University of Louisville
ThinkIR: The University of Louisville's Institutional Repository

Electronic Theses and Dissertations

1-2020

Capacity building: a study of career academies and student career self-efficacy.

Shawn Timothy Hinds Jr
University of Louisville

Follow this and additional works at: https://ir.library.louisville.edu/etd

Part of the Educational Leadership Commons, Secondary Education Commons, and the Vocational Education Commons

Recommended Citation

Hinds, Shawn Timothy Jr, "Capacity building: a study of career academies and student career self-efficacy." (2020). *Electronic Theses and Dissertations.* Paper 3567.
https://doi.org/10.18297/etd/3567

This Doctoral Dissertation is brought to you for free and open access by ThinkIR: The University of Louisville's Institutional Repository. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of ThinkIR: The University of Louisville's Institutional Repository. This title appears here courtesy of the author, who has retained all other copyrights. For more information, please contact thinkir@louisville.edu.

CAPACITY BUILDING: A STUDY OF CAREER ACADEMIES AND STUDENT CAREER SELF-EFFICACY

By

Shawn Timothy Hinds, Jr.
B.A., Roanoke College, 2000
M.A., Georgetown College, 2010
Ed.S., Eastern Kentucky University, 2017

A Dissertation
Submitted to the Faculty of the
College of Education and Human Development of the University of Louisville
in Partial Fulfillment of the Requirements
for the Degree of

Doctor of Education
in Educational Leadership and Organizational Development

Department of Educational Leadership, Evaluation, and Organizational Development
University of Louisville
Louisville, Kentucky

December 2020

Copyright 2020 by Shawn Hinds

All rights reserved

CAPACITY BUILDING: A STUDY OF CAREER ACADEMIES AND STUDENT CAREER SELF-EFFICACY

By

Shawn Timothy Hinds, Jr.
B.A., Roanoke College, 2000
M.A., Georgetown College, 2010
Ed.S., Eastern Kentucky University, 2017

A Dissertation Approved on

September 28, 2020

By the following Dissertation Committee

_____
Dr. W. Kyle Ingle

_____
Dr. Deborah Powers

_____
Dr. Jason C. Immekus

_____
Dr. Doug Stevens

DEDICATION

I dedicate this dissertation to my wife, Catherine. Without her support and encouragement, I would not have begun this doctoral endeavor. Throughout this process, she listened to my worries, inspired me with her ideas, and always believed in me. This dedication is a small gesture in comparison to all the things she has given me.

I also dedicate this to my children, Caitlin and Colin. I will always appreciate the sacrifices you made to give me the time to complete this. Caitlin, your work ethic, grit, and perseverance inspire me. Colin, your energy, enthusiasm, and passion never cease to amaze me.

ACKNOWLEDGEMENTS

I would like to thank the following people, without whom I would not have been able to complete this research.

Many thanks to my chair, Dr. Kyle Ingle, for your quick and honest feedback, as well as your patience as I pushed my revisions onto you as fast I as I could write them.

To Dr. Deborah Powers, thank you for encouraging me to enroll in this program and for acting as a mentor, cheerleader, and guide on this crazy journey!

To Dr. Doug Stevens, thank you for your support and encouragement throughout this whole process, especially as we worked to develop an entirely new data collection model. I feel honored to have met you and to call you a friend.

To Dr. Jason C. Immekus, your classes challenged me but your encouragement and support were invaluable.

To the students who took the time to complete the district's survey and the Academies of Lexington leadership team who agreed to provide the data, thank you.

To the graduates who took time out of their summer to participate in an online video conference, your contributions were insightful and powerful.

To the members of my cohort, especially my colleagues James and Kristy, thanks for making classes interesting and being a supportive voice during all of this.

Finally, to my family, thank you for putting up with my episodes when I got frustrated and making the sacrifices necessary to complete this process. I love you all!

ABSTRACT

CAPACITY BUILDING: A STUDY OF CAREER ACADEMIES AND STUDENT CAREER SELF-EFFICACY

Shawn Hinds

September, 28 2020

The phrase "College and Career Readiness" echoes throughout the halls of schools and districts across the United States. Politicians pass legislation aimed at ensuring the readiness of every student graduating from high school. Despite these efforts, the United States is falling further behind in a global race for economic wellbeing and academic preparedness based on one of the most respected global measures of student achievement, the Programme for International Student Assessment (Murphy & Adams, 1998; Tucker, 2016). Even as the social fabric of the country changes and the number of Students of Color and students in poverty increase, there have been few changes in the educational model. As pressure from businesses and communities to improve student outcomes in order to improve the country's economic outlook increases, schools and districts are forced to look to new educational models that deliver on the goal of College and Career Readiness for all (Zhao, 2015). I employed a sequential mixed methods case study approach to investigate the effects of career academy high schools on the development of students' career self-efficacy. In Phase I, the Academies of Lexington (an arm of Fayette County Public Schools) career academy implementation team collected data using a Google Survey of graduating seniors from a single career

academy high school. The team adapted the *Career Decision Self-Efficacy Scale* survey, which has a 5-item Likert scale to measure the students' sense of career self-efficacy, as well as open-ended reflection questions, to collect data about student perceptions of the benefits of career academies and the development of their career self-efficacy. Using univariate analysis of variance (ANOVA) and analysis of covariance (ANCOVA), I explored the mean differences in perceived career self-efficacy across demographic groups, measured in two levels: white students and Students of Color. Using a multi-stage coding process, I examined recurrent themes in student answers. In Phase II, I used the mean differences and recurrent themes to develop prompts for a Group Level Assessment of seniors graduating from a career academy high school. This study discusses the results and effects of the career academy model on students' perceived self-efficacy, as well as implications for future research.

Keywords: Career academies, small learning communities, self-efficacy

TABLE OF CONTENTS

DEDICATION iii
ACKNOWLEDGEMENTS iv
ABSTRACT v
LIST OF TABLES xi
LIST OF FIGURES xii

CHAPTER ONE 1
Statement of the Problem 1
Background 2
Significance of the Study 7
Theoretical Framework 8
Conceptual Framework 13
Research Questions 14
Scope 16
Definition of Key Terms 16
Organization of the Study 18
CHAPTER TWO 19
A Short History of Education in the United States 20
Driving Forces behind Educational Reform 22
Shifting Workforce Demands 23
The Small Learning Community Model 25
Career Academies as a Model for School Reform 27
Brief history and background 28
Career Academy Structures 32
Interdisciplinary teaming 32
Cross content curricular development 34
Work-based learning opportunities 37
Business partnerships 37

Workforce Development 39
Critical Race Theory and the Entrenchment of Educational Divides 41
Self-efficacy, Social Cognitive Career Theory, and Job Matching 47
Summary of Literature Review 49
CHAPTER THREE 52
Research Design 53
Data Sources. 56
Data collection and instrumentation. 57
Surveys. 57
Group Level Assessment. 59
Data Analysis & Interpretation 61
Survey analysis. 61
Group Level Assessment data analysis. 63
Validity 64
Data Presentation 65
Delimitations 65
Researcher Positionality 65
Ethical Considerations 66
Summary 67
CHAPTER FOUR 68
Introduction 68
Sequential Mixed Methods Study Design Overview 69
Positionality 70
Phase I: Quantitative Data Collection and Analysis 72
Target Population and Sampling 73
Response Rate and Demographic Composition. 74
Student Achievement on ACT Exam 75
Measures of Career Decision Self-Efficacy by Subgroup 78
Correlative Data by Demographic Group 81
Correlative Data in Economic Groups by Demographic Group 83
GLA Theme Generation 83

Positive open-ended responses. 84
Negative open-ended responses. 88
Summary of Phase I findings 91
Phase II: Qualitative Data Collection and Analysis 93
Process Overview 95
Prompt introduction 97
Presentation of GLA Data 98
Real-life experiences. 98
Working across academies 101
More guest speakers and community connections 103
Ability to double major 106
Better prepared for the academy 108
Internships 109
Summary of Phase II findings 111
Summary of evidence for research question three 111
Summary of evidence for research question four 112
Chapter Summary 113
CHAPTER FIVE 115
Summary of Rationale and Research Methods 115
Conclusions 116
The relationship between race and economics 118
The value of experiential learning 120
The need for exploration and exposure 123
Summary of Conclusions 124
Implications 125
Policy implications 126
Implications for Practice 127
Limitations 128
Recommendations for Future Research 131
Summary 132
REFERENCES 135

APPENDICES 148
Appendix A: Student Survey Protocol 149
Appendix B: Group Level Assessment Protocol 152
Appendix C: Virtual Group Level Assessment Outline and Script 154
Appendix D: Group Level Assessment Prompts 160
Appendix E: GLA Rank-order voting 161
Appendix F: Parental Consent Form 162
Appendix G: Student Informed Consent Form 165
Appendix H: Student Assent Form 168
Appendix I: Parental Consent Email Invitation 169
Appendix J: Student Invitation Letter 171
CURRICULUM VITAE……..172

LIST OF TABLES

Table 1 Response rate by demographic group 74

Table 2 Response rate by economic status 74

Table 3 Gender representation of respondents.....75

Table 4 Summary of means, standard deviations, and descriptive statistics for composite ACT scores by demographic group 76

Table 5 Summary of means, standard deviations, and descriptive statistics for composite ACT scores by economic group.....77

Table 6 Summary of means, standard deviations, and descriptive statistics for CDSES scores by economic group.....80

Table 7 Test of between-subjects effects for combined demographic groups.....82

Table 8 Highest frequency themes resulting from open-ended question coding.....85

Table 9 Group level assessment themes rank of importance.....95

Table 10 Group level assessment participant demography.....96

LIST OF FIGURES

Figure 1 Theoretical Framework……...……..7

Figure 2 Conceptual Framework…….……..13

Figure 3 Group level assessment……..…….58

Figure 4 Sequential mixed methods design model…….……...68

Figure 5 Distribution of composite ACT scores for Students of Color…….77

CHAPTER ONE

INTRODUCTION

"Far and away the best prize life offers is the chance to work hard at work worth doing" (Roosevelt, 1903, para. 16).

Statement of the Problem

In his 1903 Labor Day speech, President Theodore Roosevelt underscored the idea that the most rewarding thing in life is to commit oneself to work; that is, to find satisfaction in something that improves one's sense of self and standard of living, as well as contributes to the overall benefit of society. In his essay on New Vocationalism, Benson (1997) writes that the aim of education ought not focus solely on the education of those on a college preparatory track, but rather focus on the integration of academic and vocational studies in order to blend theoretical and abstract learning with the acquisition of practical and applied skills, in order to engage students and prepare them to contribute to society and find future success..

If, as scholars (Benson, 1997; Murphy, 2016) argue, the central mission of public education is to build a well-prepared and informed populous motivated to work hard and succeed, then everyone has a stake in its success. Graduates benefit from the attainment of knowledge and skills that allow them to work, earn money, and contribute to society. Businesses prosper when graduates are able to make an immediate contribution to the workforce, which increases productivity and the health of the industry. In addition, the

community profits as the local tax base increases. It is a cycle of prosperity and contribution with many stakeholders.

Our current model of education harkens back a century to a time when the social fabric of the country looked different than it does today (Benson, 1997; Murphy & Adams, 1998; Stone, 2017). Traditionalists prefer this method of education because it is familiar and safe. However, others see the need to reform this traditional model of public education in order to prepare students for a world and population that are dramatically different. Each year, more minority students and students in poverty enter the country's educational system and it is necessary to address the changing social fabric of the schools through adaptation and innovation (Murphy & Adams, 1998; Murphy, 2016).

Research shows that there are few existing options to provide Students of Color and students in poverty with a high quality education (Cuthrell, Stapleton, & Ledford, 2010; Morris, 2016; Quartz & Washor, 2008), thus making it nearly impossible for them to use education as a springboard into worthwhile vocational pursuits. It is incumbent on traditional public schools to fill these quality gaps by meeting the needs of all students though innovation and/or reform. Through systematic reform and pedagogical transformation, traditional public schools can work to ensure all students receive the same quality education, one meant to meet their unique needs and help them overcome obstacles to their success.

Background

The small learning community is one of the many reform models introduced throughout the country. Small learning communities offer students the opportunity to develop relationships with teachers and peers because of the way they take a deliberate

approach to school design (US Department of Education, 2008). An implementation study of small learning communities conducted by the US Department of Education (2008) argues intentionally creating cohorts of students and teachers, and the creation of smaller learning environments, provides equitable access to resources, curriculum, and training for students.

Career academies, a variation of the small learning community, serve as a model for public school reform. There are more than 1,500 career academy high schools throughout the United States (Quartz & Washor, 2008). In Lexington, Kentucky, for example, three of the six comprehensive high schools have adopted a career academy model (Spears, 2016). The work done at these schools to personalize education is innovative in its approach to connecting students with career themes in which they have some interest. The planning teachers do to connect these interests across content areas serves as a platform for student engagement and educational personalization (Benson, 1997; Fletcher & Cox, 2012). The deep relationships developed between students and teachers are as important as the interdisciplinary planning done by teachers because these relationships serve to mitigate issues of inequity and inequality (Hackmann, Malin, & Gilley, 2018).

Moreover, the innovative work done in these career academies connects local businesses and industries with students and teachers, thereby engaging all stakeholders in the students' success. This deepens the students' knowledge by providing hands-on opportunities for learning and improves the community by ensuring that graduates are prepared to excel in local industry (Kemple & Snipes, 2000). In order to ensure high quality implementation, a group of career academy organizations created the Career

Academy National Standards of Practice (NSOP; American Youth Policy Forum, 2004). These best practices for career academy implementation center on successful implementation and execution.

The National Standards of Practice guide the implementation of career academies and stand as the benchmark against which they are measured. The standards outline such things as common planning time to allow interdisciplinary teams of teachers time to work together towards the implementation of an integrated curriculum, small learning communities grouping students by grade-level and interest area, and structured workplace learning opportunities with local business and industry partners (American Youth Policy Forum, 2004). Additionally, the NSOP outline that the demographic make-up of a career academy should directly reflect the demographic make-up of the entire school population (Fletcher & Cox, 2012). By mirroring the school's population, the risk of demographic disproportionality is reduced, as is the threat of placing students into career themes because of stereotypes or other biases.

By following the NSOP, career academies increase academic relevance and deepen student relationships thereby making the high school experience meaningful to all students. While no single aspect of the career academy structure is most important, several fundamental components are necessary for implementation: interdisciplinary teaming, cross content curricular development, work-based learning opportunities, and business partnerships (American Youth Policy Forum, 2004; Kemple & Snipes, 2000; Orr, 2005). The fusion of these four components powers the career academy model and makes it a desirable school reform model to get all students college and career ready (Fletcher & Cox, 2012; Hackman et al., 2018).

Interdisciplinary teacher teaming refers to the deliberate design of a school's schedule to allow teachers from multiple content areas (e.g., English, math, science, and social studies) to come together as a team that instructs the same cohort of students. Through this design, teachers from multiple content areas are able to plan together, leveraging each other's knowledge and curriculum to support the lessons they are teaching students. Through their deliberate design, the interdisciplinary teacher teams in career academies share the same students for at least two years (Conchas & Clark, 2002), which allows teachers and students to form deeper relationships with each other. In addition, the interdisciplinary teacher teams in career academies, by design, meet regularly to discuss student concerns and celebrations, as well as any administrative or curricular issues that arise. These team members share decision-making responsibilities for the academy, including its curriculum and instruction (Conchas & Clark, 2002).

Another component of career academies, cross content curricular development, allows teachers from different content areas to integrate skills and concepts from other content areas into their instruction by working with their interdisciplinary team to identify areas where curricular integration supports student learning. This type of instructional design allows teachers to work closely with their peers and demonstrate to students the natural connections between various academic areas, thereby helping them develop transferrable skills that further prepare students for the global workforce through the application of knowledge and skills across multiple areas (Park, Pearson, & Richardson, 2017).

In addition, partnerships with local businesses provide schools with the real world context they seek to incorporate into their academic curriculum. Not only are local

businesses the places where work-based learning happens, they are also the source of authentic problems for students to solve in their classes. The authentic problems that these businesses provide not only have a local context, something that the students can understand and relate to, but they are also intentional ways in which students can put their knowledge to work (Beane, 1995). Through this local problem-based instructional approach, students who have yet to experience an internship or other work-based learning opportunity are able to broaden their understanding of the world and examine issues and problems experienced by those in the field.

While the measure of community prosperity might be the graduation and employment of better-prepared students, the federal government requires a more concrete measure of student preparation: college and career readiness. College and career readiness, a metric used to determine a student's readiness to enter and succeed in some postsecondary pursuit, is an educational buzzword meant to explain whether a student is on-track or not. According to Monahan, Lombardi, and Madaus (2018), the definition of college and career readiness is evolving within policy; they suggest that it refers to more than academic indicators, which is a shift from earlier research on the topic. Camara (2013), in an early article on the topic, discussed college and career readiness within the context of cut scores on accountability tests and college entrance exams. He wrote that scores at or above some given level on College and Career Readiness exams could provide evidence of a student's preparedness success in some postsecondary pursuit (Camara, 2013).

As the definition has grown to include non-academic skills, such as critical thinking and interpersonal engagement, there is a need to include non-academic skills

instruction in education (Monahan et al., 2018). Reformists would argue interdisciplinary teacher teaming and cross content curricular development, both of which promote such non-academic skills through collaboration and problem-based learning, position the career academy model to do that.

Significance of the Study

As the federal government continues to legislate career readiness (Every Student Succeeds Act of 2015, 2015) and to support career and technical programs with federal funding (Carl D. Perkins Career and Technical Education Act of 2006, 2019), schools feel an urgency to ensure that their students are graduating with more than a high school diploma. This new vocationalism, powered by economic and employment trends, drives school reform efforts and lays the foundation for career academies (Compton, Santos Laanan, & Starobin, 2010; Hackmann et al., 2018; Thessin, Scully-Russ, & Lieberman, 2017). As Castellano, Stringfield, and Stone (2017) state, educators and policy makers need to consider Career and Technical Education in the United States not as a thing that will "hinder college aspirations or attendance" (p. 271), but as a way to "awaken such aspirations" (p. 271).

