which shaped CTE accessibility and student course availability. The offerings of CTE programs varied significantly, with 46% of counselors reporting 6-10 programs and 23% reporting more than eleven programs. This diversity enabled a nuanced understanding of how perceptions and practices varied based on experience, context, and institutional resources.

Figure 2

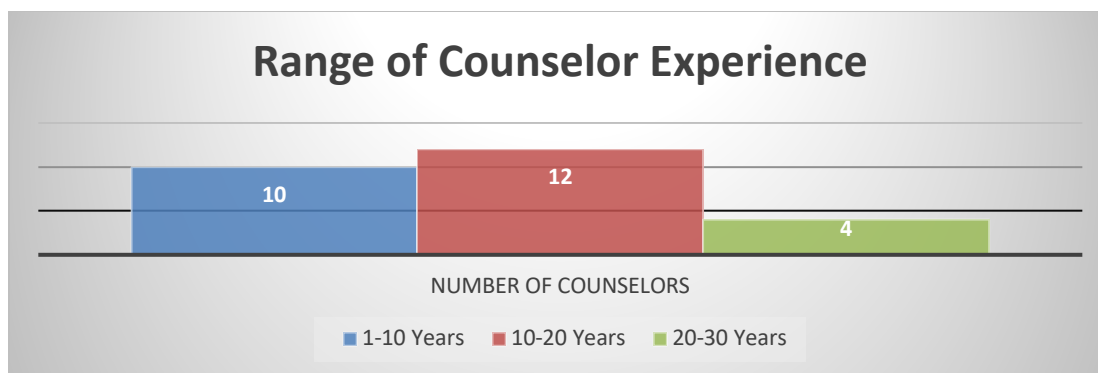
Highest Degree Earned by Participants



Note. Most respondents held a master's degree, with a smaller representation from Specialist, Doctoral, and other degree holders.

Figure 3

Counselor Ranges of Experience



Note. This figure shows the distribution of years of counseling experience among the twenty-six participants in the study. Most respondents reported having between 1 and 20 years of experience, supporting a broad yet professionally seasoned perspective on CTE advisement.

Research Question

The study addressed a research question that guided the examination of school counselors' perceptions of Career and Technical Education (CTE) and how those perceptions influence their valuation of CTE in their advisement practices.

RQ: *How do secondary school counselors' perceptions of CTE impact advisement practices?*

Data Presentation and Theoretical Development

Data were analyzed using descriptive statistics and qualitative coding, resulting in six key themes: perceptions of CTE as a career preparation tool, barriers to CTE access, role of counselors in CTE advisement, perceived value of CTE in student success, equity in access, and the need for counselor training (see Figure 5). The raw data were collected through surveys, interviews, and focus groups. Through the constant comparative analysis process, descriptive statistics were used to summarize the survey responses, while iterative cycles of open, axial, and selective coding were applied to the interview and focus group transcripts to identify recurring themes and develop theoretical understanding. The open coding process involved identifying

initial codes and categories, and the axial coding process further refined these categories into broader themes. The selective coding process integrated all categories around the central phenomenon of how counselor perceptions shape advisement practices, leading to the development of the emergent grounded theory. Each theme was identified through iterative open, axial, and selective coding cycles conducted after each data collection round. Theme validity and reliability were assured through coding logs, audit trails, and peer review. This analysis identified six key themes that emerged from the data: perceptions of CTE as a career preparation tool, barriers to accessing CTE, the role of counselors in CTE advisement, the perceived value of CTE in student success, equity in CTE access, and the need for counselor training in CTE. (see Table 1).

Selective Coding Explanation

The coding process demonstrated theoretical progression from concrete observations to abstract conceptual understanding. The selective code “Counselor Perceptions Shape CTE Advisement Practices across Equity, Access, and Preparation” emerged as the core category that explained the relationship between all other themes. This selective code represents the central theoretical construct of this grounded theory study, indicating that counselor perceptions operate as the primary mechanism through which students gain or lose access to CTE opportunities.

Survey

The survey responses provided valuable insights into the counselors' general perceptions of CTE and how those perceptions influenced their advisement practices. The survey revealed consistent support for CTE's role in preparing students for career success. Approximately 80% of respondents strongly agreed that CTE equips students with career-ready skills, life skills, and hands-on experiential learning. However, only about half of the counselors advised college-

bound students to take CTE courses, despite a strong consensus that CTE supported both career and academic development. Counselors with formal CTE training (42%) were significantly more likely to advise college- and career-bound students to pursue CTE pathways. Among those without training, many noted limited confidence or exposure as barriers to advisement. Over 58% of counselors advising career-bound students recommend CTE enrollment for 80-100% of such students (see Figure 4). For college-bound students, the majority advised CTE enrollment at rates of 10-30%, indicating a clear perception divide, wherein CTE is still primarily viewed as a secondary track valuable for non-college-bound students but underutilized as a complement to traditional academic preparation (see Figure 5). This divide also emerged in interviews and the focus group, where counselors acknowledged a default tendency to prioritize college-prep courses unless explicitly prompted to consider vocational alternatives. The decision of school counselors to advise college-bound students against enrolling in CTE often stemmed from two distinct yet interconnected factors: individual bias and scheduling conflicts within the school's structure.

Interviews and focus group discussions revealed that some counselors, despite acknowledging the value of CTE, held implicit perceptions that vocational pathways were less compatible with college preparatory tracks. This bias, often unintentional, was evident in statements like, "I prioritize AP and honors courses for my college-bound students" or "CTE doesn't fit the traditional college narrative." Such comments underscored a perception-based hierarchy where academic rigor is viewed as mutually exclusive from technical training. However, counselors also cited genuine scheduling limitations as barriers. In schools with rigid academic sequences, students interested in CTE often could not enroll because of conflicts with required core or advanced placement classes. Focus group participants explained that "students

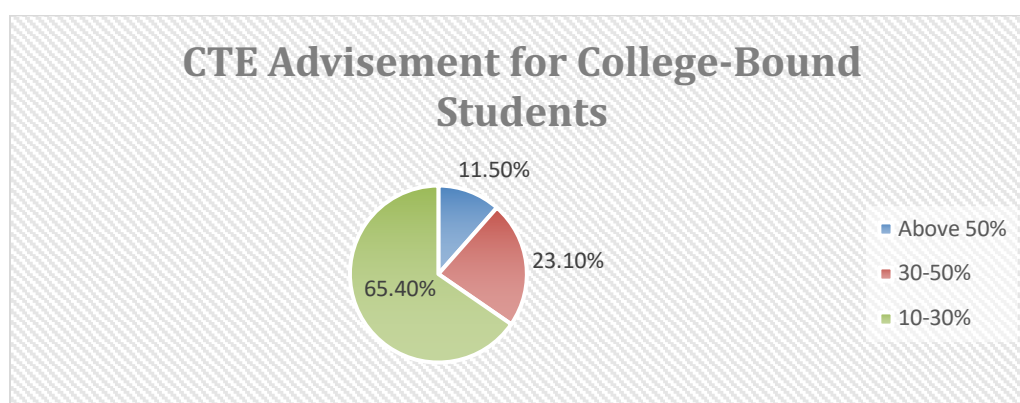
can't take both AP science and a CTE pathway due to overlapping schedules," revealing that institutional structures, not just counselor perceptions, limit options. While both dynamics affect advisement practices, the interviews suggest that bias is more influential in early-stage guidance conversations. In contrast, scheduling conflicts become a practical constraint later in the planning process. Together, these factors create an advising landscape where CTE is rarely positioned as a viable or complementary option for college-bound students (see Figure 4). These triangulated insights highlighted the impact of counselor training, systemic expectations, and personal biases on shaping postsecondary advisement practices. A detailed analysis of survey responses presented directions and connections to the six core themes developed in the study. Approximately 80% of respondents strongly agreed that CTE prepares students for real-world jobs, practical life skills, and future workforce demands.

This confirmed the theme that counselors generally recognize CTE as an effective tool for workforce readiness, even when it is not always prioritized in advisement discussions. More than 60% of counselors indicated that scheduling conflicts, limited offerings, and lack of funding were significant barriers to student enrollment in CTE programs. Additionally, respondents reported that academically advanced students often cannot participate in CTE due to constraints on their course load. These findings reinforced the identified theme that systemic and logistical challenges often limit access to CTE. Many counselors acknowledged that CTE makes a positive contribution to student success, with many reporting observed improvements in student engagement, behavior, and career motivation. This underscores the potential of CTE to enhance student outcomes beyond traditional academic metrics. The survey results also highlighted disparities in access to CTE programs between urban and rural schools. Rural counselors cited limited availability of programs, while urban counselors reported competitive enrollment and

underrepresentation of minority students in high-demand CTE tracks. These observations support the theme of equity as a persistent issue in CTE implementation across school settings. Only 42% of counselors reported receiving formal training on CTE. Those who had received such training were significantly more confident and more likely to advise both college and career-bound students to explore CTE options. In contrast, counselors without CTE training expressed discomfort or limited knowledge, substantiating the theme that professional development gaps influence advisement behaviors.

Figure 4

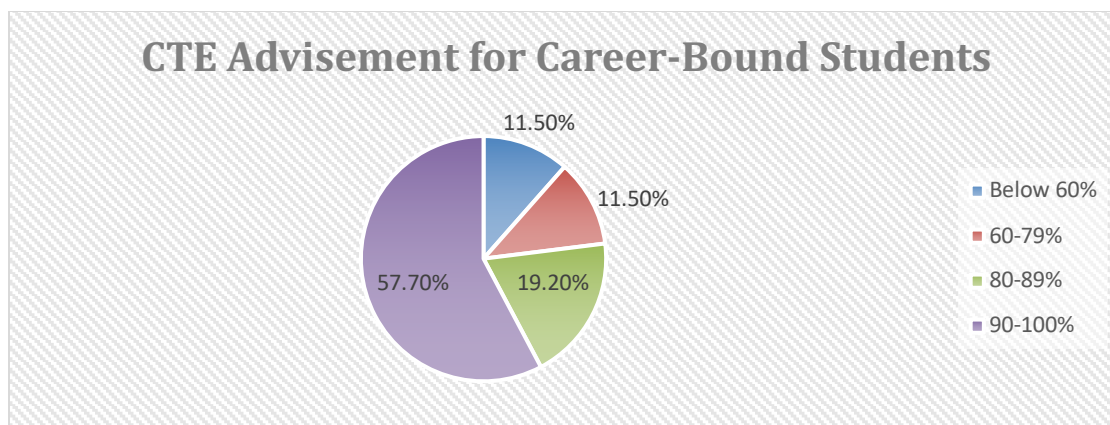
CTE Advisement Rates for College-Bound Students



Note. Fewer counselors advised college-bound students to enroll in CTE, revealing lingering perceptions about academic rigor divides.

Figure 5

CTE Advisement Rates for Career-Bound Students



Note. Most counselors advised high CTE enrollment for career-bound students, aligning with their workforce readiness goals.

Interviews

The interviews with six secondary school counselors provided a deeper understanding of how individual counselors perceive CTE and how those perceptions influence their advising decisions. In the interviews, I noticed that counselors with more experience working with CTE programs were more likely to recommend CTE courses to students. Interviewees highlighted the role of students' career goals in shaping their advising; students interested in vocational fields were more likely to be encouraged to take CTE courses. However, several interviewees noted challenges discussing CTE with students focused on college-bound pathways, as they felt CTE was often seen as a secondary option to a traditional four-year college degree.

Focus Group

The focus group discussion with four school counselors provided additional insights into the barriers and challenges that counselors face when advising students about CTE. One key theme that emerged was the lack of professional development and training in CTE, with several participants expressing a desire for more information on current CTE programs and career pathways. Counselors also discussed the challenges of addressing CTE in schools with limited

resources, particularly in rural areas with limited access to CTE programs. The focus group also highlighted the role of parents in influencing students' decisions about CTE, with many counselors reporting that parents often pushed students toward traditional academic tracks, rather than considering CTE as a viable pathway.

Theoretical Integration and Social Cognitive Framework

The findings of this study demonstrated strong alignment with Social Cognitive Theory (SCT) and Social Cognitive Career Theory (SCCT), particularly regarding the role of self-efficacy and outcome expectations in shaping professional behavior. Counselors with higher self-efficacy in CTE knowledge consistently demonstrated greater confidence in discussing technical career pathways with students and families. Conversely, counselors with limited CTE training expressed lower self-efficacy, leading to advisement practices that defaulted to familiar college preparatory options. The study findings also supported SCCT's emphasis on environmental factors as mediators of career-related behaviors. Institutional pressures toward college preparation, scheduling constraints, and resource limitations created contextual barriers that influenced counselor advisement practices regardless of their individual beliefs about CTE value. This environmental influence was particularly evident in the differential advisement patterns observed between college-bound and career-bound students, suggesting that outcome expectations were shaped by both individual knowledge and systemic pressures.

Study Findings

The qualitative method employed in this study yielded six key themes that consistently emerged across three integrated data sources: survey responses, individual interviews, and a focus group. This triangulated approach ensured a robust and nuanced understanding of how secondary school counselors perceive CTE and how those perceptions influence their advisement

practices. The survey results provided a foundational overview of counselor attitudes toward CTE, revealing widespread support for its value in career readiness and lingering hesitance regarding its appropriateness for college-bound students. Descriptive data illuminated patterns in CTE advisement rates, training exposure, and perceived institutional barriers.

The individual interviews added narrative depth and personal context to these survey patterns.

Counselors shared firsthand accounts of advising students, reflecting on how their professional backgrounds, prior teaching experience, and access to CTE resources shaped their decisions.

These rich, descriptive accounts enabled open and axial coding of core concepts, such as lack of confidence in CTE knowledge, scheduling conflicts, and access disparities, resulting in apparent thematic clustering. (see Table 1)

Table 1

Coding Table: Theme-Specific Selective Coding

Theme	Raw Data Sample	Open Coding	Axial Coding	Selective Coding	Documentation/Audit Trail
Perceptions of CTE as a Career Preparation Tool	<i>'Students light up when class feels meaningful to their future'</i>	CTE motivates and prepares students	Career Preparation and Student Engagement	CTE fosters student motivation and practical readiness for future careers	Peer-checks, coding logs, memo writing
Barriers to CTE Access	<i>'Scheduling conflicts with AP classes restrict CTE enrollment'</i>	CTE access is limited by scheduling	Structural and Programmatic Barriers	Systemic and structural barriers impact equitable CTE access	Analytic memos, iterative review
Role of Counselors in CTE Advisement	<i>'I often prioritize college prep over CTE without meaning to'</i>	College readiness was prioritized unintentionally	Counselor Influence and Advisement Bias	Counselor perceptions influence student pathway decisions.	Codebook, audit trail
Perceived Value of CTE in Student Success	<i>'Our CTE grads are employed before diplomas'</i>	CTE builds real-world readiness	Value of CTE in Post-Secondary Transition	CTE contributes to successful student transitions to the workforce	Coding logs, peer checks
Equity in CTE Access	<i>'Rural students lack urban CTE choices'</i>	Geographic inequity in CTE options	Access Disparities by Context	Geographic and demographic disparities affect equity.	Documentation of access disparities
Need for Counselor Training in CTE	<i>'I rarely get updates on CTE from district leadership'</i>	Lack of current CTE training	Need for Professional Development	Ongoing professional development enhances advisor effectiveness.	Professional development documentation

Note. This table reflects iterative analytic reduction at multiple coding levels.

The focus group further validated and expanded upon these insights. Participants discussed shared challenges and institutional expectations in this collaborative space, offering real-time confirmation of themes such as equity of access, cultural perceptions, and counselor preparedness. The group dynamic facilitated reflection, consensus-building, and even the emergence of divergent views, all of which enhanced the reliability and authenticity of the findings. The six themes that emerged are perceptions of CTE as a career preparation tool, barriers to CTE access, the role of counselors in CTE advisement, the perceived value of CTE in student success, equity in CTE access, and the need for counselor training on CTE. These themes represent a layered and interrelated view of the counseling landscape. Multiple forms of evidence support each theme, highlighting distinct dimensions of how CTE is understood, valued, and recommended within secondary schools.

These findings captured the voices of practicing counselors and underscore the systemic, cultural, and informational dynamics that influence advisement. By connecting individual perspectives to broader patterns, this study contributed meaningful insight to ongoing discussions about workforce development, educational equity, and the developing role of school counselors in post-secondary planning.

Perceptions of CTE as a Career Preparation Tool. Counselors consistently described CTE as an effective tool for preparing students for entry into the workforce and achieving postsecondary readiness. According to the survey, over 80% of respondents strongly agreed that CTE provides students with essential life skills, enhances employability, and increases career readiness. Additionally, counselors noted that CTE participation helped students develop essential soft skills, such as communication, responsibility, and time management, which are often viewed as equally important as academic achievement in workforce settings.

The individual interviews brought rich, narrative context to these survey findings. One counselor reflected, "CTE classes gave my students confidence for future jobs," highlighting how hands-on learning experiences instilled a sense of purpose and agency. Another added, "Students light up when they are in a class that feels meaningful to their future," underscoring the motivational effect of vocational coursework on students who may otherwise feel disengaged in traditional academic settings. Several counselors credited CTE programs with increasing student attendance, engagement, and even high school completion among populations at risk of dropping out. These sentiments were echoed and expanded upon in the focus group. Counselors collectively emphasized that CTE is often the gateway for students who may not see themselves thriving in a conventional classroom. One participant stated, "We've had students who weren't on track to graduate until they enrolled in a CTE program. Now they have direction." Another added, "CTE gives kids a reason to come to school. It connects school to life." These real-time exchanges reinforced the view that CTE is not only academically relevant but personally transformative for many students. Despite the strong support, participants across all sources acknowledged enduring tensions between promoting CTE and navigating cultural norms that prioritize four-year college pathways. One counselor remarked, "Parents and even some teachers still see CTE as a fallback," a sentiment that reflected the historical divide between vocational and academic education. These ongoing perceptions align with the philosophical tension articulated in the historic debate between Booker T. Washington and W.E.B. DuBois. Washington advocated industrial education and self-sufficiency, while Du Bois emphasized classical education and civic leadership.

This ideological divide has continued to shape modern school counseling advisement practices. The findings confirmed that, while counselors widely recognize the value of CTE as a

career preparation tool, their efforts are frequently constrained by institutional expectations, societal perceptions, and family beliefs. Triangulated evidence from survey patterns, interview narratives, and focus group dialogue confirmed that CTE is appreciated for its practical benefits but not always promoted with equal vigor in college-preparatory environments.

Barriers to CTE Access. Significant barriers to CTE access emerged across all three data sources, including a survey, interviews, and a focus group, underscoring the systemic nature of these challenges. According to the survey, many counselors identified issues such as limited program availability, insufficient funding, and scheduling conflicts as the primary obstacles to their work. Nearly 60% of respondents indicated that their school offered fewer than 10 CTE programs, with rural counselors more frequently reporting a lack of program diversity. Additionally, counselors in schools with traditional (non-block) scheduling reported that students often could not fit CTE into their schedules due to overlapping academic course requirements or AP classes. Interview responses provided deeper context for these barriers. One counselor explained, "We can't offer every CTE program because of funding. If we had the staff, we could offer more, but it's not a priority at the district level."

Another added, "Students struggle to fit CTE into their schedules when advanced placement courses fill their day." These comments highlight how resource allocation and academic programming priorities intersect to disadvantage students who might benefit most from hands-on learning experiences. Besides institutional limitations, parental perceptions were frequently cited as barriers. Counselors shared that some parents discouraged CTE enrollment, believing it detracts from college preparation or limits long-term opportunity. One counselor remarked, "Even when a student is interested in culinary and welding, their parents push them

toward calculus and chemistry instead." This aligned with broader research on college-for-all mindsets, which can unintentionally marginalize vocational pathways (Advance CTE, 2020).

During the focus group, these themes were further validated. Urban counselors discussed the inflexibility of traditional scheduling and its impact on course selection. One counselor shared, "We only have a few CTE slots open each year, and they're filled fast. Kids have to choose between CTE and electives they need for college applications." In contrast, rural counselors emphasized limited access to specialized programs, citing a lack of transportation to satellite campuses or regional vocational centers. One participant summarized it plainly, "If it's not taught in our building, it might as well not exist for our students."

Role of Counselors in CTE Advisement. Counselors described themselves as key influencers in students' postsecondary planning but admitted to knowledge gaps. Analysis of the survey results, interview transcripts, and focus group discussions revealed that while counselors recognize the value of CTE, they often felt unprepared to guide students effectively across academic and CTE tracks. Survey data indicated that only 42% of participating counselors had received formal professional development. Counselors with such training expressed greater confidence in discussing local labor market trends, CTE certifications, and dual credit opportunities. Those without this training often defaulted to promoting four-year college pathways, even when students' interests and aptitudes may have been better suited to technical careers.

Interview findings reinforced this gap. One counselor admitted, "I often prioritize college prep over CTE without meaning to. It's just what I know best." Another shared, "I rarely get updates on CTE from district leadership, so unless I go out of my way to ask, I'm behind." These

statements reflect a broader trend in which limited access to relevant training and information prevents counselors from advising equitably across all post-secondary options.

The focus group echoed these sentiments. Participants reported that professional development in career and technical education was neither routine nor a priority. One counselor observed, "We get PD on social-emotional learning and standardized testing, but rarely on technical education or credentialing pathways." Another noted, "I rely heavily on our CTE teachers to stay updated. There is no structured process for me to stay informed." This informal approach, which proved helpful to the counselors interviewed, illustrates a systemic reliance on CTE faculty rather than district-supported training, reinforcing the perception that CTE advisement is supplementary rather than essential.

This study's findings highlighted a critical disconnect in that counselors are willing and eager to support diverse student goals. However, systemic gaps in training, information flow, and institutional emphasis could hinder their effectiveness.

Perceived Value of CTE in Student Success. The perceived value of CTE in contributing to student success emerged as a strongly supported theme across all three data sources: survey responses, individual interviews, and the focus group. Together, these findings revealed a collective recognition among school counselors that CTE plays a vital role in enhancing student outcomes both within and beyond the school environment.

The survey's responses highlighted broad support for the connection between CTE and long-term success. Nearly 80% of counselors agreed that CTE makes a positive contribution to students' academic development, personal growth, and career readiness. Respondents frequently cited hands-on learning, employability, and practical life skills as key reasons for recommending

CTE. Many indicated that students participating in CTE demonstrated greater school engagement and a stronger sense of direction regarding their postsecondary plans.

Interviewed counselors detailed the survey trends, providing personal accounts of CTE's impact on their students. Many described CTE as a transformative experience for previously disengaged or uncertain students. One counselor noted, "I've seen students who felt lost become completely invested once they started a CTE course; it gives them something tangible to work toward." Others are reflected in CTE's ability to foster confidence and leadership skills, particularly in students who did not view themselves as traditionally "academic." Interviewees reported that they frequently observed increased motivation, improved attendance, and enhanced classroom performance among CTE students.

The focus group discussions provided additional validation of this theme by emphasizing the broader institutional and emotional impact of CTE participation. Counselors discussed how CTE often allows students to "see the relevance of school" and apply what they are learning to real-life scenarios. Many agreed that CTE students demonstrated clearer career paths and more confident decision-making. Participants also noted that CTE uniquely helps students develop interpersonal and professional skills that are often overlooked in traditional academics. The benefits of CTE, the group noted, are not limited to students pursuing careers; college-bound students also gain valuable life skills that prepare them for life after graduation.