While the career academy model has existed in Fayette County Public Schools since 2015, the graduating class of 2020 is the first group of Lexington students to start and end their high school tenures in the model. As the academy model becomes more firmly rooted in the community, and additional schools express interest in transitioning away from the traditional educational model, there are important questions about the overall effectiveness of the model to answer.

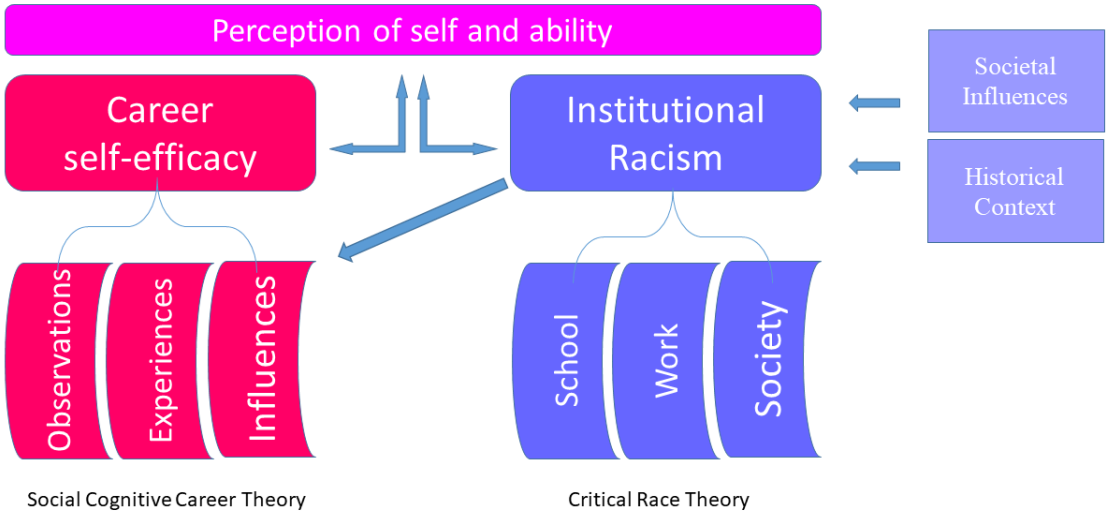

Figure 1 Theoretical Framework

It will be several years before there are ample longitudinal data for a quantitative exploration of effectiveness; however, the opportunity to determine student feelings and perceptions is one worth seizing. School is something that students have thrust upon them and rarely are they given the opportunity to have a voice in how it functions or what it does for them. This study serves as a measure of student perception and the results may improve future iterations of the model. "Now more than ever," Jocson (2018) writes, "it is important to draw on qualitative design studies in education to advance our understanding of CTE and its various manifestations across school contexts" (p. 662).

Theoretical Framework

Throughout my research, two major theories have influenced and focused my work: Social Cognitive Career Theory and Critical Race Theory. The intersection of these two theories forms my theoretical understanding and serves as the lens through which I view the literature and approach this sequential mixed methods study. Two

theoretical concepts frame my understanding. On one side is the idea that a person's sense of future success and career self-efficacy arrives out of interactions and outside social pressures, such as Lent, Brown, and Hackett (1994) outline in Social Cognitive Career Theory. On the other is the belief that societal influences and historical context serve to subjugate members of society based on some social construct, as Ladson-Billings and Tate (1995) argued in their seminal work on Critical Race Theory.

Based on Albert Bandura's social cognitive theory, Lent et al. (1994) posited the theory that the interaction between learning experiences, self-efficacy (the belief that you can do something), and outcome expectations informs how a person identifies career interests and makes career choices. Bandura's social cognitive theory was an attempt to explain a human's behavior. He not only argued that their environment shapes humans, but that they contributed to the change in that environment. In this way, he argues, the world is in a constant state of change because of the interaction of humans and their environment and the affect that each has on the other (Bandura, 1977). These interactions, and the resulting personal beliefs that arrive out of them, are the developmental foundation for self-efficacy and the basis on which scholars frame social cognitive career theory.

Lent et al. (1994) argue that a person's career self-efficacy develops from his/her accomplishments, observations, social influences, and physiological and/or emotional state. Performance attainment, the result of a person's actions, is the most influential factor in the development of self-efficacy. Fundamentally, it is these successes and failures that inform a person's expectation of success or failure driving one's career choices (Hackett & Betz, 1981). In addition to performance attainment, a person's

vicarious experience through observation helps them identify activities in which they believe they can have success or which they believe they should avoid. These observational experiences contribute to the development of self-efficacy and, when considered with other self-efficacy factors, relate to the level of satisfaction a person feels in their job.

For a student in a career academy school, career self-efficacy is formed by the academic experiences that they have when solving real world problems and participating in work-based learning opportunities. As students learn skills and achieve academic success in their Career and Technical Education classes, as well as the core content classes aligned to their academy theme, they experience accomplishments that feed their belief in their ability to be successful. This performance attainment helps form their career self-efficacy. Additionally, the vicarious experiences they have, such as job shadowing during a work-based learning experience, help them to form opinions about whether their career attempt will be positive or negative and whether they will have future success in that career. For career academy students, these experiences begin far earlier than those of their traditional high school peers who do not have the opportunity or requirement to complete a program of study in a career or technical field. This early start allows career academy students to begin exploring their career interests while they are still in high school.

Grounded in the interaction between personal and environmental factors, social cognitive career theory directly connects with the modern drive towards college and career readiness, school reform, and career academies. As students interact with classroom experiences linked to core content and career content, they begin to form

opinions about their interests. More than that, though, they begin to gain experiences in these interest areas and experience either success or failure. From their successes or failures, students determine their self-efficacy and predict the outcomes of their endeavors. As students experience failure and negative outcomes, they turn away from such careers, which Job Matching Theory scholars argue is a positive contributor to career knowledge acquisition (Jovanovic, 1979; Moscarini, 2005; Pastorino, 2013). Conversely, as they experience success and encouraging outcomes, they turn toward such careers (Lent, Paixao, Tomas da Silva, & Leitao, 2009).

With college and career readiness an important metric by which schools and districts are measured (Thessin et al., 2017), and with rapidly changing workforce needs (Murphy, 2016; Zhao, 2015), it is important that high school graduates are prepared, not just with skills and knowledge but with a sense of efficaciousness in whatever they pursue. Throughout their time in career academy schools, students develop the knowledge and technical skills that are necessary and transferable for success in the rapidly changing workforce (Stone, 2017).

Ladson-Billings and Tate (1995) applied Critical Race Theory – the exploration of issues of race and power in society and culture – to education as a way to explore and understand educational inequities. Black children in the United States, regardless of geographic location, are two times more likely to grow up in poverty than are white children. Children growing up in poverty have fewer economic, social, and familial supports. This lack of community support and resources manifests itself in higher crime, increased joblessness, and lack of healthcare. These stressors then cause anxiety, fear, and depression. These feelings of worthlessness and fears of not succeeding, either in

school or in life, then cause one to act out in a way that perpetuates the crime and joblessness typified in a high-poverty area, thus creating an unbreakable cycle of poverty (Cuthrell et al., 2010; Hughes, Newkirk, & Stenhejm, 2010; Morris, 2016).

The cultural narrative that currently exists in the United States is one in which young black men are on a collision course with the justice system, either as juveniles or adults. These young black men, whether through experience or observation, are engaged in a cycle of conflict from which they cannot escape. The historical underpinnings of race relations in the United States have established an often-cited truth: the African-American experience is not valued in this country. In schools, this is reflected in myriad ways from the textbooks students get that do not recognize contributions by minorities (Hollins, 2008; Ladson-Billings & Tate, 1995) to the continued criminalization of race-related behaviors, such as the sagging of pants or the wearing of hoodies (Morris, 2016).

When applied to education, Critical Race Theory takes a critical approach to the historical and systematic oppression of minorities in education and educational policy with the aim of eliminating such inequities. The traditional educational model marginalizes Students of Color systemically through institutional and legal practices (Noblit & Mendez, 2008; Hollins, 2008; Morris, 2016; Ladson-Billings & Tate, 1995). The history of education in the United States tells the story of Students of Color pushed to the margins, literally segregated from their white peers in schools and curricular materials (Hollins, 2008). When compared with white students, Students of Color typically attend schools in poorer areas, have teachers with shorter tenures, and receive a greater number of disciplinary infractions (Abramsky, 2013; Hughes et al., 2010). When disciplined, schools criminalize student behavior through exclusionary practices, such as

suspension and removal from the classroom, causing negative adult interactions. This disproportionally happens to young men of color. The more these negative interactions occur in the school setting, the more disruptive the child becomes and the more likely they are to engage in at-risk and disruptive behaviors in school. Critical Race Theory seeks to explore these policies and practices in an effort to go "beyond rhetoric to advance praxis" (Ledesma & Calderon, 2015, p. 212).

For students in a career academy school, scholars argue that the interpersonal support and enhanced rigor of the programs provides a sense of connection that does not exist in a traditional model school (Fletcher & Cox, 2012). The career academy model promotes positive behavior and attendance, which are both identified problems with Students of Color in traditional model schools, through hands-on and rigorous learning in a small community environment where students develop deep interpersonal relationships with staff and other students (Abramsky, 2013; Fletcher & Cox, 2012; Hughes et al., 2010).

Conceptual Framework

Working within the theoretical frameworks of Social Cognitive Career Theory and Critical Race Theory, Figure 2 outlines the conceptual framework grounding this sequential mixed methods study. By its very nature, the traditional educational model segments students into groups based on perceived measures of achievement (e.g., Advanced, Honors, and General classes) (Quartz & Washor, 2008). This model marginalizes students from historically underserved populations, such as students in

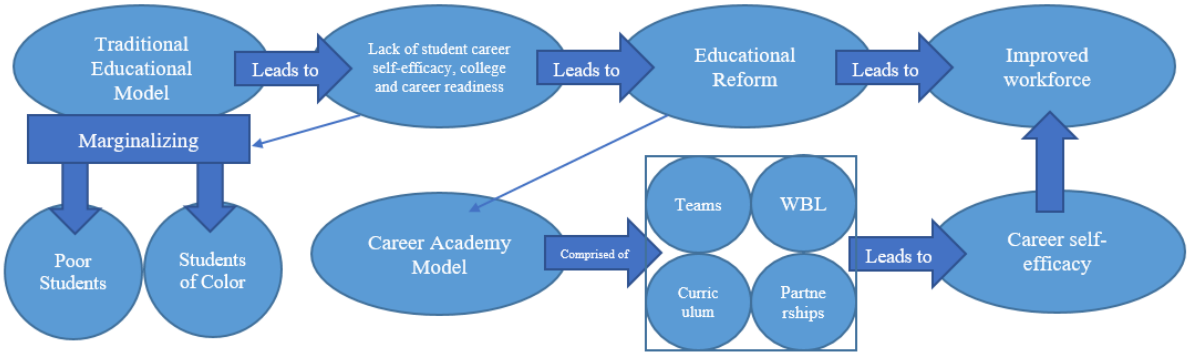

Figure 2 Conceptual Framework

poverty and Students of Color. Whether overtly marginalized or not, they underperform academically or behaviorally, which leads to a lack of college or career readiness, along with a lack of career self-efficacy.

As the number of students not prepared for post-secondary life rises, there are increased calls for educational reform. These calls for reform come from a variety of diverse stakeholders with different messages and agendas; however, one common theme emerges, school reform is imperative to improve the community and workforce. While reform can look many different ways, career academies directly tie Career and Technical Education with core academic content. Through their cross-content teams, interdisciplinary curriculum, work-based learning opportunities, and business partnerships, career academies are providing students from all economic and racial backgrounds with real world and relevant learning that connects classroom learning to future success. In this way, career academies are providing all students with a sense of career self-efficacy, which empowers them to enter the workforce prepared.

Research Questions

As an educator who has spent his entire teaching career in high-poverty, majority-minority schools, I am keenly aware of the challenges our schools face to ensure all students learn at high levels and graduate high school prepared to participate in a global

society. As a member of the district's original career academy design team, and an active participant in school-level operations, the success of the career academy model is important to me. Each day, I work to improve the career academy model at our school, as well as the district's other two career academy schools with the singular aim of ensuring students acquire the skills and knowledge necessary to ensure their future work is rewarding.

Throughout this sequential mixed methods study, the primary question driving the research and analysis is simple: to what extent, if any, do students feel benefit from the career academy? Ivankova, Creswell, and Stick (2006) explain that in a sequential mixed methods design, qualitative data aid in the explanation of the quantitative data collected in the first phase. Therefore, this study focuses on the following four research questions, two quantitative and two qualitative, aimed at providing an answer to that larger driving question and address the research gaps identified by Fletcher and Cox (2012), as well as others (Carlson, 2017; McDaniel, 2008).

- Are there career self-efficacy differences among students of diverse ethnic groups?
- Are there career self-efficacy differences across diverse socio-economic and ethnic student groups?
- What aspects of the career academy model contributed to students' perceptions of college and career readiness?
- What are the students' perceptions of whether the career academy model provides a sense of career self-efficacy?

Scope

This sequential mixed methods study focuses on the perceptions and feelings of 2020 graduates of a single career academy high school in Lexington, Kentucky. Fayette County Public Schools conducted a survey (see Appendix A) to collect the initial data as part of a larger analysis of student perception of career academy benefits, program implementation, and program review. Developing out of these initial data are themes and questions used in Phase II of this study. Phase II uses a Group Level Assessment protocol (see Appendices B and C) with specific subpopulations of students (Students of Color and students in poverty) from the 2020 graduating class of this career academy high school in order to investigate their perceptions of what aspects of career academies contributed to feelings they had about college and career readiness. In addition, students explored to what extent they believed career academies contributed to their feelings of career self-efficacy.

Definition of Key Terms

This study uses the following terms:

Career academy – small learning communities where students take an industry-aligned course of study that is interdisciplinary and cross-curricular, as well as connected to outside organizations (businesses and postsecondary) in order to provide students with learning that has real world application (Hackmann et al., 2018).

Career and technical education (CTE) – formerly vocational education; course of study that prepares students to enter the workforce through training aligned with industry or businesses (Compton et al., 2010).

Career ready – students have ability to acquire knowledge in evolving situations, as well as the transferrable skills needed for success in rapidly changing industries (Stone, 2017); or, they have the skills and knowledge to enter the workforce and or a postsecondary vocational training program (Camara, 2013). According to the Commonwealth of Kentucky, a career ready student is one who is preparatory in a defined CTE pathway and has earned an industry certification or equivalent (Kentucky Center for Education and Workforce Statistics, 2017).

College ready – students have the skills and knowledge to enter and succeed in a postsecondary learning environment (Camara, 2013). As defined by the Commonwealth of Kentucky, a college ready student is one who has met benchmark scores in reading, math, and English on a college entrance exam or equivalent measure, as outlined by the Council on Postsecondary Education (Kentucky Center for Education and Workforce Statistics, 2017).

Free or reduced price lunch (FRL) – indicates participation in the National School Lunch program, a program that provides federally subsidized meal assistance in public and private schools (U.S. Department of Agriculture, 2020).

Interdisciplinary teams – Teachers from different content areas organized into teams that share a group of students, which can create a sense of collaboration and commitment to student learning (Orr, 2005).

New vocationalism – the integration of academic and occupational curriculum, which includes work-based learning experiences (Benson, 1997).

Pathway – an aligned program of study with rigorous academics, technical training, work-based learning, and services aimed at improving student achievement, both academic and technical (Farr, Bradby, Hartry, Sipes, Hall, & Tasoff, 2009).

Self-efficacy – a person's belief about his or her capability to perform and succeed at a task (Lent et al., 2009).

Small learning community – a collaborative school-based team of teachers, counselors, administrators, and students that allow for the development of interpersonal relationships and interdisciplinary curricula (Supovitz & Christman, 2005).

Students of Color – the collective term used to refer to any non-White students, including African American, Latino/a, Native American, and Asian American (Morrison, 2010; Murphy & Zirkel, 2015)

Work-based learning – real world learning opportunities for students that place them in internships, job shadowing, and mentoring so that they can apply what they've learned in a real world setting (Farr et al., 2009).

Organization of the Study

This study consists of five chapters. The first chapter serves as an introduction, framing the argument behind school reform, detailing the research questions, outlining the scope, and limitations. The second chapter provides an overview of relevant literature, divided into three major sections: a brief history of reform, small learning communities, and the career academy model. The next chapter outlines the design of the study, while the fourth chapter explores the results of the data collection and analysis. Finally, the fifth chapter discusses findings, shares conclusions, and provide recommendations for future research.

CHAPTER TWO

REVIEW OF LITERATURE

This study examines the extent to which demographic factors and a student's participation in a career academy affects future readiness, as well as belief in future career success. Specifically, this study addresses the following research questions:

- Are there career self-efficacy differences among students of diverse ethnic groups?
- Are there career self-efficacy differences across diverse socio-economic and ethnic student groups?
- What aspects of the career academy model contributed to students' perceptions of college and career readiness?
- What are the students' perceptions of whether the career academy model provides a sense of career self-efficacy?

This chapter reviews existing literature surrounding career academies, including their historical foundation and modern iterations. These research questions emerged from this review and focus attention on the claims of researchers and advocates that career academies positively influence a student's academic readiness and postsecondary preparedness and feelings of future success. There are four major sections in this chapter. The first section briefly reviews the history of educational reform and its motivating factors. The second section touches on the small learning community movement, which is a foundational component of career academies. The third section explores the career

academy movement, including its systems and structures. The final section explores the literature behind the critical frameworks that shape this research.