The study confirmed counselors' perception of CTE as a key factor in student success through analysis of survey, interview, and focus group data. The benefits extend beyond career training to encompass personal development, goal achievement, and real-world readiness. The agreement across various data sets strengthens the case for viewing CTE not as an alternative,

but as a supportive addition to academic programs, catering to the varied needs and ambitions of students.

Equity in CTE Access. Equity in access to CTE emerged as a primary concern across all sources of data, with recurring themes related to geographic disparities, cultural inclusivity, and systemic limitations. Through triangulated evidence from surveys, interviews, and a focus group, the study revealed persistent inequities that limit full participation in CTE for many students. In the survey, counselors from rural settings consistently reported offering fewer CTE programs compared to their urban counterparts. Over half of rural respondents reported having five or fewer available CTE pathways at their schools, and many attributed this to inadequate funding, staffing shortages, and geographic isolation. Urban counselors, while often reporting a wider variety of programs, noted that competition for limited seats and scheduling conflicts made it difficult for all students to participate equitably.

The interviews added context to these disparities. One rural counselor explained, "We'd love to offer more, but there's no transportation and no instructors willing to come out this far." Another noted, "Rural students don't have the same CTE choices as urban students," emphasizing how physical and infrastructural limitations reduce opportunities. On the other hand, urban counselors described challenges related to program accessibility rather than availability. One urban counselor shared, "Our students may have ten programs to choose from, but if they don't have room in their schedule or the GPA to get in, it's not really a choice." Cultural barriers were also evident. Several counselors spoke about how students from historically marginalized backgrounds often feel unwelcome in specific CTE environments. "Minority students don't always feel welcome in some CTE programs," one counselor noted. At the same time, another shared concerns that students of color were sometimes tracked into CTE

without a full range of options being presented. This raised critical questions about how advisement practices either promote or limit access based on perceived potential.

During the focus group, these concerns were echoed and further elaborated upon. Counselors of color specifically emphasized that equity in CTE access goes beyond program availability; it also involves how options are presented, how students see themselves represented in programs, and whether families are fully informed. One participant noted, "Representation matters. When my students don't see anyone who looks like them in a welding or tech class, they wonder if they belong there." Others advocated initiative-taking outreach, culturally relevant program promotion, and professional development for staff to better support diverse learners. Across all three data sources, the theme of equity consistently emerged not just as a moral imperative but as a practical obstacle to expanding CTE participation. These findings suggest that ensuring equitable access to high-quality CTE programs will require more than increasing offerings; it will also demand intentional strategies that address transportation, scheduling, cultural inclusivity, and informed advisement.

Need for Counselor Training on CTE. A critical theme that emerged from the data were the pronounced need for enhanced counselor training, specifically in CTE. Triangulated data from the survey, interviews, and focus group revealed consistent concern regarding inadequate preparation, outdated knowledge, and uncertainty about CTE pathways. Across all three sources, counselors expressed a strong desire for professional development opportunities that are timely, relevant, and accessible. Survey data showed that fewer than half of the participants had received any formal training related to CTE programming, labor market trends, or technical credentialing processes. This lack of exposure created a notable confidence gap in advising students on vocational options. Counselors reported greater familiarity with four-year college preparation,

while fewer felt equipped to guide students toward career certifications, apprenticeships, or dual-credit technical programs.

Interview responses echoed these findings. Counselors openly admitted to defaulting to traditional college-prep guidance due to their limited expertise in CTE. Several shared that their knowledge was largely self-taught or acquired informally through occasional conversations with CTE teachers. One counselor noted, "I often prioritize college prep over CTE without meaning to," illustrating how the absence of formal training can influence advisement decisions even when unintentionally. Others described feeling disconnected from evolving workforce needs because of minimal exposure to updated industry or programmatic changes within their districts.

The focus group added a collaborative dimension to this issue. Counselors expressed shared frustration with the scarcity of district-level communication and structured training on CTE. Participants noted that professional development offerings typically emphasized standardized testing, academic advising, or social-emotional learning, leaving vocational advisement marginalized. Several focus group members emphasized the lack of systematized information flow between CTE departments and counseling offices, making it challenging to stay current with program offerings, certification, and evolving career pathways. Counselors called for more intentional integration between academic advising and technical education planning, highlighting a disconnect that often leaves students unaware of available CTE opportunities.

Taken together, the survey result trends, the personal reflections from interviews, and the group dialogue in the focus group all pointed to a shared reality: counselors are underprepared to fully support students in navigating CTE options. This systemic gap contributes to unequal representation in vocational pathways and may inadvertently limit students' exposure to viable,

high-demand postsecondary alternatives. The findings underscore the need to develop training structures that integrate CTE knowledge into both initial counselor education and ongoing professional development systems.

Trustworthiness

Trustworthiness refers to the quality, authenticity, and truthfulness of qualitative research findings. It is related to the readers' trust or confidence in the results (Schmidt & Brown, 2015; Nowell et al., 2017). Lincoln and Guba (1985) emphasized that the trustworthiness of a study was essential to evaluating its worth, and their framework remained widely cited and adapted in recent literature (Korstjens & Moser, 2018). Trustworthiness is typically established through:

- Credibility-confidence in the 'truth' of the findings;
- Transferability- showing that the findings had applicability in other contexts;
- Dependability- showing that the findings were consistent and could be repeated, and
- Confirmability- a degree of neutrality or the extent to which the respondents shaped the findings of a study, not researcher bias, motivation, or interest.

Credibility

Credibility concerns the fit between respondents' views and the researchers' representation of them (Tobin & Begley, 2004). It enhances believability and confidence in the findings. Recent literature (Amankwaa, 2016) emphasized triangulation, peer debriefing, and member checking as robust strategies for achieving credibility. In this study, credibility was achieved using methodological triangulation, participant validation, peer debriefing, and consistent thematic alignment across data sources. The central credibility strategy employed in this study was triangulation of three distinct data sources: a structured survey, individual

interviews, and a focus group. Each source offered a unique lens for examining school counselors' perceptions of CTE and their advisement practices. The survey provided a broad overview of counselor attitudes and behaviors. Interviews allowed for deeper exploration of individual experiences, and the focus group offered collective meaning-making and confirmation of shared concerns. The convergence of evidence across these sources bolstered the credibility of the findings and ensured that themes were not drawn from isolated incidents or single perspectives. The consistency of participant responses across multiple methods enhanced credibility. For instance, the theme "Need for Counselor Training in CTE" emerged across all three data sets. Counselors consistently indicated that a lack of formal CTE training limited their confidence and capacity to advise students effectively. This theme was supported by survey results showing that only 42% of counselors had received such training, as well as rich narrative accounts of uncertainty, defaulting to college-prep pathways, and requests for targeted professional development.

Peer debriefing further contributed to credibility. An experienced qualitative researcher reviewed coding samples, theme development, and data interpretations at stages of the analysis process. Their feedback prompted refinements in theme definitions and ensured interpretations remained close to the participants' intended meanings. The study's internal consistency strengthens its credibility. For instance, survey data revealing uneven CTE advising for college- and career-bound students corroborated interview and focus group findings on counselor bias and scheduling issues. Multiple sources consistently confirmed that the identified themes authentically reflected participants' experiences, not researchers' bias. Using direct quotes throughout highlighted participant perspectives, ensuring transparent interpretations, and offering

readers direct access to the raw data. This practice not only enriches the narrative but also invites readers to evaluate the interpretations independently, a hallmark of credible qualitative reporting. The combination of data triangulation, peer validation, alignment across sources, and participant voice substantiated the credibility of this study's findings. The results presented are rooted in the authentic perspectives of the participants and are supported by a rigorous analytic process designed to ensure accuracy and representativeness.

Triangulation. Triangulation, defined as the convergence of information from multiple sources to enhance validity (Carter et al., 2014; Nowell et al., 2017), was a core strategy in the design of this study to increase rigor and trustworthiness. It was operationalized through the systemic integration of three distinct qualitative data sources: a structured survey, six individual interviews, and a focus group. Each method contributed to unique perspectives and played a complementary role in both confirming and deepening the study's findings.

The survey served as the foundational data collection tool, providing a structured and categorical overview of school counselors' attitudes, behaviors, and practices regarding CTE. With twenty-six participants responding, the survey captured quantifiable patterns related to CTE advising rates, perceptions of career readiness, equity concerns, counselor training, and program accessibility. For instance, the survey revealed that only 42% of counselors had received formal CTE-focused professional development, and that included college-bound peers. This initial data helped identify emergent trends and thematic categories, which guided the development of more probing questions for the interview and focus group.

The individual interviews offered in depth, context rich elaborations on survey responses. Counselors used this space to explain the personal, professional, and institutional factors influencing their advisement practices. Where the survey highlighted a pattern that many

counselors lacked CTE training, the interviews revealed the lived experience behind it. One counselor noted, "I often prioritize college prep over CTE without meaning to. It's just what I know best." This qualitative insight brought emotional nuance and institutional critique that a closed-ended survey alone could not capture. Interviews also uncovered localized inequities based on school setting and population served, including the influence of parents, access gaps in rural areas, and perceived stigma around vocational programs.

The focus group served as a dynamic space for collaborative reflection, allowing participants to respond to the moderator and to one another. Unlike interviews, which isolated individual perspectives, the focus group captured how shared narratives, professional norms, and tensions surfaced in real time. Participants discussed the prioritization of four-year college pathways over CTE and debated the implications of tracking students based on perceived ability or background. The emotional tone, including shared frustrations and collective hope for improvement, emerged strongly in this setting and helped validate the thematic structure that had been constructed from the survey and interviews. Most importantly, it also revealed areas of divergence such as differing views of CTE's role in college readiness that prompted further refinement of theme boundaries and conceptual distinctions.

By intentionally comparing, corroborating, and contrasting these three sources of data, the triangulation process supported the credibility, dependability, and confirmability of the study's results. Themes such as "Perceptions of CTE as a Career Preparation Tool," "Barriers to Access," and "Equity in CTE Access" consistently emerged across all three methods, suggesting high thematic saturation and strong alignment between counselor perspectives. Divergent findings such as the variation in advising practices based on setting or counselor training were not dismissed but rather treated as opportunities to deepen and complicate the thematic analysis.

This helped the study avoid overgeneralization and positioned variance as a meaningful part of the interpretive process. Triangulation in this study was not merely a procedural safeguard but an interpretive strategy. It enriched the analysis by layering data, validating shared experiences, and drawing attention to context-specific differences, thereby ensuring a holistic and trustworthy account of school counselors' perceptions and practices regarding CTE.

Peer Debriefing. An impartial colleague reviews and assesses the research process (Delve, 2022; Korstjeins & Moser, 2018), helping identify bias and improve accuracy. Peer debriefing was implemented in this study as a strategy to enhance the credibility and trustworthiness of the findings. In qualitative research, peer debriefing involves engaging a knowledgeable but objective colleague to critically examine and challenge the researchers' interpretations, methods, and assumptions. This practice helps identify potential bias, refine analytic categories, and ensure that emerging themes are grounded in the data. To strengthen the integrity of the findings, a peer debriefer trained in qualitative methodology and familiar with the context of K-12 counseling education was engaged in the data analysis process. The debriefing process occurred systematically during three key phases, following the initial round of open coding of the interview transcripts, focus group transcripts, and survey responses. The peer debriefer reviewed the sample of raw data excerpts alongside the assigned open codes. Feedback focused on whether the codes reflected participants' words and whether interpretations were consistent with the intended meaning. This step helped to validate that the codes remained close to the data and that the researcher's assumptions did not override the participant's voice.

Following axial coding, the peer debriefer participated in a detailed review of code categories and emerging themes. During this phase, discussions were held to determine whether the connections between codes were logically sound and supported by the data sources. For

example, the theme "Perceived Value of CTE in Student Success" was reviewed for consistency across interviews, focus groups, and survey data. The debriefer questioned distinctions between this theme and overlapping categories, such as "Perceptions of CTE as a Career Preparation Tool," leading to more precise delineation between themes. As the themes were finalized, the peer debriefer reviewed the triangulation matrices that connected themes to data from the interviews, focus group, and surveys. This step ensured that each theme was supported by more than one data type, affirming that conclusions were not reliant on a single line of evidence. For instance, in reviewing the theme "Equity in CTE Access," the peer debriefer confirmed alignment between survey-reported disparities and anecdotal experiences shared in both interviews and focus group discussions.

Throughout the process, notes from debriefing sessions were recorded, and several suggestions led to direct modifications in the presentation of themes and data excerpts. These included refining wording to reflect participant intent and adjusting the organization of themes to reflect more precise conceptual boundaries more accurately. The peer debriefing process also supported reflexivity, prompting the researcher to regularly reflect on positionality and the potential influence of personal experiences and professional background on data interpretation. By incorporating peer debriefing as a formal component of the study, the research process gained an additional layer of external scrutiny, thereby enhancing analytical rigor. The detailed, staged collaboration with a knowledgeable peer strengthened the trustworthiness of the findings and contributed to a more transparent and credible representation of participant experiences.

Member Checking. Participants provide feedback on the researchers' interpretations, ensuring accuracy and alignment with their realities (Amankwaa, 2016). This study employed transcript reviews to ensure the validity of the findings. Verifying interview transcripts with

participants ensured that the raw data were accurately transcribed and represented their expressed intent.

Transferability

The researcher selected participants purposefully, meaning only individuals with the specific backgrounds or characteristics necessary to provide rich and in-depth insight into the research questions that drove the study were selected (Robinson, 2014). Transferability focuses on whether findings can apply to other settings (Houghton et al., 2013). Although qualitative findings are context-specific (Shenton, 2004), providing thick description enables readers to determine applicability. As reiterated by Korstjens and Moser (2018), thick description goes beyond observation to include detailed context and meaning. The study's findings, centered on how secondary school counselors perceive and advise students regarding CTE, hold strong potential for transferability to comparable educational contexts. Several strategies were employed to support the transferability of the study's results.

First, purposeful sampling ensured the inclusion of school counselors from a diverse range of school settings, including urban and rural districts. The participant pool varied in terms of years of experience, geographic location, and school demographics, allowing the data to reflect a broad spectrum of perspectives on CTE advisement. This diversity enriched the findings and made them more relatable to the counselors working in varied educational systems. Second, the study employed data triangulation through surveys, individual interviews, and a focus group. This multi-method approach captured both trends and in-depth narratives, increasing the likelihood that others in the counseling profession will see their practices and constraints reflected in the results. For example, the theme "Barriers to CTE Access" was supported by counselors across different settings who described issues such as scheduling conflicts, limited

course offerings, and funding disparities. These are common structural challenges shared by many schools across regions, enhancing the transferability of this theme.

The theme "Equity in CTE Access" further contributed to transferability by highlighting challenges encountered by both under-resourced rural schools and overcrowded urban environments. Counselors described similar frustrations with reaching marginalized students and ensuring that all students, regardless of race, income, or academic standing, had meaningful access to career-focused education. These shared concerns suggest that equity-related findings are not confined to isolated contexts but reflect a broader national issue. Ultimately, the transferability of this study is strengthened by the diversity of participants, the triangulated sources of data, and the clarity with which results were documented. While the findings reflect the experiences of a specific group of counselors, the conditions described, such as limited CTE training, systemic barriers to access, and conflicting institutional priorities, are not unique. As such, the results provide meaningful insights for school counselors, administrators, and policymakers seeking to enhance CTE engagement in similar secondary school settings.

Thick Description. In qualitative research, *thick description* remained critical for ensuring depth and meaning. Help for Assessment (2024) described thick descriptions as capturing detailed observations and interpreting and analyzing these observations to uncover social and cultural significance. This aligns with a recent scholarship that emphasizes thick descriptions as an interpretive process to convey the context, emotion, and complexity of human experiences (Nowell et al., 2017; Ponterotto, 2022). In contrast, *thin description*, often associated with quantitative research, is limited to surface-level observation without interpretive depth. Lincoln and Guba's (1985) original assertion remained foundational, stating that a sufficiently detailed description allowed for evaluating transferability across various contexts. This principle

has continued to be upheld in recent literature, where scholars emphasize the importance of rich narratives and illustrative quotations in enhancing trustworthiness and facilitating transferability (Colorafi & Evans, 2016; Levitt et al., 2018). Graneheim and Lundman's (2004) guidance on using vivid participant quotations and detailed thematic elaboration continues to inform contemporary qualitative standards (Bengtsson, 2016; Korstjens & Moser, 2018). In this study, thick description was used throughout the presentation of results. Detailed participant quotes, contextual summaries, and explanatory narratives were included to help readers understand not only what participants said, but also the environment and circumstances in which they said it. This depth enables readers from other school systems to determine the relevance of these findings to their settings.

Dependability

Dependability ensured that the research findings remained stable over time and across various conditions (Nowell et al., 2017). A clear audit trail (Koch, 1994) supported transparency, allowing other researchers to trace decisions and validate consistency. In this study, dependability was established through a clearly documented and systematically applied methodology. From participant recruitment through data analysis, each phase followed a structured protocol designed to ensure that the results could be replicated or audited by another researcher following the same procedures. The use of multiple data sources supported internal consistency, allowing themes to emerge from distinct types of interactions with participants. A consistent interview guide and moderator protocol were employed to minimize variability across sessions, while the survey instrument was designed to reflect the core constructs explored in the qualitative components. This allowed for alignment in the language, focus, and tone of questions across all data sources, thereby enhancing the credibility and dependability of the results.

Additionally, open, and axial coding procedures were consistently applied across all qualitative data. Initial coding was reviewed and refined through ongoing peer debriefing and reconciliation processes. This allowed for consistent interpretation of participant responses while maintaining fidelity to their original context and meaning. Audit trails, maintaining raw data, field notes, and a reflexive journal, helped establish dependability.

Audit Trail. An audit trail enhanced the dependability of qualitative research by documenting the researchers' decisions throughout the study (Koch, 2020). This process involves maintaining detailed records, including raw data, field notes, transcripts, and reflexive journals, which enable researchers to track, cross-reference, and validate their methodological and theoretical choices (Fusch & Ness, 2015). Koch (2020) suggested that, with access to the same data, another researcher could independently reach comparable conclusions, ensuring transparency and replicability in the research process. An audit trail was maintained throughout the study to document the researchers' decision-making process, coding procedures, and analytic development. This trail served as a transparency mechanism, ensuring that the steps taken in data collection, analysis, and interpretation were methodical, traceable, and verifiable. The audit trail included the following artifacts:

- A log of all research activities, including recruitment, data collection, transcription, and coding timelines.
- Raw data files, including survey responses, interview transcripts, and focus group notes and transcripts.
- The researcher maintains sticky-note memos and reflections after each coding session to track evolving thoughts, emerging patterns, and questions needing clarification.

- Coding summaries, including versions of open, axial, and selective coding charts that documented how categories were condensed into broader themes.
- Peer debriefing notes, which recorded the feedback provided by an external qualitative expert during the theme development process and how that feedback was applied.
- Triangulation matrices, used to align data from multiple sources with the final thematic structure.

By maintaining and organizing these elements, the study ensures that an independent reviewer could retrace the research process and confirm that the findings were derived through a consistent and rigorous approach.

Confirmability

Confirmability involves demonstrating that research findings were shaped by participants' experiences, rather than the researcher's bias (Tobin & Begley, 2004). Achieved by maintaining audit trails and reflexive journaling, confirmability validates neutrality and objectivity (Amankwaa, 2016; Guba & Lincoln, 1989). Confirmability referred to establishing that the data objectively represented the participants' information and viewpoint, not the researchers. As Shenton (2004) proposed, "steps must be taken to help ensure as far as possible that the work's findings are the result of the experiences and ideas of the informants, rather than the characteristics and preferences of the researcher" (p. 72).

According to Guba and Lincoln (1989), confirmability was established when credibility, transferability, and dependability were all achieved. In this study, confirmability was strengthened using triangulated data sources, systematic coding processes, and ongoing reflexivity. To minimize the influence of personal bias, the researcher employed bracketing

techniques and maintained reflective memos throughout the research process. These memos documented the researchers' assumptions, emotional reactions, and interpretations, allowing for an evaluation of whether those internal thoughts were influencing coding decisions critically. Triangulation between the survey, interviews, and focus group further bolstered confirmability. For each theme, data from at least two sources converged to support the interpretation. For instance, the theme "Need for Counselor Training in CTE" was not only evident in narrative interview accounts but also reinforced by survey results, which showed that only 42% of the participants had received formal CTE training. Similarly, "Equity in CTE Access" was supported by both qualitative reflections and quantitative patterns based on school type and region.

Confirmability was also ensured by peer debriefing, which challenged the researcher to justify thematic interpretations and support alignment with participant data. This process, combined with the audit trail, ensured that findings remained grounded in the voices of the participants and the context of the data, rather than in researcher assumptions.

Emergent Grounded Theory: The CTE Advisement Perception Model

Through the systematic application of constructivist grounded theory methodology and constant comparative analysis, this study developed a theoretical model explaining how secondary school counselors' perceptions influence CTE advisement practices. The emergent theory, termed the "CTE Advisement Perception Model," posits that counselor perceptions shape CTE advisement practices across three critical dimensions: equity, access, and preparation.

Core Theoretical Proposition

The central theoretical proposition emerging from this study is that counselor perceptions of CTE operate as the primary gatekeeping mechanism determining student access to career and technical education opportunities. These perceptions are formed through the interaction of

individual factors (knowledge, self-efficacy, prior experience) and contextual factors (institutional pressures, resource availability, cultural expectations). The resulting advisement behaviors create systematic patterns of differential access that particularly impact marginalized students and those from non-college-bound backgrounds.

Theoretical Components

Perception Formation Process. Counselor perceptions of CTE are constructed through limited professional development opportunities, vicarious learning from colleagues, and institutional messaging that prioritizes college preparation. In the absence of comprehensive CTE training, counselors develop outcome expectations based on incomplete information and cultural biases about the value of technical education.

Self-Efficacy Mediation. Counselors' confidence in their ability to provide effective CTE guidance directly influences the extent to which they discuss technical pathways with students. Low self-efficacy in CTE knowledge leads to avoidance behaviors, while high self-efficacy promotes initiative-taking engagement with CTE options.

Environmental Constraint Interaction. Institutional factors including scheduling conflicts, resource limitations, and college-focused performance metrics create environmental pressures that interact with individual perceptions to shape advisement outcomes. Even counselors with positive CTE perceptions may be constrained by systemic barriers.

Differential Impact Patterns. The theory explains how these perception-driven processes create systematic inequities in CTE access, with college-bound students receiving less comprehensive information about technical pathways despite potential benefits from dual enrollment or career exploration.

Theoretical Implications

This grounded theory contributes to the understanding of career guidance processes by demonstrating how individual cognitive factors interact with institutional contexts to create systematic patterns of educational opportunity. The theory suggests that effective CTE promotion requires interventions at multiple levels: individual counselor development, institutional policy changes, and cultural shifts in how technical education is valued. The emergent theory extends Social Cognitive Career Theory by providing a specific application to school counseling contexts and demonstrating how professional self-efficacy and outcome expectations operate within institutional constraints. This contributes to both counseling literature and career development theory by illuminating the mechanisms through which educational professionals influence student career trajectories.