A Short History of Education in the United States

Education in America has a long and, sometimes, contentious history. Beginning with the earliest American schools in the mid-1600s, scholars have debated the form and function of school: who is it for and what should it aim to do (Murphy, 2016). Leaders in the Massachusetts Bay Colony founded the first Latin school in the 1630s; modeled after the English system, this secondary school sought to prepare young men for university studies and a place in the highest levels of government and society. Like the English model, Boston's Latin school charged students' families tuition in order to attend, which limited the enrollment and ensured that only those of a higher economic class would attend (Murphy, 2016). This balanced, though, with America's agrarian economy that required secondary school-aged children from more modest and humble backgrounds to remain home and tend to the family farm instead of attending school.

As the economic structure of America began to mature and change, so did the educational landscape. The industrialization of the country brought with it a need for a more educated populace with reasoning and thinking skills beyond those they honed in primary school. Similar to previous shifts in public education, market forces sparked the educational revolution of the time (Murphy, 2016; Zhao, 2015). In areas like Philadelphia that saw a commercialization and industrialization of its economy, market forces began pushing against the notion that only students who were college-bound needed an education beyond primary school (Murphy, 2016). Moreover, as the political

and societal landscape of America began to shift and the education landscape shifted along with it.

Following the Civil War, secondary schools adopted the belief that it was the mission of education to prepare students for all aspects of life. Schools, therefore, became the primary place to learn citizenship and socialization; as Murphy (2016) argues, they became "vehicles of social control" (p. 3) aimed at preparing students for their role in an industrial society and propagating the social class divide. In addition, economic forces pushed for the addition of practical content to academic courses, which allowed for greater occupational diversity and industrial training (Murphy, 2016) thus taking a deterministic approach to education: a student's class and training would determine their future social and economic placement.

It is the post-industrial economy of the late 1900s where reform once again enters the educational zeitgeist, as new political, economic, and social forces press down on school systems. Businesses in the current post-industrial United States automate routine jobs or send them to countries with cheaper labor forces in an effort to lower costs and increase profits (Zhao, 2015). This new economy favors highly skilled and educated workers who are able to think critically and creatively in order to compete in a global society (Deil-Amen & DeLuca, 2010; Murphy, 2016; Zhao, 2015).

Yet even as these economic, political, and social demands increase, the traditional educational paradigm persists, causing significant gaps for poor and minority students when compared to their white counterparts (Zhao, 2015). As scholars point out, a need exists to reform high schools in order to improve student retention and learning for all students (Smith, Cannata, Cohen-Vogel, & Rutledge, 2016). Yet, as Deil-Amen and

DeLuca (2010) argue, the modern educational system firmly roots students in poverty and minorities in an "educational underclass and ensures that they experience a structured lack of opportunities" (p. 29). In other words, modern education further systematizes an educational divide that has existed in some form since the earliest secondary schools in the United States.

Driving Forces behind Educational Reform

There is a rising tide of partisanship in the United States fueled, in part, by divided ideologies surrounding public education. With what many view as this country's ongoing backwards slide from global power (Murphy, 2016; Zhao, 2015) – whether cultural, economic, or political – there is a desire to point fingers and place blame. Public education, once sacrosanct, is now an easy target for recriminations (Murphy, 2016). Yet, despite party differences and political views, no person wants a poorly educated child; all stakeholders agree that education is important.

Educational gaps, the differences in achievement between disparate groups of students, are widening (US Department of Education, 2017). Furthermore, there is a widening gap between the academically highest performing nations in the world and the United States, with the United States falling further behind based on one of the most respected global measures of achievement: the Programme for International Student Assessment (Smith et al., 2016; Tucker, 2016). As the United States loses its global dominance, there is a profound frustration shared by its citizens with the blame placed squarely on the shoulders of schools and districts across the nation (Murphy & Adams, 1998; Murphy, 2016;). From the 1983 publication of *A Nation at Risk* (National Commission on Excellence in Education) to modern legislation such as the Carl D.

Perkins Career and Technical Education Act and the Every Student Succeeds Act, scholars trace the nation's efforts to reform the education system and regain its global position (Murphy & Adams, 1998; Zhao, 2015). Reform efforts have been underway for decades with the aim of increasing college and career readiness for all students (Smith et al., 2016) and reducing the achievement gaps between student groups. These reform efforts take many forms and have many advocates, centering on how traditional public school districts can reform to meet the needs of all students in innovative ways to improve education in the United States. The educational landscape of the country has sought to adapt to shifting economic structures. The industrialization of the country brought about a need for a more educated populace, one with reasoning and thinking skills beyond those they honed in primary school.

Shifting Workforce Demands

Murphy and Adams (1998) contend the modern system of education remains stubbornly static across generations and although student achievement remains the fundamental mission of schools, the skills and knowledge learned are inadequate. For a generation, the goal of school was to socialize students and prepare them to be contributing citizens (Murphy, 2016). Starting in the 1980s, as a response to *A Nation at Risk* (National Commission on Excellence in Education, 1983), there was a fundamental shift in the goal of education: focus on the continued competitiveness of the United States in a global society. In addition, the economic reality of the country was shifting from the industrial foundation that had undergirded it for a generation to a new post-industrial reality. This change brought with it an educational shift couched in the language of

reform and predicated on the needs of industries that were moving away from their manufacturing roots.

As employment in manufacturing and other trades declined and society emphasized college for all, enrollment in Career and Technical Education (CTE) programs suffered. In their review of 128 studies on CTE reform efforts, Castellano et al. (2003) noted that while traditional job sectors integrated new technologies, and CTE program graduates lacked the requisite skills for success, schools realized a need to provide an education that integrates skills attainment and knowledge acquisition. Federal legislation, in an effort to support technical education and the industries affected by its decline, began requiring stronger academic components to CTE programs. As the federal government tied funding directly to academic indicators outlined in legislation (Every Student Succeeds Act of 2015, 2015; No Child Left Behind, 2001), schools became accountable for the academic success of all students (Fletcher & Zirkle, 2009). Additionally, when Congress reauthorized legislation providing grant funding in support of technical education (Carl D. Perkins Career and Technical Education Act of 2006, 2019), they mandated better integration of CTE and core content education as a requirement for ongoing funding.

It was the changing global marketplace and technological increases leading to the automation of low-skill jobs that brought about a shift in workforce demands. This new economy favors highly skilled and educated workers who are able to think critically and creatively in order to compete in a global society (Deil-Amen & DeLuca, 2010; Murphy, 2016; Zhao, 2015). As factory and other high-wage, low-skill jobs disappeared, and the need for high-skilled workers increased, there was an overall shift in the United States'

workforce, including an increase in low-skill, low-wage service sector occupations. Where there was once a thriving middle class built upon the long-time careers of high-wage, low-skill factory workers, there now exists a large lower and upper class built upon the service industry and high-tech industry, respectively (Deil-Amen & DeLuca, 2010). Therefore, along with this shifting economic reality came a shift in educational priorities to ensure that students are truly prepared to enter a high-skilled workforce following graduation. Economic forces pushed for the addition of practical content to academic courses, which allowed for greater occupational diversity and industrial training (Murphy, 2016). Deil-Amen and DeLuca (2010), in their review of National Education Longitudinal Study data, argue that for this to occur there must be a disruption in the current educational dichotomy of college or career in favor of an education that marries academic and career preparation. Referred to as new vocationalism (Benson, 1997), this educational model emphasizes transferrable skills like collaboration, communication, and creativity, which are easily developed in a small learning environment that fosters relationships and encourages achievement.

The Small Learning Community Model

The movement towards small learning communities rests upon the premise that smaller communities of learners are beneficial to student achievement and the development of interpersonal relationships (Christman, Cohen, & Macpherson, 1997; Oxley, 2001; Supovitz & Christman, 2005). In their five-year ethnographic study of Philadelphia high schools, Christman et al. (1997) note that only in small learning communities can students and teachers develop safe and mutually knowledgeable relationships. Small learning communities also reduce the possibility that students –

frequently poor and minority students – get lost in large, comprehensive high schools (US Department of Education, 2008). The underlying concept is to bring together students and interdisciplinary teacher teams into a collaborative environment where they can form deep relationships with each other and develop modes of instruction that link learning in multiple content areas, as well as enhance student competencies in collaboration, communication, and creativity.

Teachers form deep relationships with students as they work together over the course of their school careers, which makes them better able to understand each students' needs and motivations. It is through this intentional design that students are better able to achieve because they are getting the support that they need from their teachers, often in a personalized and individualized manner. Teachers meet in teams and discuss student progress; they make plans to bring students along academically, socially, and emotionally (Supovitz & Christman, 2005). Moreover, research undertaken by the US Department of Education (2008) revealed a positive relationship between small learning community implementation and student promotion, as well as a reduction in behavior events. The US Department of Education found that schools participating in the federally funded small learning community program saw a three-point increase in student promotion from ninth to tenth grade. The implementation study also found a 1.4-point drop in violent incidents (per 100 students) at participating schools.

There are variations of the structural designs of small learning communities that may contribute to their individual efficacy. Magnet schools are a type of small learning community with a specific academic focus (e.g. STEM, arts, math, and science). The term magnet comes from the process by which these programs recruit students from

across a school district and attract them into a school's program. Typically, there are selection criteria that determine a student's access to the program, making them exclusive options for students (US Department of Education, 2008). This exclusivity raises its own equity issues because of the potential for disproportionate access of one subpopulation over others.

Another small learning community model is the school-within-a-school model. These are larger schools broken into smaller, self-contained divisions of a school centered on a theme or concept (US Department of Education, 2008). These subunits of a larger school typically contain multiple grades, have their own leadership teams, teacher teams, budgets, policies, and programs. These schools-within-schools are often the merger of a traditional school and a specialized program into a single building, and serves as a money-saving option for school districts by reducing the number of buildings used (Farmer, Spearman, Qian, Leonard, & Rosenblith, 2018).

Career Academies as a Model for School Reform

Career academies, another variation of the small learning community, focus on connecting students and teachers around a career-themed curriculum that marries rigorous academics and career interest (Kemple & Snipes, 2000). Career academies offer students the opportunity for work-based learning experiences that align with the academy's career theme. According, to Dixon, Cotner, Wilson, and Borman (2011), career academies prepare students for life beyond high school, whether that is continued education at a local college or university or immediate entry into the local workforce. In their case studies of Florida career academy schools, Dixon et al. (2011) used purposive sampling and semi-structured interview protocols and found that students participating in

the three career academies saw the real world application of material in their classes as a success of the career academy model.

Brief history and background. Career academies have their roots in dropout education, most notably as a model to engage students in school while simultaneously providing them applicable skills relevant to jobs after graduation. Beginning in the 1970s, large, urban school systems linked CTE with core academics in high school because studies showed that CTE helped reduce dropout rates among disenfranchised students (Castellano et al., 2003; Fletcher & Cox, 2012; Kemple & Snipes, 2000). In their study on the impacts of career academies, Kemple and Snipes (2000) note that career academies continue to have the largest effect on students at risk of dropping out of school. In a study of 1,764 students, they used a random assignment research design to assign students to two groups: academy and non-academy. Using survey data and document analysis from nine school sites, they divided each group of students into one of three subgroups – high-risk, medium-risk, and low-risk – based on characteristics attributed to their likelihood of dropping out. These characteristics included attendance rate, credits in 9th grade, grade point average, student age compared to grade level, transience, and siblings who have dropped out. Their study found an 11-point difference in dropout rate among the high-risk subgroup in both the academy and non-academy groups (21% and 32%, respectively).

As the concepts of college and career readiness came into vogue within the last few decades, the career academy model experienced a renaissance of sorts, transforming from the historical dropout prevention model to a whole school approach to education designed to ensure both college and career readiness for all students. In their career

academy study, Kemple and Snipes (2000) found, for those students in the high-risk subgroup who are less than fully engaged in school, the academy group scored higher than the non-academy group on both reading and math achievement tests (19.5 vs. 16.1 and 23.4 vs. 18.9, respectively). Farr et al. (2009) found similar results in their quantitative analysis of California students in CTE pathway programs. As schools struggled to engage all students and ensure they were learning academic content they turned to career academies as a model for comprehensive school reform. The reorganization of traditional, comprehensive high schools around the career academy model began in in the late 1980s. Kemple and Snipes (2000) point out that the number of career academies increased dramatically as schools tried to harness the relationships and academic rigor inherent in the model.

Career academies focus on small learning communities and connecting students and teachers around a career-themed curriculum that marries rigorous academics and career interest. Interdisciplinary teams of teachers instruct cohorts of students over multiple years. Moreover, career academies offer students opportunities for work-based learning experiences that align with the academy's career theme. Career academies, when well implemented, prepare "students for education at the community college or university levels, and/or for the workforce, in a broad, locally relevant career field" (Dixon et al., 2011, p. 207).

Supporters argue that the integration of Career and Technical Education and academic content provides students with meaningful educational experiences. Career academies provide students with hands-on learning experiences, which allow for the application of knowledge to relevant tasks. Additionally, students participating in

Fletcher and Cox's (2012) phenomenological study of African-American students in career academies, feel that they are getting a fuller, deeper educational experience because of the hands-on experiences and application-based tasks than they would if they were participating in a traditional educational tract. Students in career academies perceive greater connection between the work they complete in high school and what they anticipate doing after graduation (Dixon et al., 2011; Fletcher & Cox, 2012). This is, in part, due to the work-based learning they experience outside of school with local business and industry partners, in addition to the interdisciplinary curriculum developed by interdisciplinary teams of teachers.

Fletcher and Cox (2012) interviewed students enrolled in career academies and showed how career academy courses help students understand core academic content. As teams of teachers work together to integrate career and technical education material across academic content classes, students link the learning across content areas and form deeper understandings because of the practical application of the material (Benson, 1997; Gottfried & Plasman, 2018). Moreover, this integrated curriculum relates learning to "broader themes of adult life" (Castellano et al., 2003, p. 249), such as working together and problem solving, hallmarks of the new vocationalism. A student working on informational readings from the *Journal of the American Medical Association* in English class might study the systems of the body in science class. Both of these core content activities support his project in a Health Sciences course making him feel less overwhelmed than a peer who studies the same content in a traditional high school but does not see the thematic link between them all.

Using an instrumental variable design in their analysis of data from the Educational Longitudinal Study of 2002, Gottfried and Plasman (2018) analyzed student-level data linked to high school transcripts in order to estimate the effects of CTE course taking. They argue that CTE courses, such as those taken by all career academy students, strengthen a student's critical thinking, reasoning, collaboration, and problem-solving skills. These skills, requisite for success in any career, apply to all courses of study and provide students with a stronger foundation for academic success. Stronger foundational skills, like these, contribute to a student's sense of self-worth and ability, which translates into student efficacy and academic success. Researchers contend that these foundational skills apply to a student's mastery of academic content, as well as to a student's post-secondary pursuits (Castellano et al., 2003; Castellano, Sundell, & Richardson, 2017; Compton et al., 2010).

While Gottfried and Plasman (2018) found no causal link between high school CTE course taking and college enrollment, advocates of career academies and technical education maintain that participation in career pathway courses prepare students for life beyond high school. They argue that students' earn more, acquire deeper understanding of academic content, and gain the skills necessary to thrive in a global economy. Examining data from the National Longitudinal Survey of Youth, Fletcher and Zirkle (2009) used multiple regression analysis to explore the relationships between engaging students in technical coursework on future income and post-secondary education. In their study, they looked at students enrolled in one of four academic tracks: general high school, college preparatory, Career and Technical Education (CTE), and a dual track (both CTE and college preparatory course, such as career academies). Fletcher and

Zirkle found that the majority of students participated in the general high school track, about 30% in the college preparatory track, and fewer than 6% each in CTE and dual tracks. Of the students surveyed, minority student participation in CTE and dual track programs was 4-points higher than for non-minority students. The data showed that the average income of students in 2006 who completed the CTE and dual track was higher than the other tracks by about $3,200 and $2,700, respectively. Fletcher and Zirkle concluded that the dual track shows promise for long-term outcomes.

In addition to increased future earnings potential, average attendance at career academy schools exceeds that of traditional high schools, especially among students who are most at-risk of dropping out (Dixon et al., 2011). Kemple and Snipes (2000) found a six-point difference in attendance rates between the academy and non-academy students in the high-risk subgroup. Average daily attendance for the academy group was approximately 82% compared with 76% for the non-academy group. Students who feel supported and encouraged are more likely to find value in their educational experience, which translates into an increased desire for involvement. Not only do students enjoy higher rates of satisfaction and attendance, job satisfaction among academy teachers exceeds that of their non-academy peers (Castellano et al., 2003; Kemple & Snipes, 2000), which is a factor of the interdisciplinary teaming and interpersonal relationships developed because of the career academy model.

Career Academy Structures

Interdisciplinary teaming. The interdisciplinary teaming of teachers is a critical aspect of the career academy model. Because of the small learning communities and cohorts of students, teachers see the same students for multiple years. As the teachers get

to know students, both academically and personally, and experience their successes and failures with them, a deeper relationship emerges. Students in career academies experience deeper relationships with their peers and teachers, which leads to deeper learning experiences and higher rates of attendance and graduation (Thessin et al., 2017). In their interviews with students and administrators, Dixon et al. (2011) noted that students and teachers perceived a "sense of family" (p. 219) and argued that this differentiated academies from traditional high schools. This high level of social-emotional support is a critical factor in the success of the students and is a driving force behind the career academy model (Thessin et al., 2017).

Small learning communities provide a more supportive environment for students because of the greater individualized attention the students receive (Fletcher & Cox, 2012). Not only do teachers see students for multiple years, teacher teams share those students across content areas. Standards of student support, as outlined in the National Standards of Practice (American Youth Policy Forum, 2004), include weekly interdisciplinary team meetings where teacher teams examine student data, both quantitative and qualitative, to determine which students need additional support. By changing the work life of teachers through teaming, teachers can discuss, implement, and review interventions for the students in their academy, whether those interventions are academic, behavioral, or social-emotional (Benson, 1997). By design, the career academy model serves the whole student, promoting his/her well-being, and providing a family-like space that ensures a safe learning environment.

In their case study of a career academy high school, Conchas and Clark (2002) found that the interdisciplinary teacher teams positively contributed to the academic

culture of the individual academy, as well as the school overall. Moreover, they found that students and teachers in the academies accepted individual differences – racial, cultural, and socio-economical – and treated each other in a more tolerant manner, thereby creating a stronger sense of community where students thrived. The interdisciplinary teacher teams also allows for curriculum integration, which lets students in the academies work together in multiple content areas on projects that share the academy's theme and show the interrelationship of skills and knowledge, harnessing each other's strengths while supporting their weaknesses,.

Cross content curricular development. With its interdisciplinary teaming and intentional focus on interdisciplinary collaboration, the career academy model of education is a substantial pedagogical shift for high school teachers who trained to teach in a traditional environment. High school teachers are specialists in their fields and believe in instructional autonomy; the pre-service training they receive rarely includes training in collaboration with peers in other content areas. In fact, many high school teachers exist in a silo where the only interactions they have are with other specialists in their own content (Brooks, Hughes, & Brooks, 2008). In their two-year case study, Brooks et al. (2008) explored teacher alienation in a traditional model public high school by taking a sociological approach to teacher alienation. Among their findings, they noted that teachers in traditional high school often feel alienated from their colleagues because of a physical separation that exists between their classrooms. They go on to share that these teachers are not able to meet with peers (Brooks et al., 2008), which affects their ability to discuss student achievement, content, and instruction, all of which are characteristics of the career academy model. Additionally, findings from their study

point to the lack of collaboration that typically occurs in a high school as teachers assert ownership over their content, students, and classroom (Brooks et al., 2008). Career academies, with their cross content teams and curricular development, break these traditional silos and engage teachers in collaboration with their peers.

As outlined in the National Standards of Practice (American Youth Policy Forum, 2004), career academies provide teachers with dedicated time to meet and work with teachers in their academy, thereby reducing the feelings of isolation and alienation felt by teachers in traditional educational model schools. Moreover, by working together to plan their cross content curriculum, teachers are supported by their peers and encouraged to take risks (Orr, 2005). In addition, through their cross content curricular development, teachers feel more engaged and have a higher sense of self-efficacy (Orr, 2005); in other words, they better their teaching practice through the work they do with peers from different content areas.

Despite the limited training in interdisciplinary collaboration, career academy teachers work together across content areas to integrate career and technical material into academic content classes (Kemple & Snipes, 2000). For example, a student working on informational readings from the American Bar Association in English class, might also study the history of the judicial system in social studies class, both of which support her project in a Pre-law course. Gottfried and Plasman (2018) suggest that this strategic and deliberate approach to curriculum alignment within the career academy model helps students form deeper understanding because of the application of knowledge and skills, and the demonstrated interrelatedness of the work.

Cross content curricular development forges cognitive connections for students by linking the learning in multiple content areas through the creation of interdisciplinary projects or through the development of a solution to a real world problem related to the academy theme. It is, as Beane (1995) writes, important for students to connect their learning experiences across the content areas and with the real world in order for them to create a deeper understanding of what they have learned, as well as a deeper knowledge of themselves and the world around them. Similarly, Christman et al. (1997) write that students must be at the center of the learning, constructing meaning from the intersection of content areas and challenging the notion of traditional education. In this way, they write, the curriculum both "emerges from [the] community and contributes to the building of [it]" (Christman et al., 1997, p. 160).

Developing a curriculum that links multiple content areas requires an intentional focus from teachers on breaking out of the silos of traditional education in order to work collaboratively with teachers from other content areas. This collaborative work, while uncommon to teachers working in traditional educational models, develops a community of practice among teachers from different areas. This curriculum integration improves student achievement because it allows for the teaching of academics in context (Park et al., 2017). This contextualization of core content reduces the frequency with which students question the real world relevancy of what they are learning (Benson, 1997); in other words, the question of "when will I ever use this" disappears as students have rich classroom experiences that incorporate authentic problems, tied to their academy's career theme, which must be solved within the core content areas. These learning experiences allow for the application of knowledge to relevant tasks (Orr, 2005; Benson, 1997).

Work-based learning opportunities. An important component of the career academy model is the incorporation of work-based learning opportunities, such as internships, job shadowing, and cooperative learning. It is during these experiences that students are able to see how their academic knowledge applies to the real world. Furthermore, work-based learning experiences allow students to make an authentic, positive contribution and experience success in an authentic setting (Castellano et al., 2003). As Social Cognitive Career Theory scholars point out, by experiencing success in a workplace setting, student motivation increases, along with self-confidence and feelings of self-efficacy (Bennett, 2007; Hackett & Betz, 1981; Lent et al., 2009).

Since changes in public education lag behind business and industry (Murphy, 2016; Murphy & Adams, 1998; Hernandez-Gantes, Brookins, & Fletcher, 2017), from both a resource and curriculum standpoint, involvement in work-based learning experiences also allow students to learn about resources and technologies not available in their public school. Students are able to experience an innovative environment where they confront new challenges and processes for solving problems (Rojewski & Hill, 2017). Through their work-based learning experience, students are also able to develop a deeper sense of investment in the local community because of the social support they receive from adults outside the school (Bennett, 2007). Finally, when students engage in work-based learning, they are able to exercise a set of transferable skills, championed by advocates of a new vocationalism, good in any workplace: communication, collaboration, critical thinking.

Business partnerships. Student internships, and other work-based learning experiences, are only possible through the development of strong business partnerships,

which is another key aspect of the career academy model. As Murphy (2016) argues, educational change happens as the needs of business and industry change; therefore, local business and industry have a stake in local education because they need qualified employees graduating from the local public school system. School and business partnerships, then, are a necessary element in the quest for community prosperity and workforce development.

Business partners can also serve to inform schools about curricular matters as they pertain to the career and technical fields. Through the development of Business Advisory Councils, schools are able to gather local industry experts to advise them, and their teachers, on current industry trends and relevant areas of knowledge. Schools, then, are able to adapt their curriculum to meet the local industry needs (Hernandez-Gantes et al., 2017). Not only do these Advisory Councils provide valuable support to schools, they also serve to satisfy federal requirements for Perkins V funding (Carl D. Perkins Career and Technical Education Act of 2006, 2019) allowing schools to continue to receive monetary support for these programs.

Regardless of the reason for school and business partnerships, the aim is clear: to increase academic relevance and to improve college and career readiness for graduates. By investing in schools to improve college and career readiness, local businesses and industries are investing in their own future. They are actively contributing to the readiness of the future workforce and ensuring that students are receiving an education contextualized in local needs, which prepares them to work in local businesses and industries (Beane, 1995; Hernandez-Gantes et al., 2017; Dixon et al., 2011).

Workforce Development

Studies (Dixon et al., 2011; Fletcher & Cox, 2012; Kemple & Snipes, 2000) indicate that students in career academies perceive a greater connection between the work they complete in high school and what they anticipate doing after graduation leading to a sense of career self-efficacy. Scholars suggest that this may be due in part to the work-based learning they experience outside of school with local business and industry partners (Benson, 1997; Farr, et al., 2009). Furthermore, the real world problems that students grapple with in their classes, based on the issues provided by business partners, help students understand what is happening in the local business community. In their qualitative study of CTE pathway programs, Farr et al. (2009) conducted student interviews and discovered that students placed a high value on this learning connected to the real world. By supporting the work that students are doing in their classes, providing them with work-based learning opportunities, and exposing them to the world outside of high school, local businesses are strategically preparing students to be the highly skilled and educated workforce needed to compete in a global marketplace.

In order for modern businesses to compete in the global marketplace, they must have a workforce that is equal to the task (Compton et al., 2010; Zhao, 2015). As modernization and automation become standard, the type of education that students need changes. Recent studies show that the fastest sector of workforce growth is not among college graduates. It is among those students who have a high school diploma with some post-secondary training but not a bachelor's degree (Compton et al., 2010). The career academy provides students with the career and technical background to satisfy these new workforce needs as well as the academic rigor necessary for success in post-secondary

training (Conchas & Clark, 2002). While some research in CTE participation shows that there is a negligible relationship with post-secondary enrollment (Gottfried & Plasman, 2018), other research shows that program graduates have higher enrollment in post-secondary education, higher persistence rates when enrolled in post-secondary education, and higher wages than their non-program high school graduate peers (Conchas & Clark, 2002; Dare, 2006; Thessin et al., 2017).

Regardless of post-secondary enrollment, the skills and knowledge students' acquire is one of the reasons why recent federal education policies promote career readiness (Carl D. Perkins Career and Technical Education Act of 2006, 2019; Every Student Succeeds Act of 2015, 2015) and encourage states to include career readiness as a component of their accountability systems (Thessin et al., 2017). More than simply being able to get a job, career readiness is about having the ability to acquire knowledge in evolving situations, as well as the transferrable skills needed for success in rapidly changing industries (Stone, 2017). Career academies, with their focus on student completion of career pathways, provide students with transferrable skills along with industry-based training that connects with academic content and increases career readiness.

Perkins legislation, one of the tools used by career academies to promote career readiness, has provided federal funding to states in order to train their workforces and support the workforce needs of their changing economies. The money in this grant allows states to provide education and training to students and adults; the most recent reauthorization focuses on increased accountability for the improved connection between academic and technical education programs (Thessin et al., 2017) at both the secondary

and post-secondary levels. This new vocationalism, as some scholars have labeled it (Benson, 1997; Castellano et al., 2003; Compton et al., 2010), goes beyond job-specific training and focuses on broadening the training students receive so that they are able to succeed in new and evolving careers. Career academies, by linking core content with Career and Technical Education, integrate the curricula and provide students with the broad transferrable skills necessary for success in the workforce. Merging all of these components has, as Castellano et al. (2017) propose, the ability to foster a student's career aspirations and promote their academic and career success.

Using both qualitative and quantitative methodologies, researchers have noted the many positive effects of career and technical education, small learning communities, and career academy schools on attendance, skill development, knowledge acquisition, future career earning potential, and student behavior (Benson, 1997; Castellano et al, 2003; Castellano et al., 2017; Compton et al., 2010; Conchas & Clark, 2002; Dare, 2006; Dixon et al., 2011; Fletcher & Cox, 2012; Fletcher & Zirkle, 2009; Farr, et al., 2009). While much of the literature examines data from national studies, there are studies that explore the student experience directly (Dixon et al., 2011; Farr, et al., 2009; Fletcher & Cox, 2012). Generally limited by small sample sizes, these studies explore current students' perceptions of their experience and leave room for the exploration of student career self-efficacy and the aspects of their education that contributed to their self-perceptions.

Critical Race Theory and the Entrenchment of Educational Divides

The history of education in the United States tells the story of division and inequity. From their earliest days, schools marginalized a portion of the population by denying or limiting access and opportunities. Critical Race Theory draws on the

experiences of all People of Color – Black, Hispanic, and Asian – historically invalidated by a system that reflects traditional White values (Morrison, 2010). In their landmark work on Critical Race Theory, Ladson-Billings and Tate (1995) discuss the deeply entrenched divides that exist between stakeholders with divergent views of educational equity. They frame their argument about school inequity around three central propositions: the deep-rooted inequities across racial groups, the landed nature of social status in the United States, and the intersection of race and property as a tool to understand inequity. Additionally, they write that Critical Race Theory exists as a belief that social reality is rooted in the context created by interaction and experience. For Students of Color, their interactions and experiences illuminate the systemic and structural problems inherent in the educational system (Ladson-Billings & Tate, 1995).

There is an increasingly strong argument that these systematic inequities serve to disadvantage minorities in the United States, particularly in the South. While there was pushback against this entrenched racism from segments of the population, the United States Supreme Court, in *Plessy v. Ferguson* (Homer A. Plessy v. John H. Ferguson, 1896), ruled that institutionalized discrimination and segregation was not a violation of the Constitution, as long as the institutions were of equal quality.

Later, it was the decision of the United States Supreme Court in Brown versus the Board of Education of Topeka (Oliver Brown, et al. v. Board of Education of Topeka, et al. , 1954) that invalidated the more than 50-year old Plessy decision. The Brown decision held that segregated schools were not equal and forced districts across the country to integrate their schools (Reber, 2004). The goal of Brown was to remove the systematic inequities and close the achievement gaps between white and black students.

School district leaders largely ignored the Brown decision and instead tried to implement the requirements of the Plessy decision by upgrading the inadequate educational facilities for black students and providing more resources to them (Noblit & Mendez, 2008).

After Brown, as decades of political and social unrest contributed to calls for civil rights' reform, activists and citizens alike argued for school reform aimed at closing achievement gaps and removing educational inequities for minority students. Yet, even now, decades later, terms of racial inequity frame school reform because of the continued failure on the part of schools to provide adequate education to minority students. Landmark legislation, such as *No Child Left Behind* (No Child Left Behind, 2001) and the *Every Student Succeeds Act* (Every Student Succeeds Act of 2015, 2015), calls out the entrenchment of educational divides by pointing to the need to bring black students up to the level of white students. While aiming to address the disparity, it simultaneously deepens the entrenchment by implying that white students are models for all others (Noblit & Mendez, 2008).

Twenty-years after Ladson-Billings and Tate (1995), Howard and Navarro (2016) examine the effects of Critical Race Theory on education and highlight the disparities that continue to exist. They write that after 20 years, little evidence of progress exists showing educational improvement for Students of Color. In fact, they argue, the school experience for Students of Color is incongruous with the school experience of their white peers (Howard & Navarro, 2016). Decades of legislation and educational reform, from *No Child Left Behind* (No Child Left Behind, 2001) to the *Every Student Succeeds Act* (Every Student Succeeds Act of 2015, 2015) exist to close existing performance gaps; yet, Students of Color still underperform their counterparts.

An examination of the educational system, and its myriad reform efforts, is incomplete without a discussion of Critical Race Theory. As the number of Students of Color grow, it is increasingly difficult to ignore the institutional practices that affect them. Ledesma and Calderon (2015) write about the need for teachers to understand the racialized ideologies behind their pedagogy and to engage non-dominant voices, both in instruction and discourse. It is not enough simply to engage in a token multiculturalism (Ladson-Billings & Tate, 1995); teachers must engage in the real work of inclusion though the exploration of counter narratives and the development of a Critical Race praxis (Ledesma & Calderon, 2015).

The challenge, though, lies in the structures of educational systems. Education, as Monique Morris writes, is "the foundation upon which a life of opportunity [stands]" (2016, p. 2). Yet, each day the educational system fails to meet the needs of its most marginalized stakeholders: poor Students of Color. By limiting the opportunities available to poor Students of Color, society is contributing to the further subjugation of its most vulnerable citizens. Without a doubt, scholars agree that poor students and Students of Color are more likely to drop out of school, engage in at-risk behaviors, and be doomed to a life of poverty (Abramsky, 2013; Cuthrell et al., 2010; Gordon & Cui, 2014; Hughes et al., 2010). Students of color are also more likely to receive exclusionary punishment for offenses than their white peers are.

These exclusionary punishments are reflective of the similar experiences these students witness among their families and community members, and reinforce the understanding that the system is stacked against them (Hughes et al., 2010). Much of the research done underscores the failings of the public education system to develop a system

that meets the needs of disenfranchised Students of Color thereby reinforcing the perception held by these students that they ultimately do not matter. School experiences, therefore, are traumatic for poor Students of Color who infer from a lack of culturally responsive curriculum and culturally appropriate teaching practices that the teacher does not view them as important or valuable (Hughes et al., 2010).

Moreover, school funding, composed primarily of property taxes, favors schools in affluent areas whose high home values provide for high property taxes. While these neighborhoods are attractive to all, White families are more likely than people of color are to live in them (Hughes et al., 2010). As Ladson-Billings and Tate (1995), as well as Ledesma and Calderon (2015) and Howard and Navarro (2016) point out, property determines social status and educational access because of its ties to school finance.

Noblit and Mendez (2008) argue this disenfranchisement is a historical construct built upon racial oppression, though race cannot edge out poverty to be the only marginalizing factor; in both cases, schools have failed students. Living in poverty exposes students to a host of problems that affect academic achievement. Students in poverty experience homeless and food insecurity at high rates, which result in physical, cognitive, and emotional delays (Devaney, Ellwood, & Love, 1997). Moreover, the negative effects of poverty correlate with higher dropout rates, low academic achievement, and unemployment into early adulthood (Gordon & Cui, 2014; Guo & Harris, 2000). Families living in poverty have fewer material resources. Students with fewer resources are shown to underperform their peers academically (Abramsky, 2013; Guo & Harris, 2000), which reverberates into adulthood as they are unable to perform tasks requiring higher levels of cognition and academic skill. With both academic and

financial struggles, students in poverty face an increasingly difficult challenge. The attainment of higher education, long thought to be the path to reducing or escaping poverty, no longer guaranteed that a person from an impoverished background would be able to rise up from this circumstance and be successful.

Throughout the twentieth and early twenty-first centuries, black and white families alike fell victim to a post-industrial economy that valued a college-educated workforce; however, the economic reality was that these already poor families were not able to afford the college education that promised to bring them out of poverty (Deil-Amen & DeLuca, 2010). In fact, DiMaria (2010) writes that in 2008, more than 60 percent of low-income adults who had attended or completed a postsecondary institution had not successfully broken the cycle of poverty from which they emerged. Abramsky (2013) writes in the prologue to his book, that there has never been a civilization able to eradicate poverty in spite of myriad efforts from both political and social forces. While the face of poverty is as diverse as the country itself, certain populations find themselves more likely locked out of this middle class.