Summary

This chapter illuminated the complexity of secondary school counselors' perceptions of CTE and the multiple factors that shaped their advisement practices. Through surveys, interviews, and a focus group, six key themes emerged: the perceived value of CTE in student success, barriers to access, the critical role of counselors in advising students about CTE, the need for more targeted counselor training, perceptions of CTE as a career preparation tool, and equity in CTE access. These themes were all developed through systematic open and axial coding procedures, refined by peer debriefing, and validated through triangulation across all three data sources. The data showed counselors recognized CTE's potential but faced challenges related to access, equity, and training. Counselors desired more professional development opportunities that address CTE programs and industry trends to bridge these gaps. Survey responses provided a broad foundation for understanding patterns in counselor perceptions and behaviors. At the same time, interviews and focus group discussions offered rich contextual

insights that deepened the interpretation of those patterns. This combination ensured that each theme was not only supported but consistently reinforced by multiple data streams, enhancing the internal coherence and credibility of the findings. The application of core qualitative validation strategies further strengthened the trustworthiness of the results.

Transferability was achieved through rich participant diversity and thick description, enabling readers to apply findings to similar educational settings. Dependability was established through clearly documented data collection and coding protocols, while an audit trail was maintained to ensure transparency and reproducibility. Confirmability was supported through reflective bracketing, peer debriefing, and data triangulation, which helped ensure that the findings accurately reflected participants lived experiences rather than the researcher's bias. Collectively, these measures confirm that the study's conclusions are both credible and well-supported. Counselors' perceptions of CTE, as well as the structures, training, and equity issues that shape those perceptions, directly influence the guidance students receive. The findings in this chapter lay a solid foundation for the interpretive work in Chapter 5, where the implications of these results will be explored with theory, existing literature, and practice.

Chapter Five: Conclusions, Implications, and Recommendations

This study confirmed that secondary counselors play a crucial role in encouraging student engagement with Career and Technical Education (CTE). Their perceptions and training directly affect advisement practices and decisions (cf. Advance CTE, 2018; Gordon & Schultz, 2020). This suggests that when counselors hold favorable views about CTE, they are more likely to proactively discuss these opportunities with students rather than steering them exclusively toward college-preparatory pathways. Although most counselors recognize CTE's role in fostering workforce readiness and soft skills, deeply rooted academic traditions often lead them to prioritize four-year college options. This dynamic particularly affects high-achieving students, who may miss opportunities for technical career preparation. The results from Chapter 4 clearly illustrate this trend, where counselor attitudes and training levels correlated directly with the extent to which they introduced CTE pathways to students.

The findings of this study aligned with Bandura's Social Cognitive Theory (SCT) (1986) and the Social Cognitive Career Theory (SCCT) (Lent et al., 1994), which emphasize the significance of self-efficacy and outcome expectations in shaping human behavior. In school counseling contexts, counselors with strong confidence in their CTE advising skills tend to guide students more effectively and consistently (Sanders et al., 2017). This theoretical perspective explains why individuals with limited training may feel uncertain and tend to advise based on comfort and familiarity. Chapter 4 findings supported this interpretation, as counselors who lacked prior exposure to CTE programs demonstrated reduced initiative in offering such pathways. In contrast, counselors who believed in their ability to guide students through vocational decisions more frequently provided comprehensive CTE options, particularly when supported by their districts or states. As gatekeepers to information about career pathways,

counselors' perceptions and practices directly influence student access to and engagement with CTE programs (Thornburg, 2016).

This qualitative grounded theory study aimed to develop a theory explaining how secondary school counselors' perceptions of Career and Technical Education (CTE) impact their advisement practices. Through the research process, six themes emerged:

- Perceptions of CTE as a career preparation tool
- Barriers to CTE Access
- Role of counselors in CTE advisement
- Perceived value of CTE in student success
- Equity in CTE Access
- Need for counselor training in CTE

Through triangulation of survey responses, interviews, and focus group data, it became clear that while counselors recognize the value of CTE, their advisement practices are shaped by training gaps, institutional barriers, and lingering stigmas around vocational pathways. These findings inform the broader conversation on how secondary education stakeholders can better support equitable access to CTE programs. The study's results corroborated and augmented prior research. Previous studies have identified that school counselors play a crucial role in shaping students' access to career pathways; however, many reports lack the necessary professional development in CTE advising (Advance CTE, 2020). The study validated previous research and highlighted how inadequate training affects real-world advisory practices. The guidance provided by counselors was shown to be significantly influenced by their self-efficacy beliefs and outcome expectations, particularly in their approach to college-bound versus career-bound students. As noted in Chapter 4, several selective codes of counselor perceptions shaped CTE

advisement practices across equity, access, and preparation, reflecting this intersection of cognition and behavior in a professional context. To contextualize these findings within the broader research landscape, the following discussion examines how each identified theme aligns with and extends existing scholarship on CTE advisement and student outcomes. The study's findings resonated with the work of Eimers (2017), who found that students perceive CTE programs as enhancing engagement and providing practical skills for future employment. Similarly, Browne (2021) highlighted the importance of acquiring soft skills through career and technical education, emphasizing the role of counselors in facilitating these opportunities. To further clarify the study's contribution, the following sections discuss each emergent theme in detail, connecting them with relevant literature and highlighting where the current findings align with, diverge from, or expand upon prior research in CTE advisement and student outcome.

Counselor Perceptions and CTE Advisement. The findings from this study revealed that counselor perceptions fundamentally shaped CTE advisement practices, directly supporting Social Cognitive Theory's (SCT) emphasis on how cognitive processes influence professional behaviors. My research identified three distinct perception categories among participants. CTE advocates (counselors with positive views who actively promoted CTE), CTE hesitant (counselors with mixed perceptions who occasionally mentioned CTE), and CTE avoiders (counselors with negative perceptions who rarely discussed CTE options). These perception patterns align with but extend beyond existing research that has documented the pivotal role of secondary school counselors in disseminating career information and guiding students toward workforce-aligned pathways (Gaunt, 2005; Thornburg, 2016). While previous studies have identified a general gap between the recognized importance of CTE and counselor preparedness (Advance CTE, 2023), my grounded theory analysis revealed that this gap manifests differently

across counselor perception categories, with preparedness deficits being most pronounced among CTE avoiders who had received no formal CTE training.

This study's findings support professional organizations' advocacy for CTE integration (ASCA, 2018), but my results suggest that current integration efforts fail to address the underlying perception barriers that prevent counselors from viewing CTE as equivalent to traditional academic pathways. Participants in my study who held positive CTE perceptions consistently emphasized the soft skills development that MacDermott and Ortiz (2017) identified as critical employer needs, while those with negative perceptions focused primarily on perceived academic limitations of CTE programs. This contrast reflects how counselor perceptions act as cognitive filters in accordance with social cognitive theory (Bandura, 1986), mediating how professional development and institutional policies are interpreted and enacted within educational contexts (Bandura, 1986; Dixon, 2024; Jensen, 2009).

Applying a critical theoretical perspective, these advisement practices can also be understood as embedded in broader socioeconomic and racial power structures that shape access to and participation in CTE programs (Howard & Navarro, 2015). Recent studies find that school counselors' perspectives are influenced by their observations of systemic inequities, such as poverty and shifting labor market demands and these perceptions subsequently impact efforts to support underrepresented or marginalized students (Johnson & Brookover, 2021; Fye et al., 2020). While SCT explains the mediation of behavior through cognition, critical theory compels us to interrogate whose interest advisement processes serve and whether they challenge or perpetuate longstanding structural inequities. Analyzing counselor perceptions through both lenses foregrounds the importance of equity driven policies and professional development that intentionally disrupt bias and promote inclusive pathways for all students.

Barriers to Effective CTE Advisement. My study's grounded theory analysis identified systematic preparation gaps as the core category explaining barriers to effective CTE advisement, which both confirms and reframes existing literature on CTE advisement obstacles. While previous research has documented institutional scheduling conflicts, limited professional development, opportunities, and persistent stigmas as primary barriers (Advance CTE, 2020), my findings revealed that these surface-level barriers stem from deeper systemic issues in counselor preparation and ongoing support. Specifically, participants in my study identified knowledge deficits (lack of current CTE program information), confidence gaps (uncertainty about CTE outcomes), and institutional disconnection (limited communication with CTE departments) as the fundamental barriers that manifest as the symptoms described in prior research. This finding extends Carruthers et al.'s (2021) work on equity concerns by demonstrating that counselor preparation disparities compound geographic and demographic access variations.

Rural counselors in my study reported significantly fewer professional development opportunities related to CTE, creating a multiplicative effect on access barriers for marginalized students. Whereas barriers such as scheduling conflicts and stigma are often discussed in isolation, my preliminary analysis of interviews with a small sample of counselors suggests these issues may be interrelated. Specifically, some participants described how inadequate preparation might contribute to scheduling avoidance. In turn, this could reinforce stigma and possibly reduce institutional support for counselor CTE training. Although these observations emerged from a limited sample and should be interpreted with caution, they point to the possibility that interventions could benefit from addressing interconnections among barriers, rather than treating them as separate challenges. Inadequate preparation leads to scheduling avoidance, which perpetuates stigma, which further reduces institutional support for counselor CTE training. This

understanding suggests that intervention strategies must address the barriers rather than targeting individual obstacles in isolation.

Counselor Practices and Student Outcomes. The counselor practices identified in my study directly demonstrate social cognitive theory's (SCT) emphasis on how self-efficacy beliefs influence professional behaviors and subsequent student outcomes. My research found that counselors with high CTE self-efficacy (those who felt confident in their CTE knowledge) were more likely to discuss CTE options during advising sessions compared to counselors with low CTE self-efficacy, supporting SCT's proposition that efficacy beliefs predict behavioral engagement. These findings put prior research in a new light, while Advance CTE (2018) reported that 60% of high school counselors versus 27% of middle school counselors use CTE coursework as an advising strategy. While previous sections highlighted the influence of systematic barriers such as institutional workload and resource disparities on CTE advisement, my study of self-efficacy differences had a particularly substantial impact on shaping advisement practices. The grounded theory analysis identified advisement intensity as a key practice dimension: counselors with higher self-efficacy provided comprehensive information about CTE programming, career outcomes, and labor market trends, whereas those with lower self-efficacy tended to give only cursory or superficial mentions of CTE options. This emphasis on individual knowledge and confidence contrasts with existing literature, which often foregrounds workload constraints as the primary impediment to effective advisement. Notably, participants in this study more frequently cited knowledge gaps and confidence deficits as significant obstacles, suggesting that, at least for this sample, supporting individual counselor development may be as important as addressing systemic resource limitations. This layered understanding underscores

the importance of designing interventions that attend to both structural factors and counselor capacity in advancing equitable CTE guidance.

The theoretical implications are substantial. SCT suggests that counselors' CTE advisement practices are shaped more by their perceived competence than by external constraints, indicating that professional development interventions should prioritize building counselor self-efficacy rather than simply reducing caseloads. My findings also revealed that counselors with formal CTE training rated their effectiveness significantly higher than untrained counselors, which aligns with SCT's emphasis on mastery experiences as the most powerful source of self-efficacy development.

Impact of Equity and Access. The equity findings from this study illuminate how counselor perceptions intersect with institutional barriers to create systematic disparities in CTE access, providing empirical support for SCT's emphasis on environmental factors in shaping educational outcomes. My qualitative theory analysis identified differential advisement patterns as a core category, revealing that counselors' perceptions of student academic ability influenced their CTE recommendations.

This finding extends research by Eimers (2017) and Browne (2021) on CTE engagement and skill acquisition by demonstrating that access to these benefits is mediated by counselor gatekeeping behaviors. Specifically, participants in my study exhibited three distinct advisement patterns, universal CTE promotion (recommending CTE primarily to all students regardless of perceived ability), selective CTE advisement (recommending CTE primarily to students perceived as "non-college bound"), and academic track prioritization (viewing CTE as a backup option for struggling students). These patterns directly contradict the comprehensive school counseling model that emphasizes equitable access to all educational opportunities.