In their multilevel, multivariate study of data from the Educational Longitudinal Survey, Palardy, Rumberger, and Butler (2015) determine that the most robust predictor of student achievement, after controlling for other variables, is socioeconomic status. They find that the time spent on learning tasks, the level of mathematics taught, and the pressure for achievement are all at least one standard deviation lower in schools with students in poverty than schools in high SES areas. They postulate that this results from faculty who lower their expectations to their perception of what a student is able to achieve.

While presumably well intentioned, the lowering of academic expectation is another example of an institutionalized practice subjugating a population of student. By lowering expectations, teachers are implicitly telling students that they are unable to achieve at high levels. Such practices, over time, erode a student's sense of efficacy and contribute to a cycle of poverty.

Self-efficacy, Social Cognitive Career Theory, and Job Matching

Simply stated, self-efficacy is an individual's belief in their capability to succeed at a given task. Put another way, it is their belief that they can do something. In his seminal work on self-efficacy, Bandura (1977) outlines four sources of efficacy expectation: performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal. This belief, he argues, derives from an individual's success at tasks they attempt, as well as through positive social feedback and positive outcome expectations. The development of efficacious beliefs leads to a behavioral change, such as having an optimistic view of the future. Additionally, self-efficacy influences the actions that an individual takes, the goals to which they commit, and the perseverance they have in the face of an obstacle.

Bandura's work on social cognitive theory served as the foundation for Lent et al.'s (1994) social cognitive career theory. They posited the theory that the interaction between learning experiences, self-efficacy, and outcome expectation informs how a person identifies career interests and makes career choices. In this Social Cognitive Career Theory, they argue that a person's career self-efficacy develops from his/her accomplishments, observations, social influences, and physiological and/or emotional state. In addition, the successes and failures a person experiences will inform his/her

expectation of success or failure, which will drive career decisions (Ali & Menke, 2015; Lent et al., 1994; Lent et al., 2009).

Serving as a test of social cognitive career theory, Lent et al. (2009), studied 600 Portuguese high school students. They hypothesized that a student's sense of self-efficacy determined the outcome they expected from a task or activity. In addition, the sense of self-efficacy contributed to the student's interest in the task and the development of a goal related to the completion of the task. The evidence they found supported their hypotheses about the importance of self-efficacy in the development of vocational interests and outcome expectations.

Not only does self-efficacy play a role in vocational preferences, classroom teachers and educational institutions have a powerful effect on the career choices made by students. The pedagogical approach taken by a teacher has the ability to determine a student's ability to learn content; the support the teacher provides as students succeed or fail directly effects that student's sense of self-efficacy, as well as their belief in future outcomes. Within the context of a career academy school, social cognitive career theory undergirds the entire instructional model.

As students develop a sense of career self-efficacy, they improve their chances of selecting a career that matches their abilities and removes the uncertainty associated with initial job selection. In his seminal work on Job Matching Theory, Jovanovic (1979) introduces the idea that an employee's productivity and economic contribution improves with the employee's tenure because of their increased knowledge and comfort with the position. He argues that imperfect information, in terms of what each knows about the other, exists for both the employee and the employer when a new job begins. Turnover

results from better information. Scholars build on this idea by adding there is an initial uncertainty about whether the characteristics of a specific job are an appropriate fit to an employee, which only output and performance over time can reveal (Moscarini, 2005; Pastorino, 2013).

The familiarity that students acquire through hands-on experiences, technical skill acquisition, and knowledge development make it possible for them to bypass the initial uncertainty of the job characteristics fit. Additionally, with their base knowledge and a sense of career self-efficacy, the possibility exists that they may increase the speed with which they learn the crucial dynamics of the job. Moreover, the work done through internships and partnerships reduces the uncertainty employers have about a future employee's abilities. Pastorino (2013) notes this knowledge leads to different predictions about worker turnover and has different economic results. Therefore, the development of career self-efficacy, and the components of the career academy model that lead to it, may result in an improved economic position for both a future employee and employer.

Summary of Literature Review

In the past, schools sorted students at-risk of not completing high school – typically, poor and minority students – into, what was termed until the late 1990s, vocational education programs. This was to ensure they earned a decent wage after high school graduation and were still able to contribute to society. Despite the stigma the vocational student label carried and the denigration students received because of their membership in a vocational education program, they went on to enjoy low-skill jobs in factories, offices, farms, and the like (Castellano et al., 2003; Fletcher & Zirkle, 2009). Yet, as the social and economic struggles of the 1960s and 70s intensified, so did the call

for educational reform away from a system that divided its charges into those who would graduate and those who might not. It was the 1980s, though, and the publication of the National Commission on Excellence in Education's (1983) report entitled *A Nation at Risk* that directly highlighted the inequity in education and the "rising tide of mediocrity" (p. 6) that was causing The United States to lose its "once unchallenged preeminence in commerce, industry, science, and technological innovation" (p. 5). It was, as Murphy and Adams (1998) point out, the popularly held opinion that a failing education system was the largest contributing factor to the failing economy. Critics of education argued that the system was incapable of keeping up with the changing needs of the economy and was not providing students with the necessary skills to succeed in an increasingly global workforce (Murphy & Adams, 1998).

The post-industrial economy of the closing decades of the twentieth century saw a greater need for a skilled and educated workforce. Jobs became increasingly technical as factory and other low skill workers ceded their positions to computer-controlled automatons. School reformers noted this economic shift and rallied behind the goal of improving education for all students as a way to combat the United States' falling place in the economic hierarchy (Zhao, 2015). College and career readiness became the call for a citizenry who believed that college for every student was the only acceptable solution (Deil-Amen & DeLuca, 2010); however, school reform efforts remain aimed at overhauling a historically broken and inequitable system. There are scholars, though, who argue that the solution is not reform but re-imagination: ditching the current system in favor of something that teaches students the skills they need for global

competitiveness, such as creativity and entrepreneurship (Deil-Amen & DeLuca, 2010; Murphy & Adams, 1998; Zhao, 2015).

Schools face increasing pressure to adapt to a changing environment and improve the quality of education they provide. The calls to provide more relevant and rigorous coursework to prepare students for a dynamic workforce echo through the halls of the schoolhouse. There are pockets of change around the country as schools transform from traditional educational institutions to career academies that claim to provide all students with the transferable skills and academic knowledge needed to develop a sense of career self-efficacy. Despite these claims, the question persists: do career academies provide students with the benefit they claim?

Therefore, this mixed methods study seeks to advance to the scholarship of career academies by adding the students' voice to the conversation and exploring their perceptions of career academies across diverse student groups. As Ladson-Billings and Tate (1995) write, "without authentic voices of people of color (as teachers, parents, administrators, students, and community members) it is doubtful that we can say or know anything useful about education in their communities" (p. 58).

CHAPTER THREE

METHODOLOGY

The following chapter introduces the research methodology in this study, which sought to examine the extent to which demographic factors and students' participation in a career academy affects his/her belief in college or career readiness, as well as future career success. The data collected address the following research questions:

- Are there career self-efficacy differences among students of diverse ethnic groups?
- Are there career self-efficacy differences across diverse socio-economic and ethnic student groups?
- What aspects of the career academy model contributed to students' perceptions of college and career readiness?
- What are the students' perceptions of whether the career academy model provides a sense of career self-efficacy?

The chapter begins with a review of the research questions under investigation, as well as a discussion of the research design, including the appropriateness of case study and grounded theory to the research. The remainder of the chapter contains an explanation of the study site and participants, instrumentation and analysis methods, and ethical considerations.

Research Design

This sequential mixed methods study, oriented within a case study framework, uses an inductive approach, which Creswell and Creswell (2018) define as a "process of building from the data to broad themes to a generalized model or theory" (p. 63). Once thought to be a research strand separate from others, new research reveals that mixed methods are appropriate to explain the linkage between quantitative and qualitative research (Creswell, 2009). This study employs a mixed methods design to explore the connection between the perceptions that career academy graduates have about their career self-efficacy and the factors that led to these perceptions. Specifically, this study employs a sequential mixed methods design whereby collected, coded, and analyzed qualitative survey data illuminate persistent and cogent themes regarding student perception about their career self-efficacy measured quantitatively. The sequential mixed methods design consists of two unique phases: quantitative data collection and analysis followed by qualitative data collection and analysis (Ivankova et al., 2006). The mixed methods approach is beneficial because it provides for triangulation between the collected quantitative and qualitative data. Additionally, this allows a researcher to offset the weaknesses inherent in an individual approach (Doyle, Brady, & Byrne, 2016). The sequential mixed methods approach allows qualitative data to illuminate the findings from the quantitative phase (Ivankova et al., 2006).

Working within a case study methodological orientation is appropriate because it is a straightforward approach that allows for the in-depth analysis of a bounded unit, which helps the researcher explore the relationship between variables under investigation (Creswell & Poth, 2018; Glesne, 2016; Stake, 2010). Furthermore, Yin (2018) points out

that the case study focuses on contemporary phenomenon within its real-life context and suggests possible links between phenomena.

Yin (2018) establishes an argument for case study research as a valid research design for all research purposes; in fact, he argues that each "research method can be used for all three purposes—exploratory, descriptive, and explanatory studies" (p. 8). He cautions researchers, though, that they need to be aware of the various conditions that inform the method used. The case study approach to qualitative research is most appropriate for real-life phenomena over which the researcher has little or no control.

Glesne (2016) argues that case study research "refers to the intensive study of a case" (p. 289) where the "case" can range from something as small as an individual to something as large as a corporation. Some system held together by time, place, or other construct, bind – that is connect – the components of the case (Creswell & Poth, 2018; Glesne, 2016). In this study, the bounds of the case will be its time, place, and population, specifically a single career academy school and the students of its 2020 graduating class. Stake (2010) writes that case studies are comparative methods used to seek an understanding of some functional relationship, which in this study will be the relationship between career academy participation and feelings of future career self-efficacy and college or career readiness.

Creswell and Poth (2018) differentiate between three types of case studies: intrinsic, instrumental, and comparative. This study engages in an instrumental analysis of the students' experiences. In instrumental case study design, the findings of the study contribute to an improved understanding of the issue in order to draw some generalization (Creswell & Poth, 2018; Glesne, 2016). In this case, the perceptions of

students provide an understanding of the how the career academy experience affects marginalized and underserved students and their sense of future career self-efficacy and college or career readiness.

One important reminder that Yin (2018) makes is the need to generalize from the case study and not the case. The case, he explains, is the sample under study; the case study, he writes, is the "opportunity to shed empirical light on some theoretical concepts or principles" (p. 38). He states that these learned lessons can apply to a variety of situations that go beyond the initial case or cases like the initial case. While Stake (2010) argues that qualitative research is difficult to generalize, Yin (2018) explains that when researchers make an analytical generalization, they are arguing for something not grounded in statistics; therefore, it is important to acknowledge the flaws in the research claims and engage in a discussion of the generalizations rather than simply stating them as fact. It is important, then, to draw generalizations about the overall sense of future career self-efficacy and readiness that career academy students feel with the understanding that this study does not look at more than a single case.

This research uses a single case study approach to explore the feelings of readiness and career self-efficacy of poor and minority students graduating from a career academy high school. As the number of poor and minority students grow in schools across the United States (Murphy, 2016), and the number of schools transitioning to the career academy model increases (Dixon et al., 2011; Farr, et al., 2009; Kemple & Snipes, 2000), enrollment of poor and minority students in a career academy school becomes increasingly more common. This common lived experience is one of the five primary reasons Yin (2018) shares is acceptable to limit a case study to a single case. In a

common case, the aim of the researcher is to capture everyday experiences, ones that are frequent enough to provide insight into some common experience. Creswell and Poth (2018) share that in a single case study the researcher identifies a phenomenon and then selects a single bounded case to explore the issue.

This single case study uses an embedded design, which occurs when both the single case, as well as subunits within that case, receives attention in the study (Yin, 2018). In this study, the first level of the case is the whole graduating class of the single career academy high school. Survey level data from the school district provides student perceptions of readiness and career self-efficacy for all graduates, allowing for the exploration of differences along racial and economic lines. In addition, the disaggregation of data into smaller units where students will self-identify race and socio-economic status (as indicated by enrollment in federal free and reduced lunch programs) allows for the exploration of subunits of students along racial and economic lines. Survey results from the subunits allows for the generation of themes and questions for the Group Level Assessment (GLA), a collaborative interview model (Vaughn & Lohmueller, 1998), which focus only on those students who have identified as minorities or as receiving free or reduced lunch. A Group Level Assessments of graduating students provides an in-depth exploration of the feelings of readiness and career self-efficacy.

Data Sources. Data sources include a survey conducted by the Academies of Lexington, which collected data from the 2020 graduating class from the academy model high schools in Lexington, Kentucky. A Group Level Assessment of graduated students is the second source of data. The Group Level Assessment is a participatory and collaborative interview model that allows the researcher to work with subunits within a

case (Vaughn & Lohmueller, 1998). Themes for the Group Level Assessment derive from survey results released to the researcher from the district. Participant selection is based on homogenous convenience sampling, which is a mixed sampling style focusing on reducing the invited participants to those who meet the criteria for the embedded case and then choosing those who respond and are willing to participate (Jager, Putnick, & Bornstein, 2017). While traditional convenience sampling would provide for limited generalizability, homogeneous convenience sampling provides for clearer generalizability when it comes to understanding differences among subpopulations.

Data collection and instrumentation. The participants of this survey, and subsequent GLA, are 2020 graduates from a single career academy high school in Lexington, Kentucky. This graduating class represents the first cohort of students to complete a full four-year program in the academy model. The career academy model launched at this high school in the 2015-2016 school year with a Freshman Academy, which coincides with the first year of enrollment for these students.

Surveys. As a primary source of data, the school district administered a survey to graduating seniors in order to gauge perceptions of college and/or career readiness, as well as future career self-efficacy. In an effort to utilize an instrument with tested and established validity, the team adapted Betz, Hammond, and Multon's (2005) *Career Decision Self-Efficacy Scale-Short Form* (CDSES-SF), based on the *Career Decision Self-Efficacy Scale* first introduced by Taylor and Betz (1983). In their seminal work, Taylor and Betz discuss the need for a tool that provides insight into the five career choice competencies introduced by Crites (1961): an accurate self-awareness, occupational knowledge acquisition, goal development, future planning, and problem

solving. Researchers (Chaney, Hammond, Betz, & Multon, 2007; Miller, Roy, Brown, & McDaniel, 2009) have determined the instrument as a reliable measurement tool for career decision self-efficacy. Chaney et al. (2007) reported coefficient alpha values for the CDSES-SF and each of its subscales that were consistent with previous studies. Additionally, they used Cohen's *d* to compare effect sizes of their study of 220 African-American students with a larger study of White students (N = 1,399) to provide a better understanding of the mean differences in the studied population. Cohen's *d* ranged from .00 to .37 for each of the subscales and .30 for the total CDSES-SF score; while statistically significant, these scores represent a small effect size and speak to the consistency and validity of the instrument. Miguel, Silva, and Prieto (2013) noted a comparable internal consistency of the CDSES-SF among both high school and college students with an alpha value of .94 for the 25-item short form.

With both open-ended and closed-ended questions, the survey provides a means for the district to gather information from the first graduating class of its career academy model. This is important for several reasons, not the least of which is that quantitative data supporting or opposing the efficacy of the career academy model, specifically in terms of career readiness and career success, are several years away.

Students received the short survey, which took approximately 15 minutes to administer, in their senior English class, which is one of the only two classes required of students during their senior year. The district provided the survey using a Google form, which allowed for easy distribution via email or online Learning Management System. The Google form format allows for easy data analysis, filtering, and charting because the responses populate a Google spreadsheet.

Figure 3 Group Level Assessment

The survey offered two types of questions. Closed-ended questions provided the opportunity to gather data on students' feelings about their confidence levels in completing a task. One limitation to closed-ended questions is the possibility that the choice selections might bias a respondent, exclude a respondent, or otherwise suggest a response direction. Open-ended questions provided respondents an opportunity for freeform answers, which allowed them to reveal more information. Open-ended questions provide for richer data and do not limit responses to a pre-selected group of choices; however, open-ended questions provide an additional challenge for data analysis. As a member of the survey design team, I had some influence over the development of the survey instrument's additional open-ended questions.

Group Level Assessment. Group Level Assessment is a collaborative and participatory approach that serves as an alternative to traditional qualitative data collection. Group Level Assessment allows participants to generate data as collaborators in the research process (Vaughn & Lohmueller, 1998; Vaughn, 2014). Additionally, the Group Level Assessment fosters a sense of community in participants and creates a place for open and honest dialogue (Vaughn, Jacquez, Zhao, & Lang, 2011), which is important in revealing deeper and richer data.

The Group Level Assessment utilizes a variety of prompts to address the themes identified in the district's survey. Conducted virtually due to the social distancing restrictions in place to prevent the spread of the SARS-CoV-2 virus, participants connected using online video conferencing software and the collaborative online word processing software Google Docs. As Figure 3 indicates, there are seven steps to the Group Level Assessment. It was important to begin the activity by establishing its purpose and then opening with an icebreaker to relieve any tension and create a more participatory atmosphere. This climate-setting step was important for reducing stress and anxiety among participants and laying the groundwork for honest discussion.

Following this first step, participants generated responses to the prompts found in the shared Google Document. Each participant responded individually in the document. After participants generated responses, they took the time to review the responses on the pages, highlighting areas of agreement, using the highlight tool available in Google Docs, or adding additional thoughts. During steps four and five, participants quietly reflected on the data they reviewed before working collaboratively to identify common threads or themes.

In step six, all participants discussed the identified themes and found commonalities among them. During this step, the participants prioritized the themes through a collaborative voting process using a Google Form. This prioritization identified the most important themes based on the opinions of the whole group. Though excluded from this study, step seven, action planning, would have allowed participants a voice in the change process by giving them ownership of the ideas generated. After

receiving the results from the GLA, the Academies of Lexington team may utilize the data to plan for future actions related to the career academies.

Data Analysis & Interpretation

Survey analysis. The Academies of Lexington shared data from the survey for analysis, which revealed what, if any, relationship exists between career academy structures and the feelings of career self-efficacy in both Students of Color and FRL students. As Chaney et al. (2007) point out, career decision self-efficacy is determined by totaling the total points given to each of the 25-items; higher total scores indicate a higher degree of career decision self-efficacy.

Descriptive statistics for each of the closed-ended questions provided the mean score and standard deviations for the variables, as well as the frequency distribution for the responses. Additionally, a univariate analysis of variance (ANOVA) with an alpha (α) level of 0.05 determined if there were statistical differences in students' feelings of career self-efficacy across ethnic groups to address the following equation for research question one.

For this research question, the independent variable ethnicity had two nominal levels: White and Students of Color, which is comprised of students identifying as black, Hispanic, Two or more races, and other. The dependent variable, feeling of self-efficacy, used a 5-value ordinal measure Likert scale (1= *No Confidence*, 2 = *Very Little Confidence*, 3 = *Moderate Confidence*, 4 = *Great Confidence*, and 5 = *Complete Confidence*). Research question one tested one hypothesis: there are differences in feelings of career self-efficacy across ethnic groups. The univariate ANOVA assumes

that each group comes from a normal distribution and that within group variance is roughly constant, which is tested using the Levene test statistic.

An Analysis of Covariance (ANCOVA) with an alpha (α) level of 0.05 determined if there are statistically significant differences across ethnic groups based on a student's self-identified socio-economic status, controlling for a students' Composite ACT score, to test the following equation for research question two:

This research question tested three hypotheses:

1. There are differences in the mean score of feelings of career self-efficacy across socio-economic status groups.
2. There are differences in the mean score of feelings of career self-efficacy across ethnic groups.
3. Statistically significant differences in feelings of career self-efficacy are evident in the interaction of socio-economic status and ethnicity.

For the ANCOVA, each effect of the ANOVA (the two main effects and the interaction effect) had their own *F*-statistic calculated similarly to the univariate ANOVA. The independent variable ethnicity had five nominal levels. The independent variable socio-economic status was measured using two nominal levels (participating or not participating) based on a student's self-identified participation in the federal Free and Reduced Lunch program. The dependent variable, feeling of self-efficacy, used a 5-point Likert scale.

Open-ended questions provided a rich discussion of student perceptions. These narrative data required organization and multi-cycle coding in order to discover prevalent themes, which informed the development of prompts used during the GLA. During the

first coding cycle, coding revealed the unique and individual voices of the participants, while still allowing for the categorization of repeated themes (Miles, Huberman, & Saldana, 2014). In Vivo coding uses the language of the participant to reveal patterns or themes in participant responses. Young (2011) notes that Critical Race Theory requires the researcher and subject to engage in a co-constructive approach, in order to understand the inequities and injustices inherent in systems. In the first cycle In Vivo coding process, dialogue with each participant occurred by using the words and phrases found in their responses to honor the participants' voices and illuminate themes and patterns (Miles et al., 2014).

A second cycle of coding explored patterns illuminated in the first cycle. After categorizing participant responses for each of the open-ended questions, a pattern coding system aided in the clustering of responses into major groups, which Chapter 4 explores. Pattern coding takes the large amount of data generated during the first coding cycle to create smaller units for analysis. One of the benefits of pattern coding that Miles et al. (2014) explore is the creation of a schema to explore common connections and occurrences. The common connections and occurrences illuminated in this coding cycle informed the development of the prompts used in the Group Level Assessment.

Group Level Assessment data analysis. Prompts generated from the second-cycle pattern coding of survey data were written on different pages of a Google Document. GLA participants responded to the prompts individually and reflected on the responses of their peers. In groups, participants used a collaborative approach to synthesize the data. Young (2011) points to collaboration as one of the key components to Critical Race Theory because it allows participants to develop a mutually agreed upon

understanding of the conditions undergirding and leading to systemic inequities. The groups used a quasi-In Vivo Pattern coding approach by utilizing the words and phrases found in their responses and organizing them into common or salient themes, which they discussed publicly and prioritized collaboratively.

The analysis of GLA data is unique because it is simultaneously individual and social. Participants have the ability to provide their unique perspective relative to the prompt and read the responses of their peers to the same prompts. Respondents have near-anonymity, as it is unlikely for participants to know who wrote individual comments (Vaughn & Lohmueller, 1998). Simultaneously, the social context of the GLA – its co-constructed themes and group level priorities – ensures that only the most salient and important themes emerge from the public discussion (Vaughn & Lohmueller, 1998; Vaughn, 2014).

Validity

Issues of validity may arise with the open-ended questions on the survey instrument because the team from the Academies of Lexington designed them. Creswell and Creswell (2018) identify content validity as a measure of a survey's validity. Serving on the design team allowed me some measure of control in the survey's design, thereby ensuring a basic level of content validity with the open-ended questions. Chaney et al. (2007) point out that most of the research conducted using the CDSES-SF comes from samples of predominately-white populations. However, additional studies have confirmed the instrument's validity in diverse populations (Chaney et al., 2007; Hampton, 2006; Miguel et al., 2013).

Data Presentation

The presentation of data occurs in multiple stages beginning with descriptive data captured during the survey. These data provide demographic context for the survey, as well as mean scores for questions regarding student perception. The second stage compares the means differences across demographic variables and socioeconomic status. The third stage presents the results of the coding cycles and discusses how the mean differences and generated themes informed the creation of prompts for the Group Level Assessment. The final stage presents the co-generated responses from the Group Level Assessment and explores these qualitative data in relationship to the quantitative data collected via the survey.

Delimitations

This study is delimited to students graduating from a single career academy high school in Lexington, Kentucky in June 2020. At the time of this research, this graduating class was the first one from all three career academy schools to have completed a four-year program of study in the career academy model. For the previous three school years, graduates had some number of years in a traditional program at the school plus some number of years in the career academy model.

Researcher Positionality

Using Milner's (2007) framework as a guide, I actively confront those beliefs, cultural and otherwise, that affect my positionality in order to honor and respect the lived experiences of the populations I seek to research. I strove to be an objective interpreter of data, honest in analysis and presentation. Operating from within the frameworks of Social Cognitive Career and Critical Race Theories, questions that get to the heart of

learning opportunities, interests, and environment bound my research on all sides. Lent et al.'s (1994) Social Cognitive Career Theory argues that a person's beliefs, interests, and environment play a key role in helping them construct their own career identity and outcomes. Career academy schools provide an environment that allows students to explore career opportunities without consideration for social and economic pressures. The belief is that through their engagement with career academies, students have an opportunity to succeed or fail in a career pathway, which allows them to have the learning experiences and develop the self-efficacy that Lent et al. (1994) argue is essential for positive career outcomes. My intention was to avoid pushing my social agenda on the work and to let it develop naturally. As Milner (2007) points out, issues of race and culture are considerations when conducting research and researchers must be aware of their racial and cultural positions when engaged in the research. For me, as a researcher, it was important to contextualize my experiences and remain cognizant of their impact on my work.

Ethical Considerations

In this study, participants received identifiers in order to remove their names from the study. While demographic information is included, those data alone are not enough to identify the participants. In order to ensure informed consent, the researcher shared the purpose of the research project. In addition, the researcher provided participants the opportunity to review the transcript of the Group Level Assessment, the nature of which is a naturally transparent because the process allows participants to organize and prioritize data in such a way as to accurately represent their lived experiences. Finally, the researcher provided the participants the option to receive a copy of the report.

There was minimal risk in conducting this research. The benefit of such research is an understanding of the feelings that marginalized and historically underserved students have because of career academy participation. The greatest risk to student-participants is retaliatory risk; they risk saying something that is contradictory to the message of their administration or runs counter to the goals of the career academy implementation. However, identifiers in place of names and working with graduating students mitigate this risk. This anonymity and separation allows participants to speak openly and honestly to the researcher.

Summary

This chapter described the methods and procedures employed to provide insight into the feelings and perceptions that graduating students from a career academy school have in relation to college and career readiness, as well as future career self-efficacy. Additionally, this chapter presented the research design, research questions, sample population, and instrumentation. Finally, this chapter discussed the data collection process and analysis procedures. Chapter 4 will present the study's research questions and findings.

CHAPTER FOUR

PRESENTATION OF FINDINGS

Introduction

The purpose of this sequential mixed methods study was to explore the extent to which participation in a high school career academy affects students' sense of career self-efficacy. The following chapter details the findings of this research. The study augments existing career academy scholarship through examination of the following questions:

- Are there career self-efficacy differences among students of diverse ethnic groups?
- Are there career self-efficacy differences across diverse socio-economic and ethnic student groups?
- What aspects of the career academy model contributed to students' perceptions of college and career readiness?
- What are the students' perceptions of whether the career academy model provides a sense of career self-efficacy?

The chapter begins by providing an overview of the study design before moving into a discussion of the quantitative data collection phase. A discussion of the qualitative data collection phase follows and precedes an exploration of how the findings address the research questions.

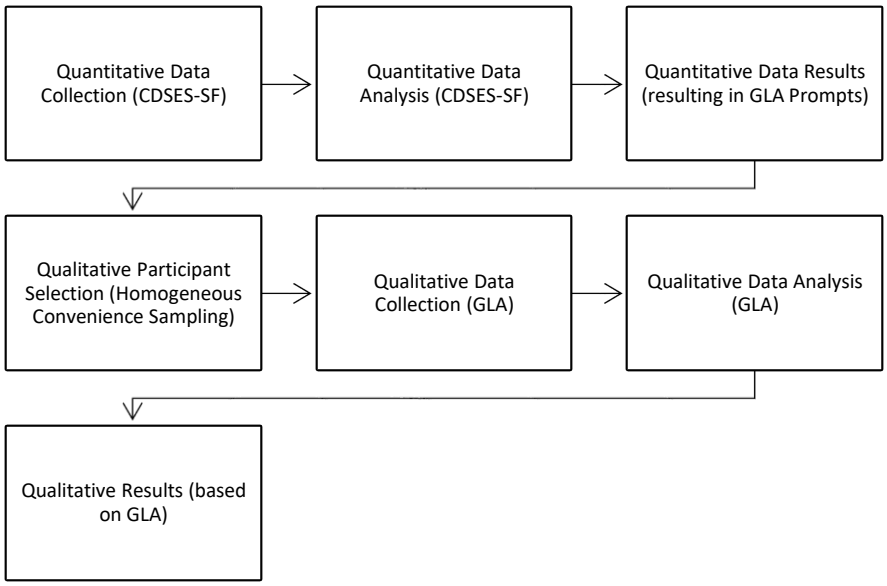

Figure 4 Sequential Mixed Method Design Model

Sequential Mixed Methods Study Design Overview

This research study used a sequential mixed method design oriented within a case study framework. The inductive approach taken towards this research seeks to build from the data to develop a generalized model of the experience of career academy students as it relates to their development of career self-efficacy (Creswell & Creswell, 2018). Ivanka et al. point out that the sequential mixed methods design consists of two unique phases (see Figure 4). In this study, the first phase focuses on the collection and analysis of quantitative data – a survey given to graduating seniors from the academy school – to inform identification of relevant themes common to the students' experience, as well as data that quantifies the extent to which students feel like they've developed career self-efficacy. By using the CDSES-SF (Betz et al., 2005), the school district had a

standardized tool through which to accurately measure the students' sense of career self-efficacy.

The second phase explores these themes by using a qualitative data collection process called a Group Level Assessment, whereby graduating seniors from one career academy high school collaboratively discuss their perceptions of the factors that contributed to whether or not they developed a sense of career self-efficacy. The Group Level Assessment is a participatory and collaborative interview model that allows the researcher to work with subunits within a case (Vaughn & Lohmueller, 1998). Group Level Assessment participants work individually and jointly to generate responses to prompts thereby acting as associates in the research process (Vaughn, 2014; Vaughn & Lohmueller, 1998). During the Group Level Assessment, participants develop a sense of community, which fosters a place for open and honest dialogue (Vaughn et al., 2011). By developing a safe space for participants, the researcher accesses deeper and richer data. Moreover, this collaborative process allows the researcher to buffer against any privileged position of presumed authority by participants and limit obvious, undetected, and unanticipated dangers that might arrive out of the research because of racial, cultural, and other positional differences between the researcher and subjects (Milner, 2007).

Positionality

In education, we have adopted language meant to separate and classify, for example the term "college and career ready." This term separates those students who pursue a college degree from those who do not. By placing students apart from each other, and ordering them in the way we have, we have placed a higher value on being college-bound. However, is not the reality that all students should ultimately enter a

career? If this were the case, which I argue that it is, then why would we defame it by making it a secondary consideration? As Milner (2007) writes, the terms we use shape our understanding; therefore, it is important to be aware of our language.

As an adolescent and young adult, I contributed to the defamation of vocational careers, despite – perhaps because of – having parents who followed that path. As a young teacher, I recognized the power of language in the separation and classification of people: general students, advanced students, and Advanced Placement students. As a researcher, I bring those experiences to my work and try to remain aware of my privileged position.

My place within the system, however, is what causes me the most stress. I have the power of agency over changes that affect the lives of students and the success of our programs. In my work, I make decisions I think are right to connect schools with local business and industry. However, are my decisions culturally sensitive? Do they serve to propagate the separation and classification of students? Do they create situations in which historically normative roles are continued or disrupted? Are we, through this academy structure, perpetuating stereotypes and guiding students to make choices that do not fit their interests but do fit our belief of what their interests should be? I do not want to say that these questions burden me, but they are present in my thoughts.

As an administrator in a career academy high school, who worked on the district initiative to transform traditional high schools into career academy schools, I understand the responsibilities placed on school and district leaders and the roles they play in leading the transformation process. I lack an understanding of what it is like to be a teacher asked to transition from teaching in a traditional model high school to a career academy

high school. Furthermore, I lack the students' experience of an education so divergent from what they have always known, as well as the perception they hold about its role in their development and future success.

Operating from within Social Cognitive Career and Critical Race frameworks, questions that get to the heart of learning opportunities, interests, and environment bind my research on all sides. Lent et al.'s (1994) Social Cognitive Career Theory argues that a person's beliefs, interests, and environment play a key role in helping them construct their own career identity and outcomes. Career academy schools provide an environment that allows students to explore career opportunities without consideration for social and economic pressures. The belief is that through their engagement with career academies, students have an opportunity to succeed or fail in a career pathway, which allows them to have the learning experiences and develop the self-efficacy that Lent et al. (1994) argue is essential for positive career outcomes. My hope is to avoid pushing my social agenda on the work and to let it develop naturally. As Milner (2007) points out, issues of race and culture are considerations when conducting research and those researchers must be aware of their racial and cultural positions when engaged in the research. For me, as a researcher, it is important to contextualize my experiences and remain cognizant of their impact on my work.

Phase I: Quantitative Data Collection and Analysis

The graduating class of 2020 from Bryan Station High School represents a unique milestone for the Academies of Lexington—the first class of graduates from a career academy high school to complete a four-year career academy program of study. Therefore, the Academies of Lexington leadership team took the opportunity to survey

graduating students to learn their feelings about participating in a career academy program and their sense of whether or not the career academy program provided them with a feeling of career self-efficacy. The *Career Decision Self-Efficacy Survey-Short Form* allowed students to answer 25 questions using a 5-point Likert scale.

The CDSES-SF instrument consists of 25 items divided into five competency areas, each with five questions (Betz et al., 2005). The survey instrument measures a respondent's self-valuation in the areas of self-awareness, occupational knowledge acquisition, goal development, future planning, and problem solving. Each survey item measures the respondent's confidence in their ability to complete a task using a 5-point Likert scale ranging from (1) *No confidence* to (5) *Great confidence* (see Appendix A). Score totals range from 25 to 125 with higher scores indicating greater levels of career decision self-efficacy (Betz et al., 2005; Chaney et al., 2007; Miguel et al., 2013), which in turn indicates a higher belief in one's ability to complete career-related tasks and make career-related decisions (Torok, Toth-Kiraly, Bothe, & Orosz, 2017).

Target Population and Sampling. The target population for this study included all graduating seniors from Bryan Station High School, a participating member of the Academies of Lexington. In total, 298 students graduated from this career academy high school. Of these, 53 students were part-time students at one of three local Area Technical Centers and did not participate in one of the school's career academies; therefore, the total population of students who graduated from the school and participated in a career academy was 245.

During the second half of the 2019-2020 school year, students in all Fayette County Public Schools participated in distance learning due to the SARS-CoV-2 virus

Table 1

Response Rate by Demographic Group

Demographic Group	Total Students (*N*)	Total Responses (*n*)	Response Rate (%)
White	96	43	44.8%
Students of Color			
Black	90	32	35.6%
Hispanic	45	11	24.4%
Asian	6	4	66.7%
Two or more	8	3	37.5%
Total	245	93	38.0%

Table 2

Response Rate by Economic Status

Economic Group	Total Students (*N*)	Total Responses (*n*)	Response Rate (%)
FRL	150	42	28.0%
Paid	95	51	53.7%
Total	245	93	38.0%

(Spears, 2020). English teachers at Bryan Station High School distributed the district's survey to their Senior English classes via their online learning platform during the last week of the school year. Teachers instructed students to complete the survey prior to the last day of school, but were not able to monitor student participation due to the distance-learning environment and voluntary nature of the survey.