The geographic inequities documented by Advance CTE (2018) were confirmed and deepened by my findings: rural counselors in my study not only faced reduced CTE program availability but also reported lower self-efficacy in career advisement, creating compound barriers for rural students. Most significantly, my research revealed how bias operates within counselor advisement practices. Participants frequently used coded language when describing disproportionately applied to students of color and students from low-income families. This finding supports Castro-Atwater's (2024) work on bias in counseling while providing specific mechanisms through which bias influences CTE access. The theoretical framework suggests that these equity issues stem from counselors' cognitive schemas about student potential and program value, indicating that effective equity interventions must address both explicit training and implicit bias recognition within professional development programs.

Alignment with Theoretical Frameworks

The findings of this study demonstrated robust alignment with both Social Cognitive Theory (Bandura, 1986) and Social Cognitive Career Theory (Lent et al., 1994), particularly in terms of how school counselors' self-efficacy beliefs and outcome expectations influence their career guidance practices related to career and technical education. Research from the past decade has provided substantial additional support for these theoretical connections, reinforcing the relevance of these frameworks in understanding contemporary school counseling practices.

Social Cognitive Theory and School Counselor Self-Efficacy

Research has extensively validated Bandura's foundational assertion that individuals tend to be reluctant to initiate behaviors when they perceive themselves as inadequately prepared or unsupported. A comprehensive meta-analysis by Sanders et al. (2017) revealed that school counselor self-efficacy directly predicted engagement in career guidance activities, with effect

sizes ranging from moderate to large across multiple domains. This finding aligned precisely with the Limited CTE Knowledge theme identified in Chapter 4, where counselors consistently expressed discomfort when discussing CTE pathways with students and families. Empirical studies have demonstrated that insufficient exposure to CTE programs fundamentally undermines the counselor's self-efficacy in career guidance provision. Zimmer et al. (2021) found that multi-component training programs significantly enhanced school counselors' competence in implementing comprehensive school counseling programs, with all participants exhibiting sustained growth through post-training phases. This research directly supports Bandura's (1997) four sources of self-efficacy, with a particular emphasis on the critical role of mastery experiences in professional development.

Investigations have also revealed patterns regarding counselors' self-efficacy in multicultural competency. Holcomb-McCoy et al. (2008) identified significant relationships between participation in multicultural counseling courses. They enhanced self-efficacy across five domains, with counselors who completed five to seven courses demonstrating markedly higher perceived competence than their counterparts. This finding highlighted the importance of targeted professional development in addressing the self-efficacy deficits identified in the Role Ambiguity theme of this study.

Professional Development and Vicarious Learning. The "Lack of Professional Development" theme identified in this study receives substantial theoretical support from social cognitive theory's (SCT) emphasis on vicarious learning processes. SCT posits that professional learning often occurs within a social context, with counselors frequently relying on observational learning to acquire new knowledge, attitudes, and skills by watching or interacting with more experienced colleagues. In environments where structured and systematic professional

development is lacking, counselors turn to informal methods such as observing peer practices, engaging in hallway conversations, or attending team meetings, which provide a forum for vicarious learning. While this form of learning is a natural and necessary aspect of early professional growth, it presents significant limitations; its effectiveness depends heavily on the quality and diversity of expertise available in the local professional community. Consequently, knowledge gaps may persist, especially in specialized domains such as CTE, multicultural counseling, or interpreting labor market trends, if these areas are not consistently modeled in day-to-day practice (Phillips et al., 2024). Without the guidance of structured professional development, counselors are at risk of unintentionally perpetuating outdated or inequitable advising practices, as they are exposed primarily to locally available norms and practices.

Research underscores the transformative impact of targeted professional development. Budiman (2017) found that systematic multicultural counselor training produced a 21% increase in competency, with strategies such as supervised reflection, Socratic dialogue, and cultural immersion yielding the highest gains. Similarly, Milsom and McCormick (2015) demonstrated that individualized mentoring interventions bridged critical knowledge gaps by offering focused modeling, direct feedback, and real-time support, elevating informal learning to a more intentional and equitable process. In the context of this study, the reliance on informal, vicarious learning in the absence of structured professional development led to uneven confidence among counselors and inconsistencies in advising quality, particularly related to the nuances of CTE pathways and equity-centered guidance. Thus, these findings reinforce the imperative for comprehensive, ongoing professional development to ensure all counselors acquire the up-to-date, specialized, and equitable advising skills necessary to effectively serve diverse student populations (cf. Phillips et al., 2024).

Social Cognitive Career Theory and Contextual Influences

Social Cognitive Career Theory's (SCCT) emphasis on contextual factors has received substantial empirical validation in school counseling research. The theory's integration of environmental barriers and support provided a comprehensive framework for understanding the systemic challenges identified in the study's findings. Specifically, this section will discuss how SCCT illuminates the ways that environmental factors such as access to resources, social support, and institutional barriers influence participants' career decision-making processes. Contemporary research has demonstrated that the SCCT's triadic model effectively explains career-related behaviors across diverse populations, with contextual factors accounting for significant variance in career development outcomes (Lent & Brown, 2013).

In the context of this study, the SCCT framework helps interpret the impact of external supports and obstacles on the career trajectories of the participants, setting the stage for a detailed analysis of the findings presented. The college-for-all pressures identified in this study found strong theoretical support in SCCT's outcome expectations construct. In SCCT, outcome expectations refer to individuals' beliefs about the likely results of pursuing specific educational or career paths. This section will first clarify how outcome expectations are shaped, highlighting the role of personal experiences, social messages, and institutional factors.

Building on this, Bryan et al. (2019) demonstrated that the culture of school counseling plays a central role in shaping students' college-going behaviors. Specifically, counselor expectations and institutional priorities were shown to be key predictors of how often students engaged with counselors around college topics. Connecting this to the present study, the findings revealed that both explicit and implicit pressures promote college for all, shaping participants' perceptions of

available options for after high school. with counselor expectations and institutional priorities serving as primary predictors of student-counselor contact patterns. This study validates SCCT's proposition that outcome expectations, whether based on realistic planning or influenced by social norms, are fundamental in shaping not only students' career-related decisions but also the guidance provided by school counselors. Here, the analysis will trace, step by step, how these expectations are transmitted through school counseling interactions, how they affect students' perceived options, and how they ultimately influence both student choices and professional guidance practices within the school context.

Empirical evidence also confirmed SCCT's emphasis on learning experiences as foundational to the development of self-efficacy and outcome expectations. Lent and Brown (2019) reviewed recent advancements in SCCT, highlighting how interventions targeting learning experiences effectively enhance self-efficacy and outcome expectations, which in turn influence career and educational outcomes. These findings directly supported the relevance of the theoretical framework to the theme of Lack of Professional Development, as counselors without adequate learning experience demonstrate a diminished capacity for effective CTE promotion (Brown & Lent, 2019).

Outcome Expectations and Career Guidance Practices

Research has provided nuanced insights into how counselors' outcome expectations influence their career guidance practices. Chiesa et al. (2020) conducted a longitudinal study examining career counseling expectations and client satisfaction, revealing that positive initial expectations significantly enhanced perceived performance and subsequent satisfaction outcomes. This research demonstrated clear parallels to the patterns observed in this study, where counselors with limited knowledge of CTE held correspondingly lower outcome

expectations for students pursuing technical pathways. The relationship between outcome expectations and counselor behavior has been further validated through policy-capturing methodologies. Dahling and Thompson (2010) demonstrated that contextual support and barriers significantly influence academic choice recommendations, with counselors systematically adjusting their guidance based on perceived environmental constraints. These findings provide empirical support for the environmental influences identified in this study's college-for-all pressures dimension.

Contemporary research also highlighted the cultural dimensions of outcome expectations in school counseling. Waalkes et al. (2021) found that predominantly White school counselors demonstrated limited contextual thinking about diverse students, with individualistic perspectives dominating their conceptualization processes. Waalkes argued that this restricted culturally responsive advising and note the importance of developing contextually and culturally grounded outcome expectations when promoting CTE opportunities for diverse learners. This concept highlighted the significance of culturally responsive outcome expectations in fostering equitable access to CTE opportunities.

Multicultural Competency and Cultural Responsiveness. The research identified significant gaps in school counselors' multicultural competency, directly supporting grounded theory's methodological emphasis on understanding social processes and cultural factors as they emerge from participants' lived experiences. Grounded theory methodology is particularly well-suited for examining multicultural competency development because it focuses on discovering how cultural factors function as both barriers and facilitators in professional development processes through systematic data analysis and constant comparison (Barnes, 1996; Sheridan &

Storch, 2009). Holcomb-McCoy and Myers (1999) demonstrated that multicultural counseling courses specifically designed for school counselor trainees significantly enhanced knowledge,

However, these studies revealed that competency development requires sustained, systematic interventions rather than isolated training experiences. This finding aligns with grounded theory's core principle that social processes such as multicultural competency development unfold dynamically over time through continuous social interactions and contextual influences (Berry, 2013). Research has further validated the importance of cultural responsiveness in career counseling practices, with grounded theory methodology enabling researchers to understand how cultural factors serve as both barriers and supports in career development processes through inductive analysis of experiences (Atiyeh, 2019). The cross-cultural applicability of SCCT has been demonstrated across diverse populations, with grounded theory emphasizing cultural context and social processes providing the theoretical framework for understanding how multicultural considerations emerge as core categories in professional development (Blanchet Garneau & Pepin, 2015). This research provided theoretical justification for the multicultural considerations identified throughout this study's findings, with grounded theory methodology specifically designed to reveal how cultural factors influence counselor development through systematic analysis of social processes and contextual interactions (Peters, 2019).

Theoretical Application. The convergence of empirical evidence with the findings of this study strongly supported the continued relevance of Social Cognitive Theory (SCT) and Social Cognitive Career Theory (SCCT) in understanding school counselor practices. Rather than emphasizing variance explained, my qualitative analysis highlighted the central role of social cognitive processes in shaping career-related outcomes. The patterns identified in this study

suggest that frameworks such as SCCT offer valuable insight into the complex interactions among counselor beliefs, institutional contexts, and guidance practices. The alignment between these theoretical constructs and participants lived experiences supports the relevance and utility of applying social cognitive perspectives to understand how career advisement unfolds within real-world educational settings. These findings confirm the appropriateness of applying these theories to understand the complex interactions between counselor beliefs, institutional contexts, and career guidance practices identified in this study. Research also highlighted the need for intentional interventions that address the multiple levels of influence identified in both theoretical frameworks. The systemic nature of the barriers identified in this study's themes required comprehensive approaches that simultaneously target individual counselor competencies, institutional practices, and broader cultural contexts.

Implications

The findings of this study yielded significant and multifaceted implications for educational policy, professional practice, and the trajectory of future research within the domain of Career and Technical Education (CTE), with particular emphasis on the pivotal role of school counselors in facilitating student engagement with CTE pathways. By systematically examining the perceptions, lived experiences, and professional insights of counselors, educators, and other key stakeholders, this research has illuminated both the systemic assets and enduring challenges that characterize contemporary CTE implementation. The patterns and themes that emerged from the data underscore the complex interplay between institutional structures, counselors' preparedness, and student access to high-quality CTE opportunities.

These implications are particularly salient for educational leaders, policymakers, and counselor education programs seeking to promote equity, enhance student achievement, and

reframe CTE as a robust and respected post-secondary option. The study's results suggested that targeted policy interventions, strategic professional development, and a reexamination of institutional norms are essential to dismantling persistent barriers and fostering inclusive participation in CTE programs. The results also call for a sustained scholarly focus on the mechanisms by which school counselors can advocate for and guide diverse student populations through CTE pathways, ensuring that all students have access to the full spectrum of educational and career opportunities.

The subsequent subsections elaborate on these implications, offering actionable recommendations for school counseling practice, institutional reform, and the advancement of scholarly inquiry. Collectively, these insights aim to inform an integrated approach to CTE that prioritizes equity, responsiveness to labor market demands, and the professional agency of school counselors as a catalyst for positive educational outcomes.

CTE Integration and Professional Development Needs

The critical gap between counselor preparation and CTE advisement effectiveness represents one of the most pressing challenges identified in this study. As demonstrated in Chapter 4, only 42% of participating counselors received formal CTE-specific professional development. Yet, these trained counselors were noticeably more likely to advise both college-bound and career-bound students to explore CTE pathways. This disparity suggests an urgent need for targeted professional development initiatives that ensure all counselors are equipped with up-to-date knowledge of CTE programs. By prioritizing equitable access to CTE-focused training, educational leaders and policymakers can help expand high-quality career preparation opportunities for a broader range of students and enhance the capacity of CTE to serve as a comprehensive educational approach.

Counselor CTE Knowledge Deficits and Training Implications. This study's findings reveal that counselors without formal CTE training often defaulted to traditional college-preparatory guidance, even when students' interests and aptitudes aligned with technical career pathways. This pattern points to a systemic need to better equip counselors with the knowledge and confidence necessary to present CTE as a viable option and valuable educational option. Contemporary research confirms that structured professional development programs significantly enhance school counselor competencies across multiple domains (Phillips et al., 2024). For example, the Texas Education Agency's comprehensive CTE training modules, which address Perkins V legislation, labor market information, and industry-based certifications, illustrate that systematic, accessible training opportunities can provide critical context and resources for counselors. These findings underscore the importance of expanding and mandating high-quality, relevant professional development in CTE for all school counselors, so they are fully prepared to guide students toward a broader array of postsecondary and career pathways.

Impact on Student Outcomes and Equity. The consequences of inadequate counselor preparation extend far beyond individual advising sessions. When counselors lack CTE knowledge, students from underrepresented backgrounds are disproportionately affected, as they often rely more heavily on school-based guidance than their peers who may have family or community connections to career pathways. This study's findings that rural counselors reported fewer CTE programs and limited professional development opportunities illustrate how geographic factors compound these equity challenges. Research indicates that students who participate in CTE programs demonstrate higher graduation rates and stronger workforce readiness, yet access to these benefits remains contingent on informed counselor guidance (Carruthers et al., 2021).

To address these disparities, educational leaders and policymakers should prioritize equitable investment in counselor training and the expansion of CTE program offerings, especially in rural and under-resourced communities. Ensuring that all counselors receive up-to-date, regionally relevant professional development will be essential for closing opportunity gaps and supporting positive student outcomes across diverse populations.

Systemic Integration Requirements. Effective CTE integration demands coordinated efforts across multiple levels of the educational system. This study's results suggest that isolated professional development workshops are insufficient to create lasting change in counselor practice. Instead, comprehensive approaches that integrate CTE content into initial counselor preparation programs, provide ongoing professional development, and establish systematic communication channels between CTE departments and counseling offices are essential. States like Wyoming and North Dakota have developed structured certification programs for career advisors that demonstrate how systematic approaches to professional development can enhance counselor effectiveness.

Labor Market Integration and Emerging Opportunities. The alignment between career advising and labor market realities represents an increasingly urgent challenge that extends far beyond simple data interpretation. As industries evolve and new jobs emerge, counselors must be equipped to interpret economic data but to translate complex labor market information into viable, accessible options for students from diverse backgrounds (Advance CTE, 2023). Chapter 4 findings revealed that participants frequently cited the need for more dynamic tools and training that help them communicate occupational forecasts and job growth with confidence, yet fewer than half had received formal training in labor market analysis or workforce development

principles. This suggests a significant opportunity to enhance both student readiness and workforce alignment.

Systematic Bias Recognition and Intervention. The study's findings that counselors often steered students toward different pathways based on perceived ability or background reflect deeply embedded biases that require systematic intervention. Research demonstrates that implicit bias significantly impacts the quality and comprehensiveness of information marginalized students receive about CTE pathways, ultimately affecting their career trajectories and economic opportunities (Byars-Winston & Fouad, 2006). However, in this current political climate where discussions of equity and diversity initiatives have become increasingly contentious implementing traditional anti-bias training for educators can face significant resistance at the policy or community level.

To address these realities, equity initiatives must be strategically designed to foster self-awareness and inclusive advising practices while aligning with district values and regulatory requirements. For example, professional development can focus on evidence-based strategies for supporting all students' postsecondary planning without necessarily framing the work in politicized terms. Incorporating reflective exercises, culturally responsive advising scenarios, and skills-based approaches to mitigate bias can be positioned as efforts to promote student success and meet workforce needs, concepts that often garner broader support. Ongoing dialogue and collaborative problem-solving among counselors can also create space for addressing unconscious assumptions within a supportive, outcome-focused context. By adapting the delivery and framing of bias awareness training, educational leaders can continue to advance equitable guidance for all student populations even within a challenging political landscape.

Culturally Responsive Career Counseling Implementation. The development of culturally responsive career counseling practices represents a critical component of equity initiatives that goes beyond bias recognition to encompass affirmative approaches to student engagement. Findings from Chapter 4 suggested that students from marginalized backgrounds often felt unwelcome in specific CTE programs, indicating that effective equity strategies must address both access and a sense of belonging. To respond to these needs, school districts and educational leaders should ensure that professional development for counselors includes training in culturally responsive advising strategies for building inclusive program climates, and tools for actively affirming diverse student identities. This may involve collaborating with community partners, integrating student voice into program design, and equipping counselors with concrete resources for validating students' cultural and academic assets. By implementing these practices, schools can ensure that guidance is not only academically rigorous but also culturally validating, thereby supporting all students in navigating and thriving within CTE pathways.

Structural Barrier Elimination. Equity initiatives must address the structural barriers that prevent marginalized students from accessing high-quality CTE programs, including transportation limitations, financial constraints, and scheduling conflicts. The study participants noted that students from low-income families often face additional obstacles to CTE participation, including a lack of transportation to off-site programs and an inability to purchase required materials or equipment. In my research, it was indicated that effective equity initiatives require comprehensive support systems that address these structural barriers while maintaining elevated expectations for all students. Such support systems include financial assistance, transportation services, and flexible scheduling options, resources that enable broader participation in CTE programs regardless of students' economic circumstances. Additionally, the

data revealed patterns suggesting that bias in advisement practices can influence student access to CTE opportunities.

Specifically, over 58% of counselors reported advising CTE enrollment for 80-100% of career-bound students, but only 10-30% did so for college-bound students. This disparity highlights the importance of integrating systematic bias recognition and correction as a critical component of any equity initiative. Thus, addressing both structural barriers and biases in advisement practices is essential for equitable access and elevated outcomes for all students. Counselors should implement structured reflection practices to examine their assumptions about student potential and the appropriateness of different educational pathways for diverse student populations, develop uniform presentation protocols for discussing all postsecondary options, ensuring that CTE pathways are presented with equal enthusiasm and detail as traditional college-preparatory options, and create documentation systems to track their advisement patterns and identify potential bias in recommendations across different student demographics.

Curriculum Integration and Enhancement. The study's finding that counselors without formal CTE training often defaulted to traditional college-preparatory guidance indicates the need for systematic changes in counselor preparation programs: integrate CTE content into all career development courses within counselor preparation programs, ensuring that future counselors understand the full spectrum of postsecondary options available to students, require fieldwork experiences that include exposure to CTE programs, workforce development agencies, and employer partnerships to provide practical understanding of CTE and develop specialized certification programs for counselors who wish to focus on career and technical education advisement, following models implemented in states like Wyoming and North Dakota.

Perkins V Implementation Enhancement. The study's findings regarding geographic and demographic disparities in CTE access indicate the need for enhanced federal oversight and support: strengthening accountability measures within Perkins V implementation to ensure that all students have equitable access to high-quality CTE programs regardless of their geographic location or demographic characteristics, provide additional funding for counselor professional development and program coordination activities that facilitate improved CTE advisement practices, and establish national standards for CTE counselor preparation and ongoing professional development to ensure consistency across states and regions.

Successful implementation of the emergent theory or new CTE advisement model requires several factors:

- Offer counselors thorough professional development to ensure they are well-versed in both the revised funding models, including TISA, and the core tenets of the new advisement model.
- Robust regional partnerships that include school districts, postsecondary institutions, industry leaders, and community stakeholders must align career pathways with workforce requirements to ensure equitable access.
- Integrated and responsive career preparation systems, supported by transparent cross-state data regarding options and outcomes, allow families and students to make informed decisions.
- Substantial allocation of resources, including time, personnel, and technological infrastructure, is dedicated to sustaining training programs, data systems, and comprehensive student support services.

- Policy initiatives should prioritize local adaptation and support practitioner sensemaking, thereby allowing for flexibility to accommodate diverse student needs while ensuring adherence to core model features.

Recommendations for Future Research

Longitudinal Impact Studies. Future studies should employ mixed-method approaches to examine the longitudinal impact of CTE-focused advisement on post-secondary outcomes, with particular attention to variations across urban, suburban, and rural contexts. Research should also explore the effectiveness of targeted CTE training for counselors and investigate how implicit bias influences advisement decisions for underrepresented student groups (Carruthers et al., 2021).

Student Outcome Tracking. The study's finding that counselors with positive CTE perceptions consistently emphasized various aspects of CTE value compared to those with negative perceptions necessitates longitudinal research examining how these different advisement approaches influence student outcomes:

- Conduct five-year follow-up studies of students who received diverse types of CTE advisement to understand the long-term impact of counselor practices on student career trajectories and educational outcomes.
- Examine the relationship between counselor training levels and student success in CTE programs, measuring both completion rates and post-graduate employment, job satisfaction, and wage outcomes.
- Investigate the impact of equity-focused advisement practices on participation rates and outcomes for students from underrepresented backgrounds.

Professional Development Effectiveness

Future research should rigorously evaluate the effectiveness of various professional development models in enhancing counselor's knowledge, confidence, and advisement practices related to career and technical education (CTE). For instance, employing randomized controlled trials of comprehensive counselor training programs would allow researchers to better establish causal relationships specific training interventions and improved student outcomes. In addition, examining the sustainability of behavior change following professional development interventions is warranted to identify the factors that support long-term improvements in counselor practice. Taken together, such studies would provide a stronger evidence base to inform the design and implementation of effective professional development for school counselors working in the CTE context.

Geographical and Demographic Disparities. The study's finding that rural counselors reported fewer CTE programs and limited professional development opportunities requires additional research to understand and address these disparities:

- Conduct comprehensive needs assessments in rural and underserved communities to identify specific barriers to CTE access and develop targeted interventions.
- Examine the effectiveness of technology-enhanced solutions for providing CTE advisement and career exploration opportunities in geographically isolated areas.
- Investigate innovative partnership models that can extend CTE program availability to underserved communities through regional collaboration and resource sharing.

Policy Implementation Analysis:

- Evaluate the effectiveness of state-level policy initiatives in improving counselor preparation and CTE advisement practices.

- Examine the relationship between policy implementation and student outcomes across different states and educational contexts.
- Study the factors that influence successful policy adoption and identify strategies for overcoming implementation barriers.

Mixed-Methods Approaches:

- Develop innovative mixed methods designs that combine quantitative outcome measures with qualitative understanding of counselor development and practice.
- Explore the use of technology-enhanced data collection to capture real-time counselor decision-making processes and their impact on student outcomes.
- Investigate the effectiveness of participatory research approaches that involve counselors, students, and families in identifying solutions to CTE access barriers.

Theoretical Development:

- Continue to refine theoretical frameworks for understanding counselor development and practice in CTE advisement contexts.
- Examine the applicability of Social Cognitive Theory (SCT) to understand counselor behavior change and professional development.
- Develop new theoretical models that integrate individual, institutional, and policy factors in explaining counselor effectiveness in CTE advisement.
- Future research should investigate whether counselors' advisement practices have remained unchanged due to limited understanding of the new Tennessee Investment in Student Achievement (TISA) funding formula compared to the previous Basic Education program (BEP) funding system.