Response Rate and Demographic Composition. In total, 93 of the 245 graduating seniors responded to the survey, yielding a response rate of 38 percent. Students from five racial demographic groups responded to the survey with White students as the single largest group of respondents (n = 43), followed by Black students, Hispanic, Asian, and students identifying as Two or More races. This study uses the term Students of Color to refer collectively to all non-White students for the remainder of the data presentation. In an effort to address small subpopulations, an acceptable approach is to combine the Black, Asian, Hispanic, and Two or more races subgroups into a single

Table 3

Gender Representation of Respondents

Gender	Total Students (*N*)	Total Responses (*n*)	Response Rate (%)
Male	132	44	33.3%
Female	113	49	43.4%
Total	245	93	38.0%

comparison group: Students of Color (Allen, 2016; Morrison, 2010; Murphy & Zirkel, 2015). Most literature focuses on Students of Color by examining individual race groups – usually, Black, Hispanic, and Asian. However, scholars note the need for a collective grouping that is both "reflective of the current climate" (Cox & Mathews, 2005, p. 6) and inclusive of all "people of color to allow the development of both common and distinct themes within and among participant groups" (Morrison, 2010). Indeed, Critical Race Theorists argue that there are no absolute rules defining CRT, rather the boundaries are a set of common themes that includes the lived experiences of groups subjugated by a dominant ideology (Allen, 2016). Of the students who responded, 45.2% qualified for Free or Reduced lunch (see Tables 1 and 2), which is approximately 16 percentage points lower than the total percent of students in the class who qualify for Free or Reduced lunch (61.2%).

The graduating class from Bryan Station High School is composed of 132 males (53.9%) and 113 females (46.1%); however, female students responded at a higher rate (n = 49) than their male counterparts (n = 44). This represents a 43.4% response rate among female students and a 33.3% response rate among male students (see Table 3).

Student Achievement on ACT Exam. Each year, high school juniors in the Commonwealth of Kentucky sit for the ACT Exam, one of the two major College Entrance Exams used by universities as one measure to determine admissions eligibility

Table 4

Summary of Means, Standard Deviations, and Descriptive Statistics for Composite ACT Scores by Demographic Group

Measure	White	Students of Color
M	22.33	17.39
SE	.85	.69
Mdn	23	18
Mode	26	13
SD	5.60	4.88
Range	22	21
Min.	11	11
Max.	33	32
Count	43	49

(Klasik, 2013). A composite of four tested areas, scores on the ACT range from zero to 36, with the higher score an indication of higher levels of achievement. Admissions officers and other educational entities frequently use composite ACT scores as a measure of student achievement and college readiness. In their initial data collection, the school district connected students' unique student identification number with his or her composite ACT score. Of the 93 survey respondents, 92 had ACT scores reported by the school district with a range of 22 points from a low of 11 to a high of 33. The average score of those students who took the survey and had a reported ACT score was 19.69 (*SD* = 5.76), which is .11 points below the 2019 Kentucky state average of 19.8 and 1.01 points below the national average of 20.7 (ACT, 2019).

Composite ACT scores of respondents reveal that White students outperformed Students of Color. Table 4 shows the breakdown of means and standard deviations for composite ACT scores across these demographic groups. There is an almost 5-point difference between the mean composite ACT score for White students and Students of Color.

Table 5

Summary of Means, Standard Deviations, and Descriptive Statistics for Composite ACT Scores by Economic Group

Measure	FRL	Paid
M	17.07	21.80
SE	.73	.80
Mdn	16	21
Mode	13	26
SD	4.69	5.71
Range	18	21
Min.	11	12
Max.	29	33
Count	41	51

The composite ACT scores of Students of Color students range from a low of 11 to a high of 32 with scores clustering between 13 and 18. In contrast, composite ACT scores of White students cluster at five points on the distribution—14, 21, 24, 25, and 26. The inequities of achievement presented in these data tell the story of a student population where White students outperform their minority peers on a nationally accepted measure of academic readiness creating a disproportionality in the graduates. These differences in student achievement are consistent with other researchers (Abramsky, 2013; Diel-Amen & DeLuca, 2010; DiMaria, 2010; Guo & Harris, 2010; Palardy et al., 2015), who found that minority students perform lower academically than White peers.

Similar disparities are evident between students who qualify to receive Free or Reduced price lunch and those who do not. Table 5 shows that non-FRL respondents outscored their FRL peers by almost five points with a mean score of 21.80 (*SD* = 5.71) compared to the mean score of 17.07 (*SD* = 4.69) for FRL qualifiers. Composite ACT scores for FRL students have a median score of 16 and a most frequently reported score of 13 (see Figure 5). An evident disparity exists between these two populations when

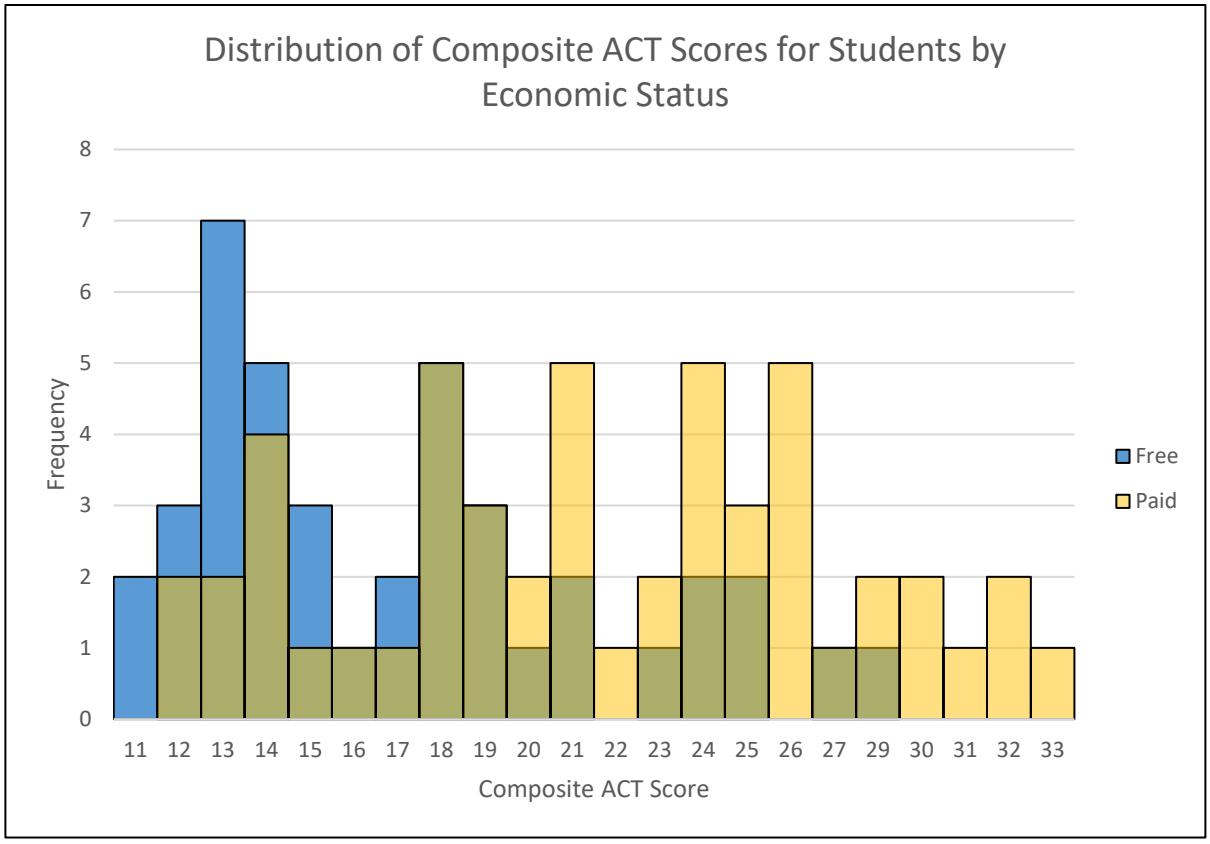

Figure 5 Distribution of Composite ACT Scores for Students by Economic Status

looking at their median scores. The median score of those non-FRL students is five full points higher than the students who do receive Free or Reduced price lunch. These data suggest that students who receive Free or Reduced price succeed in some postsecondary training program or university. Taken alone, these data suggest that minority and FRL students in this school are ill prepared for future success.

Measures of Career Decision Self-Efficacy by Subgroup. In his seminal work on the topic, Bandura (1977) describes self-efficacy as one's belief in his/her ability to accomplish a task or perform a behavior. In their work on Social Cognitive Career Theory, Lent et al. (1994) expand Bandura's work by arguing that a person develops a sense of career self-efficacy through his/her experiences, interactions, and observations. They posit that these interrelated aspects are one contributor to a person's career

development and performance. Lent et al. (1994) write that academic performance is just a single factor in the development of self-efficacy and that skill's attainment, occupational knowledge acquisition, interest development, observation, practice, and feedback all contribute to a person's career self-efficacy and career development.

Seeking to utilize an instrument with tested and established validity, the Academies of Lexington district team adapted Betz et al.'s (2005) *Career Decision Self-Efficacy Scale-Short Form* (CDSES-SF), based on the *Career Decision Self-Efficacy Scale* and first introduced by Taylor and Betz (1983). Taylor and Betz discussed the need for a tool that provides insight into the five career choice competencies introduced by Crites (1961): an accurate self-awareness, occupational knowledge acquisition, goal development, future planning, and problem solving. Researchers (Chaney et al., 2007; Miller at al., 2009) have determined the instrument is a reliable measurement tool for career decision self-efficacy.

The CDSES-SF measures a respondent's confidence in his/her ability to complete tasks in five areas, all of which relate to the areas that Lent et al. (1994) identified as important aspects in the development of career self-efficacy. In other words, it serves as a measure of a person's belief in him/herself to have future success. Additionally, it stands as a separate measure from tests of a student's academic performance and provides another metric to determine potential future success. The distribution of CDSES-SF scores for all survey respondents (n = 93) has a mean score of 99.15 (SD = 19.28). The scores from all respondents range from a low of 50 to a high of 125, which shows that no students believes they have *No Confidence* in their ability to perform one of the 25 tasks

Table 6

Summary of Means, Standard Deviations, and Descriptive Statistics for CDSES Score by Economic Group

Measure	FRL	Paid
M	98.81	99.43
SE	2.57	3.00
Mdn	99	101
Mode	98	125
SD	16.63	21.38
Range	66	75
Min.	59	50
Max.	125	125
Count	42	51

in the survey (see Appendix A). However, six students feel they have complete confidence in themselves to perform all 25 tasks.

A disaggregation of the data tells a story of student populations with different self-valuations. White students had a mean score of 102.37 (*SD* = 18.17) compared to the mean scores Students of Color: 96.38 (*SD* = 19.95). In addition, the scores of Students of Color varied more widely with a range spanning from a minimum of 50 to a maximum of 125. This 75-point range suggests greater variation in these students' sense of career self-efficacy when compared with their White peers whose scores ranged from 59 to 125. Overall, the distribution of scores falls towards the higher end of the scale for both White students and Students of Color.

There is a different story for students who receive Free or Reduced price lunch when compared with their non-FRL peers. Table 6 shows that the mean scores of these two groups are within one point of each other, which reveals that there are smaller variations among student responses based on their economic status. On the surface, it appears that, when combined, both White students and Students of Color who receive Free or Reduced price lunch have a lower sense of career self-efficacy than White

students alone do, but a higher sense of career self-efficacy than all Students of Color, regardless of economic status. Additionally, it appears that, when combined, both White students and Students of Color who do not receive Free or Reduced price lunch have a lower sense of career self-efficacy than White students alone do, but a higher sense of career self-efficacy than all Students of Color, regardless of economic status.

Male students (n = 44) reported a lower mean score (96.09, SD = 21.65) than both Students of Color (96.38, SD = 19.95) and FRL students (98.81, SD = 16.63). This differs noticeably from female students (n = 49) whose mean score of 101.90 (SD = 16.61) is higher than all other subgroups except White students whose mean score is 102.37 (SD = 18.17), perhaps indicating that female students in the career academies graduate with a higher overall sense of career self-efficacy. Interestingly, despite having an overall lower mean CDSES score, more male students (n = 5) reported a top score of 125 than female students did (n = 1). The reported scores of female respondents were more negatively skewed than their male peers, which accounts for the higher mean score.

Correlative Data by Demographic Group. The initial data presented by the Academies of Lexington provided CDSES-SF scores for students across two subgroups: White and Students of Color, which is comprised of Black, Asian, Hispanic, and students of two or more races. Conducting a univariate analysis of variance helps to determine whether to reject the following hypothesis:

> H_a = There are statistically significant differences between the mean scores of students across demographic groups.

Levene's test of homogeneity shows that the variances between the mean CDSES-SF scores for white students and Students of Color were equal, $F(1,91) = .161$, $p = 0.69$. At

Table 7

Test of Between-Subjects Effects for Combined Demographic Groups

Source	*SS*	*df*	*MS*	*F*	Sig.	η_p^2
Corrected Model	4501.47[a]	3	1500.49	4.47	0.01	0.16
Intercept	34500.89	1	34500.89	102.74	0.00	0.54
Race	557.07	1	557.07	1.66	0.20	0.02
ACT	2729.18	1	2729.18	8.13	0.01	0.08
Race * ACT	660.84	1	660.84	1.97	0.16	0.02
Error	29552.49	88	335.82			
Total	93142.00	92				
Corrected Total	34053.96	91				

Notes. [a]R Squared = .13 (Adjusted R Squared = .10).

a significance level of $p < .05$, a test of between-subject effects shows that there are not statistically significant differences between the White students and Students of Color on the CDSES-SF, $F(1, 92) = 2.26$, $p = 0.14$. Additionally, at $d = .31$, it is evident that demographic subgroup has only a small effect size on CDSES-SF score. Therefore, the null hypotheses (H_0 = There are not statistically significant differences between the means scores of students across demographic groups) cannot be rejected.

The reported ACT scores of students indicate differences in achievement based on demographic group. However, a test of between subject effects with ACT held as a covariate, reveals that there are no statistically significant differences between student demographic groups, $F(1, 91) = 1.66$, $p = 0.201$, $\eta_p^2 = 0.07$ (see Table 7). Additionally, when accounting for ACT score, the mean differences between White students and Students of Color are not statistically significant at a significance level of 0.05. Regardless of groupings, statistical tests reveal that there are not significant differences

between the mean scores of White students and other demographic groups on the CDSES-SF.

Correlative Data in Economic Groups by Demographic Group. Research question two explores the means differences between demographic groups when considering for a student's participation in the Free or Reduced price lunch program. By accounting for the confounding variable of student achievement, in the form of ACT score, a test of between-subject effects reveals that there are not statistically significant differences between the means of student demographic groups based on FRL, $F(1, 91) = .59$, $p = 0.45$, $\eta_p^2 = .01$. Levene's test reveals no violation of the homogeneity of variance, $F(3,88) = 2.21$, $p = .09$ and a test of regression slopes indicates that the covariate, ACT, and a student's FRL status do not interact, $F(1,91) = .32$, $p = .57$.

GLA Theme Generation. The CDSES-SF measures a student's individual sense of career decision self-efficacy and belief in future success. Accompanying the CDSES-SF administered by the Academies of Lexington to graduating seniors were five optional open-ended items:

1. The aspects of the career academy that helped me the most were…
2. The aspects of the career academy that helped me the least were…
3. Because of my participation in the career academy, I am/am not…
4. If I could change anything about my career academy experience, it would be…
5. The career academy has impacted my future by…

The optional open-ended questions provide the Academies of Lexington Leadership Team with specific information about the students' experiences during their time as a

career academy student. The responses to these questions represent actionable items for programmatic change. The Academies of Lexington Leadership Team agreed to release these data along with the survey results from the CDSES.

Saldana's manual for coding qualitative data (2016) served to guide the multi-stage coding process used on the open-ended responses. Miles et al. (2014) write that coding is a method for discovery and codes are the result of the careful reading and reflection of data. First cycle codes are those initially assigned to data chunks, whereas the second cycle codes arrive out of the results of the first cycle. This study used In Vivo coding in the first round to capture the language of the participants through short phrases and words found in the responses. In this way, the coding becomes the authentic discourse in which the researcher cannot otherwise engage. Moreover, this dialogic coding method encourages participant language usage, which Young (2011) notes is an important approach to understanding systematic and historic inequities, a foundational construct of Critical Race Theory.

Positive open-ended responses. During the first round of coding, an examination of each open-ended question provided insights into the perceptions of the respondents. Each individual response populated a different cell in the first column of a basic electronic spreadsheet. Words and phrases drawn from the initial responses populated the second column and provided the basis for the pattern coding of the second cycle. After the first round of coding, patterns began to emerge from the responses. Table 8 shows the most frequently occurring responses from the open-ended questions after the second cycle of coding. The theme of collaboration appeared multiple times in the responses to the different

Table 8

Highest Frequency Themes Resulting from Open-ended Question Coding

Question	Theme	Percent (Responses)
Question 1: The aspects of the career academy that helped me the most were…	Training for the future	33.3% (31)
	Career exploration	22.6% (21)
	Teachers	18.3% (17)
	Collaboration	11.8% (11)
Question 2: The aspects of the career academy that helped me the least were…	Limited scope of study	25.8% (24)
	Classes and offerings	25.8% (24)
	Structure and design	11.8% (11)
	Associated stresses	3.2% (3)
Question 3: Because of my participation in the career academy, I am/am not…	Preparation and knowledge	40.9% (38)
	Future knowledge	33.3% (31)
	External learning opportunities	7.5% (7)
	Collaboration	3.2% (3)
Question 4: If I could change anything about my career academy experience, it would be…	Student choices	25.8% (24)
	Change the structure	22.6% (21)
	Not change a thing	18.3% (17)
	Curriculum changes	11.8% (11)
Question 5: The career academy impacted my future by…	Figuring out my future	40.9% (38)
	Technical skills knowledge	29.0% (27)
	Did not help me	7.5% (7)
	Collaboration	3.2% (3)

questions, which highlights its overall importance to the students' career academy experience.