- Studies are needed to determine if knowledge gaps regarding updated state funding frameworks influence counselors' ability or willingness to modify advisement strategies aligned with current CTE priorities.
- Assessing the impact of targeted training and information dissemination about the TISA model may identify effective approaches to bridge this knowledge gap and support the adoption of the best advisement practices.

Considerations

As with all qualitative research, the findings of this study are context-specific and cannot be transferred to all populations. Delimitations include the selected states and school types, as well as the decision only to include counselors with three or more years of experience. Limitations involve self-reporting bias, the small sample size, and varied interpretations of advisement. Self-reporting bias represents a significant concern, as participants may have provided socially desirable responses about their advisement practices, overstated their CTE knowledge, or been influenced by memory limitations and recall bias when reflecting on their professional experiences. The small sample size, while appropriate for qualitative grounded theory methodology, limits the representativeness of findings across diverse geographic, demographic, and institutional contexts, potentially affecting the achievement of theoretical saturation and the ability to explore meaningful subgroup differences. Varied interpretations of advisement created conceptual ambiguity, as participants may have understood this term differently based on their professional roles, institutional contexts, and individual experiences, with some viewing advisement as formal academic planning sessions while others included informal conversations, group presentations, or classroom guidance activities. This definitional

inconsistency may have resulted in participants discussing fundamentally different activities and experiences, potentially affecting the coherence and comparability of collected data.

Additionally, the reliance on self-reported data introduces challenges related to participant self-awareness, as counselors may lack complete awareness of their own biases, unconscious decision-making processes, or the true impact of their advisement practices on student outcomes, particularly when examining issues of equity and implicit bias in counseling practices. These methodological limitations highlight the context-dependent nature of the study's findings and emphasize that transferability rather than generalizability represents the appropriate standard for evaluating the applicability of results to other settings or populations. These factors should be considered when applying the findings or designing follow-up studies.

Summary

This qualitative study examined how school counselors' perceptions of career and technical education influenced their advisement practices, utilizing triangulated data collection methods that included surveys, interviews, and a focus group with twenty-six counselors across diverse geographic settings. The research addressed a critical gap in understanding the gatekeeping role counselors play in student access to CTE opportunities, particularly significant given that only 60% of high school counselors actively connect students with CTE pathways despite 91% effectiveness ratings among practitioners (Savitz-Romer et al., 2022).

The study's significance extends beyond individual counselor practices to encompass broader concerns related to educational equity and workforce development. By examining the perceptual factors that influence advisement decisions, this research offered crucial insights into systemic barriers that may hinder students' access to high-quality career and technical education opportunities. The findings have direct implications for counselor training programs,

professional development initiatives, and educational policy development at the local, state, and federal levels. The study's findings demonstrated alignment with Social Cognitive Theory (SCT) and Social Cognitive Career Theory (SCCT), particularly in terms of how counselor self-efficacy and outcome expectations influence career guidance practices (Savitz-Romer et al., 2022). The research extended theoretical understanding by illustrating how contextual factors, including institutional pressures, resource limitations, and cultural expectations, mediate the relationship between counselor beliefs and advisement behaviors. The selective code "counselor perceptions shape CTE advisement practices across equity, access, and preparation" provided a conceptual framework for understanding these complex interactions between individual, institutional, and systemic factors.

The theoretical contributions of this study extend SCT by demonstrating how environmental and contextual variables influenced the career development process not only for students but also for the counselors who guide them. The dual application of theoretical frameworks provided new insights into how career guidance professionals' own self-efficacy beliefs, outcome expectations, and environmental influences shaped their ability to support student career development in the technical and vocational domain effectively (Bandura, 1997; Lent et al., 1994).

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Appendix A

Participant Informed Consent Form

Carson-Newman University

Title of Study: Changing the Perspective: Counselor Influences on the Valuation and Impact of Career and Technical Education on College and Career Planning

Principal Investigator: Laranda Coleman

Email: [REDACTED]

THANK YOU for agreeing to participate in this study. Before participating, it is essential to understand the purpose of the research and what it entails. Please read the following information carefully. Please ask the researcher if anything is unclear or need more information.

Information and Purpose: The study in which you are being asked to participate is part of dissertation research focused on exploring the relationship between counselor perceptions and Career and Technical Education (CTE) value, uncovering the perceptions held by middle and high school counselors regarding CTE and how they impact their valuation.

Your Participation in Study Procedures: As part of this study, you will complete a survey, an interview, and a focus group. Your participation is strictly voluntary, with no penalty for discontinuing it.

Audio recordings will be used throughout the research process. These recordings will be kept confidential. Each participant will be given a pseudonym for the duration of the research. All recorded material will be kept secure and private. You will have the opportunity to review your responses in the researcher's notes upon request during the research period.

Benefits and Risks: There will be no direct benefit to you from participating in this study. However, the benefit will be student-based by informing the district of barriers that can hinder how career and technical education programs are valued in the district, and it will further provide a clearer picture of the perceptions of middle/high school counselors and the impact those perceptions have on student career planning and education. There are no known risks associated with participating in the study.

Confidentiality: Your responses will remain anonymous throughout surveys, interviews, and focus groups. The researcher will make every effort to preserve your confidentiality, including the following:

- Assigning code names or pseudonyms to participants in all research notes and documents.
- Keeping notes, interview transcripts, and any other identifying participant information in a locked file cabinet, under the personal possession of the researcher.
- Participant data will be kept confidential, except where the researcher is legally obligated to report specific incidents. The researcher will not share your responses with anyone other than the research supervisor.

If you have questions, please contact the researcher at ***lcoleman@cn.edu*** or her dissertation chair, Dr. Brian Sohn, at ***bsohn@cn.edu***.

Participant's Understanding

- **I agree to participate in this study and that the researcher will submit it in partial fulfillment of the requirements for the EdD degree at Carson-Newman University.**
- **I understand that my participation is voluntary.**
- **I understand that all data collected will be used solely for this or other research-related purposes, as authorized by Carson-Newman University.**
- **I understand that no participant will be identified by name in the final product.**
- **I am aware that all records will be kept confidential in the secure possession of the researcher.**
- **I acknowledge that the contact information of the researcher and advisor has been made available to me.**
- **I understand the data I provide will not be used to evaluate my performance in any capacity.**

I understand that I may withdraw from study without any negative consequences.

I acknowledge that I have read and understood the above information by signing below. I am aware that I can withdraw from the study at any time.

Signature  _____

Date _____ 

Appendix B

Formulated Interview and Focus Group Questions

Section 1: Individual Interview Questions

Interviewer Opening Statement for Individual Interview:

Hello, (**participant name**). Thank you so much for agreeing to take part in this interview. I truly appreciate your time and willingness to share your perspective.

I am conducting this interview as part of a dissertation focused on understanding how school counselors perceive career and technical education, often referred to as CTE, and how those perceptions influence their student advisement practices. Your insights are significant. This interview allows you to share your experiences in more detail, especially in areas where trends emerged from the survey data. There are no right or wrong answers here. I am interested in hearing your personal experience, professional insights, and anything you think could help better understand counselors' roles in supporting students in post-secondary planning. Everything you share will be kept confidential and used only for research purposes. You are free to skip any questions or end the interview anytime. Do you have any questions for me before we get started?

Questions: Experience & Background

1. How has your length of experience as a counselor influenced your confidence in advising students about CTE opportunities?
2. Do you think newer counselors (1-10 years) face different challenges in advising students about CTE compared to more experienced counselors?

Questions: Prior Teaching Experience

1. Since you indicated (having/not having) classroom teaching experience, how has that shaped your understanding of how CTE integrates with the academic curriculum?

2. Would having more exposure to instructional content help you feel more informed when advising students in CTE?

Questions: Education Level

1. How does your education level affect your perspective on vocational versus college-preparatory pathways?
2. Do you feel advanced degrees better prepare counselors to promote a balanced view of college and career readiness?

Questions: School Context

1. How do you think working in an urban versus rural setting affects your access to and promotion of CTE programs?
2. Do students in your school have equitable access to high-quality CTE pathways?

Questions: Scheduling Structure

1. How does your school's (block/traditional) schedule impact your ability to recommend CTE courses to students?
2. Are there any creative strategies your school uses to fit CTE into students' academic plans?

Questions: CTE Enrollment Advisement

1. What factors influenced your decision to advise (X% specific to each counselor survey response) of career-bound students to enroll in CTE courses?
2. What makes you more or less likely to recommend CTE to college-bound students?

Questions: Professional Development

1. Can you describe the nature of any formal professional development you've received in CTE?
Was it useful?
2. What type of professional learning would help you feel more equipped to discuss CTE with students and families?

Questions: Student Perceptions

1. Based on your interactions, how do students typically perceive CTE courses in terms of value and rigor?
2. Have you observed any changes in student interest in CTE over the past few years?

Questions: Equity and Representation

1. Your school has a predominantly (African American/Caucasian/Mixed) student population. How do you ensure equitable access to both college and CTE pathways for all students?
2. What role do cultural expectations play in how families view CTE?

Questions: Personal Reflection

1. If you were a student today, would you have pursued a CTE pathway? Why or why not?
2. What message do you hope your students take away about the value of CTE when they leave your office?

Section 2: Focus Group Interview Questions

Interviewer Opening Statement for Focus Group:

Hello Everyone, thank you all for joining today's focus group. I appreciate you taking the time to be here and contribute to this important conversation. My name is (interviewer introduction), and I am conducting research as part of a dissertation exploring school counselors' perceptions and practices around career and technical education, or CTE. This focus group is designed to expand on the results gathered from a survey completed by counselors like yourselves. That survey gave valuable data on how you advise students, how CTE is perceived, and what influences student engagement with these programs. Today, we want to dig deeper into the why behind those results. I am interested in your perspectives, lived experiences, thoughts, and insights beyond checkboxes and multiple-choice answers. There are no right or wrong answers. I want thoughtful and honest feedback. To ensure a productive session, I want to

remind everyone that all responses will remain confidential. Please speak openly, but let's also be mindful to give each person a chance to speak. I will guide the conversation with a few open-ended questions, but feel free to build on each other's thoughts.

Do you have questions before we begin?

Questions: Counselor Experience & Background

1. For those who were classroom teachers before becoming counselors, how did your teaching background influence your approach to advising students in CTE?
2. How has your experience as a school counselor influenced your perspective on CTE?
3. What challenges, if any, have you faced in guiding CTE based on your own level of knowledge and certification?
4. How has your perspective evolved throughout your counseling career?
5. Do you feel that your education and training prepared you to effectively advise students about college and career pathways, including CTE? Why or why not?
6. In your experience, do counselors with a background in teaching different subjects (i.e., STEM vs humanities) approach CTE advisement differently? If so, how?

Questions: Availability and Accessibility of CTE Programs

1. How do you feel the number of CTE programs at your school aligns with the needs and interests of your students?
2. What barriers prevent students from enrolling in CTE programs, and how do you address these challenges?

Questions: Student Advisement and Decision Making

1. What are the most common reasons students enroll (or do not) in your school's CTE courses?
2. How do graduation requirements and academic scheduling affect your ability to advise students about CTE?

Questions: Counselor Knowledge and Training in CTE

1. How confident do you feel in your knowledge of CTE programs and their benefits?
2. What additional training or resources would better equip you to advise students on CTE?
3. What challenges do you encounter when explaining CTE pathways to students and their parents?
4. Do you feel your school district adequately supports counselors to promote CTE pathways effectively? Why or why not?

Questions: Perceptions of CTE and Student Success

1. How do you perceive the value of CTE in preparing students for post-secondary education and careers?
2. Have you observed differences in student success between those who take CTE courses and those who do not? If so, what are they?
3. Do you think CTE is viewed equally to traditional academic pathways in your school? Why or why not?
4. How does CTE influence students' confidence and readiness for the workforce or college?

Questions: Recommendation for Enhancing CTE

1. What strategies have effectively increased student interest and enrollment in CTE courses?
2. In what ways could CTE programs be better integrated into high school curricula to ensure students benefit from them?