When asked about the aspects of the career academy that students found most helpful, the popular responses centered on the training they received for the future. One student wrote, "I was able to earn certifications in my career academy which will allow me to be a step ahead of other potential employers [*sic*]." Another stated, "the classes I was able to take taught me exactly what I needed to know for my future career choice." One student responded, "I was getting prepared for real life situations," while another stated that he/she found it helpful learning "how to build skills to prepare myself for the world." For these students, the most helpful aspects of the career academy experience are

rooted in learning what they need to know for the future and having the preparation necessary to succeed. They found value in a school model that trained them in skills, which put them ahead of their peers looking to enter the same career field. Additionally, they found the learning the experience grounded in real-life situations, thus making it relevant to their futures.

Students also appreciated the opportunity to explore various careers and learn what is, or is not, right for them. One student explained that the career academy helped him/her in "realizing that information technology is not for me. Although the career academies are good for identifying career interests, I feel they also help students decide which careers they would like to avoid." Another responded, "The exposure to many professionals in the field as well as seeing what I didn't like" was one of the helpful aspects. That student added that he/she appreciated "being exposed to jobs that are not the typical jobs in a career people think of." For students in the career academy, the opportunity to explore various career fields was beneficial. Through these experiences, a student who started in one course of study might discover an unknown passion, but it is also likely that student realizes how much they dislike something they thought they would enjoy.

The third question asked students to share what they are or are not able to do because of their participation in a career academy. Mainly, the responses for this question were positive and focused on the preparation and knowledge the students received as career academy participants. One student asserted, "I am more prepared for my future. I was able to get a better understanding of what I wanted to major in and have as a career through the academies." Another student wrote, "I am grateful for the

opportunity to build new skills," while a different one indicated that he/she was "more confident in my science classes going forward for my major." Expressing their confidence in the career academy model, students commented, "I am proud I've learned so much," "I am ready for the 'real world,'" and "I am ready for whatever thrown my way [*sic*]." In addition to feelings of preparation and knowledge, students also had positive feelings about the knowledge they held for the future. Students added comments such as, "I am going into the medical field," "I am confident about pursuing the career I am interested [*sic*]. I am not clueless about the aspects of the business field," and "I am prepared to begin a life in healthcare." Similar to student responses in question 2, responses to this question included comments about what students will not be doing in the future. For example, one student noted, "I am not going into computer science." Scholars of Job Matching Theory would argue information like this is important for future employees to reduce or eliminate the amount of initial uncertainty that comes with new jobs (Jovanovic, 1979; Moscarini, 2005; Pastorino, 2013). This reduction in uncertainty economically benefits both the employer through a likely reduction in the costs associated with rehiring and retraining, as well as the employee who may benefit from improved output and productivity.

Finally, students responded to a question about how the career academy affected their future. The most frequent responses addressed the students' feelings about figuring out their future. One student responded, "Through the academies I was able to see different career fields and talk to people in those fields and it allowed me to figure out what I wanted to do in the future." Another wrote that the career academy affected his/her future by "showing me that, even if I don't want to do art for my entire future ie.

Make a living off of it, I do still heavily want it in my life and I will still most likely minor in it [*sic*]." In an expression of the confidence career academies may instill in students, a respondent wrote, "it has showed me that my peers and I are extremely capable of being professionals in our chosen field [*sic*]." Another wrote the career academies affected his/her future by "allowing me to confirm my interests in what I like, while also exploring other things as well." The confidence inculcated in the students by the career academies is evident in responses like "Teaching me more about computers and cameras, so if I get stuck I can think back to when I got taught" and "Showing me that I can't give up. I have to keep trying."

The confidence expressed in these responses may arise from the technical and skills knowledge that students indicated the career academy gave them for their future. One student wrote that the career academy "gave me a sound structure to build off of for my career skills." Another stated that the career academy helped by "teaching me how to be successful in the real world (which no classes, besides my academy classes, did)." Yet a third stated the career academy allowed him/her to "[know] about computers almost inside out." Responses such as these indicate that students valued the experience of the career academy because it provided them with a sense of self-efficacy, a feeling that they could succeed in some vocational area.

Negative open-ended responses. While students identified many positive aspects of the career academy, they also identified areas that were not as helpful. The most frequent responses to the second question centered on the classes, offerings, and scope of the career academy. Students who found that the classes and offerings were the least helpful aspect of the career academy model made comments such as "the electives

outside my academy…were pointless," "some of the curriculum was repetitive," and the "med talks [a guest speaking program held for students in the Medical Sciences Academy] were not consistent." Students who found the scope of the career academy limited made similar curricular comments. For example, one student wrote, "being separated completely from other tracks made it hard to get exposed to interdisciplinary projects that could've been nice." Another stated, "It didn't give me options to have life skills it was just on a certain career path and not on anything else in life I would need to become successful in that career." Yet another responded, "The career academies limit what options students have to study. IT [Information Technology], engineering, medical sciences, and business/education/culinary are not the only career paths." For these students, one downfall to the career academy was the limited opportunities they had to experience meaningful classes, work with students from other pathways, or experience careers outside selected areas.

Some of the students responded that the career academy provided some restrictions on them. A student wrote that he/she was "not going to be continuing my pathway." Another student wrote pointedly,

> Because I got out of a career academy, I was able to continue my studies in music performance and education. Had I remained in a career academy, my schedule would have been restricted by general/entry level career courses that would never benefit my career.

For this student, the career academy was a gatekeeper to his/her future aspirations; the student perceived that participation in the career academy somehow limited his/her ability to study music and education.

Question 4 asks students to respond to what they would change about their career academy experience. Like the student who felt the career academy restricted his/her ability to study music and education, responses to this question centered on the need to provide students with choices. When responding to what the student would change about their career academy experience, one wrote he/she would participate in "a differnt academy [*sic*]" and another wrote "I would of picked a diffrent path than medical [*sic*]." For both these respondents, their academy did not engage them in some way, which they viewed as a negative but Job Matching Theory scholars might argue is a positive aspect of the academy model (Jovanovic, 1979; Moscarini, 2005; Pastorino, 2013). In addition to picking individual courses of study, respondents also suggested that they preferred more opportunities, such as "more medical Academy field trips so that I could further explore the different healthcare occupations" and "more experiences and trips to show the multiple careers." Perhaps the most blunt comment centered on student choice in a different manner: the conversion to a career academy. One student wrote,

> I would have persisted more in the decision to require students to pick one of the four career academies. During the conversations with the school leaders, my peers and I felt that [school] administrators did not value our opinion because it went against their own. I wholeheartedly feel that the decision to convert [the school] to a career academy school had already been made while the decision-making process was still underway. Although school leadership was willing to meet with students about these concerns, we might as well have been talking to a wall because there was nothing ever that we could have done to change that decision.

In this situation, the student perceived that the choice to convert the school to the career academy model excluded the student body and devalued the students' opinions. Despite the school leadership's willingness to meet with members of the student body, the perception was that the administrators made the decision to adopt the career academy model prior to meeting with the students, suggesting that the students had no choice in their educational circumstance.

When asked about how the career academy affected their future, one student commented, "It has not impacted my future. To me it was just an annoying high school system and it won't affect my college experience." Another bluntly stated, "I don't think it has [affected my future]," while others added, "not impacting it at all," "it has not," "wasting my time," and "it sadly did not impacted [*sic*] my future." For these students, it appears that the career academy experience did not add value to their high school experience, and may have actually lessened the quality of their experience.

Regardless of their positive or negative nature, the themes that emerged from the open-ended questions provide insights into the feelings of these graduating seniors. From the themes, ten Group Level Assessments prompts emerged designed to address the most frequently occurring concepts (see Appendix D). These prompts provided the foundation for the second phase of this sequential mixed methods study.

Summary of Phase I findings. The Academies of Lexington invited 245 graduating seniors from a career academy high school to complete the *Career Decision Self-Efficacy Scale-Short Form* survey, accompanied by five open-ended questions, administered through their English classes. Of the 245 students eligible to complete the survey, 93 students responded for a 38% response rate. Demographically, these students

represented various racial and economic groups, as well as various levels of achievement measure by the ACT.

The range of CDSES-SF scores for the population varied from a low of 50 to a high of 125. With a mean score 99.15 (*SD* = 19.28), the results indicated that, as a population, the students held a somewhat higher sense of career decision self-efficacy. Disaggregating the data revealed that, on average, historically marginalized populations such as Students of Color (96.38, SD = 19.95) and students who receive Free or Reduced price lunch (98.81, *SD* = 16.63), held a lower overall opinion of their career decision self-efficacy than their White (102.37, *SD* = 18.17) or non-FRL peers (99.43, *SD* = 21.38) did.

The use of statistical tests to explore the means differences between White students and other demographic groups, including a composite group of all Students of Color, revealed that no statistically significant differences existed between the mean CDSES-SF scores of these groups. This suggests that ethnicity alone is not a sufficient determinant to whether or not a student holds a high sense of career decision self-efficacy after graduating from this career academy high school. Moreover, when considering student achievement scores, as identified by the composite score on the ACT exam, there remains no statistically significant difference among the mean self-efficacy scores of these groups. Furthermore, when controlling for student achievement and economic status statistically significant differences were noted between the means of White Students and Students of Color accounting for economic status.

From the five open-ended questions added to the survey by the Academies of Lexington, it generally appears that students feel the career academy added some positive

benefit to their high school experience. Respondents noted that the career academy experience provided them with industry certifications that put them ahead of their peers from other schools, as well as training for future careers and opportunities to network with professionals from various career fields. They explained how the career academy gave them career exploration opportunities, which allowed them to learn about careers that they might not have otherwise discovered. Moreover, they suggested that the career academy classes taught them real world skills that were relevant to their future careers.

Students who felt the career academies were negative experiences indicated they had limited opportunities to learn about different career pathways because of their membership in another academy. Additionally, these students perceived a lack of choice, both in the decision to participate in a career academy and the courses they could select. For some, the negative experience of the career academy taught them a lesson about what they should not pursue for their future career. The next section explores these positive and negative aspects through the qualitative data collected through the Group Level Assessment.

Phase II: Qualitative Data Collection and Analysis

The Group Level Assessment is a collaborative approach to qualitative data collection employing small, representative groups of stakeholders working together to explore the specific phenomenon under investigation (Vaughn, 2014; Vaughn & Lohmueller, 1998;

Vaughn et al., 2011). Typically, researchers conduct Group Level Assessments in person using a standard protocol (see Appendix B). They begin by establishing trust through icebreakers or other introductory activities. The ideation stage, when participants interact

with predetermined prompts on large poster papers based on the phenomenon under investigation, follows this initial stage. After participants interact with the prompts, they visit each of the prompts and discuss the responses with their peers adding anything from their discussion that is salient to the prompt. Next, participants reflect on the prompts and responses silently; then, they work with their peers to code the responses and develop themes using a quasi-in vivo and pattern coding system. Finally, they select the most important themes that emerge from all of the prompts and prioritize them based on those that are most representative of the phenomenon under investigation.

This study investigated the experiences of graduating high school seniors from a career academy high school using a traditional Group Level Assessment. Unfortunately, restrictions put in place by the Centers for Disease Control, the Kentucky Department of Public Health, and the school district forbade any group interactions because of the SARS-CoV-2 virus. The design of a virtual process using online video conferencing and collaborative online word processing software allowed for the collection of the qualitative data and the replacement of the traditional face-to-face GLA (see Appendix D). Initially, an invitation went to 30 students to participate in the Group Level Assessment. These invitations arrived after the students graduated from their career academy high school. From that group of 30, nine students accepted the invitation to participate.

Table 9

Group Level Assessment Themes Rank of Importance

Theme	Points Received [a]	Rank
Real-life experiences	26	1
Working across academies	22	2
More guest speakers and community connections	19	3
Ability to double major	15	4
Better prepared for the academy	13	T-5
Internships	13	T-5
Academy chosen based on other student members, not what it provides	7	8
Not enough classes in the pathways	4	9
Need to balance interests	3	10

Notes. T = Tied.
[a] Students were asked to rank order their top-five with 5 as the highest value possible, therefore they could distribute 15 points in rank order 5, 4, 3, 2, 1.

The presentation of data collected from the GLA uses the language of the participants and addresses research questions three and four. Participants ranked the top five themes as they related to their experiences and thoughts about their career academy high school experience. Participants used a rank-order voting model to award points to the most important themes to them. Each participant awarded 15 points using 5 points for their top choice, followed by 4, 3, 2, and 1. Data from the GLA appear in the order of their rankings (see Table 9).

Process Overview. While the collaborative spirit of the Group Level Assessment remained, the virtual protocol varied noticeably from the traditional protocol. In the virtual protocol, participants joined an online video conference. Though this program displays the participants names, an option to change the name existed, so the host labeled each student with a participant label (see Table 10). In a traditional GLA, participants

Table 10

Group Level Assessment Participant Demography

Participant	Academy	Gender	Student of Color	FRL
Participant A	Medical	Female		
Participant B	Leadership	Male		X
Participant C	Medical	Male	X	X
Participant D	Leadership	Female	X	X
Participant E	Engineering	Female		
Participant F	Medical	Male	X	X
Participant G	Technology	Female	X	X
Participant H	Technology	Female	X	
Participant I	Leadership	Female	X	X

may know to each other; however, such identifiers are irrelevant to the process. Therefore, the host changed the labels to protect the confidentiality of the participants.

Additionally, in a traditional GLA, participants respond to prompts written on poster papers placed around a physical space. Due to the social distancing restrictions associated with the SARS-CoV-2 virus, and the use of an online video conferencing software, there was no physical space. The graduating seniors who participated wrote their responses collaboratively in a Google Document they accessed with a link provided during the instruction phase of the process. Students interacted with each other over the video conference, collaborating on responses and engaging in dialogue. The GLA host facilitated the conversation with probing questions, when necessary.

During step five of the traditional GLA process, participants collectively grouped responses found on the poster papers into thematic groupings and then prioritized those themes using a voting systems (e.g. placing stickers on the themes most important to them). Participants in the virtual GLA collectively coded the responses on each of the prompts and identified patterns among them. Then, they prioritized these pattern codes based on a collective voting model. Finally, using a Google Form, the participants

individually ranked the collectively identified top ten themes. Each participant ranked the five themes most important to him or her assigning a point value based on this importance. For example, to the most important theme a participant would assign a value of five, followed by four for the second most important, and so on.

In this manner, the virtual Group Level Assessment preserved the collaborative and collective nature of the protocol. Additionally, it creates a place for open and honest dialogue (Vaughn et al., 2011) and removes a possible perceived risk that might exist in a face-to-face setting.

Prompt introduction. The ten GLA prompts derived from the highest frequency themes emerging from the open-ended questions addressed the students' feelings and perceptions of college and career readiness, as well as their feelings on how the career academy contributed to a sense of career self-efficacy.

1. In order to be more effective at training students for their future, career academies should…
2. Related to career exploration, I wish career academies…
3. The number and types of career academies were…
4. Our potential for success would be improved if the classes and activities offered were…
5. The things I learned in my career academy were helpful…
6. After my career academy experience, I wish I were better prepared to…
7. As a career academy student, my experience would have been different if I…
8. To improve the planning for my future, the career academy could…

9. The choices that students have in career academies are…

10. The groups of students in my career academy…

These open-ended prompts allowed students to share their thoughts and feelings about the career academy experience. Furthermore, the prompts provided a forum for students to dialogue with peers; the dialogue provides deeper and richer data. By creating a discourse community around these prompts, participants built and expanded upon each other's ideas. They affirmed each other's responses, which encouraged further dialogue and greater depth. Additionally, they found areas of disagreement thus exposing each other to divergent opinions and strengthening the interactive experience.

Presentation of GLA Data. Emerging out of the quantitative phase of this study, the ten GLA prompts provided participants with a starting point for their discussions. Using the recording feature of the online video conferencing program and the online Google document, the Group Level Assessment captured the collaborative and collective musings of the student participants. An online service transcribed the video and provided a full script of the discussions, collaborative group coding, and theme generation. The results of the rank-order voting, as well as the prompt documents and responses, live in the Google ecosystem. The top results appear in order of rank, highest to lowest. Two themes received an equal amount of votes and tied for fifth place.

Real-life experiences. For many of the student participants in the Group Level Assessment, the ability of the career academy to provide them with real-life experiences provided a major benefit and helped them gain a stronger sense of career self-efficacy. Participant B – a graduate of the business pathway in the Leadership Academy – wrote, "[the career academy] helps students more to give the real life experience that would help

them gain confidence with working in the job force [*sic*]." The same student later noted, "One of the classes I learned most from was personal finance. I was able to learn how to file taxes and how to invest in the stock market." For this student, who is interested in a career in business, this knowledge instilled a sureness and a belief that these important life skills are not outside of his reach.

A young woman who graduated from the Information Technology Academy wrote that she "thought the academies did pretty well introducing real world experiences." However, she felt that her program did not provide enough opportunities to experience learning outside of the school building. She argued, "I think that the school could have provided more out of school field trip options." Four peers highlighted and underlined her comment on the collaborative Google document echoing this real-life experiential learning theme and desire for more off-campus learning experiences. Two other students wrote similar comments, one who went on to add that she thought "that getting more professionals that are not the typical person you would expect to see within a field would prove to encourage more students to think about how their academy can really relate to them." According to Lent et al. (1994), the development of career self-efficacy stems from learning experiences and vicarious interactions. For these students, simple things, like fieldtrips, take them to a new environment to learn and to watch others perform, allowing them to live vicariously in that moment.

One of the other important real-life experiences that students wrote about during the GLA were the rigorous courses offered by the school. These courses included both the career and technical courses, as well as the core content area courses. Participant C wrote, "I do think AP classes are nice and allow for an accelerated education, but I feel

like there should still be the opportunity for them to tie those classes back to the career they are wanting to pursue." Participant F added about some of the medical training courses that he took during his time in the academy:

> Something that I think was extremely helpful was the rigorous courses that we endured, which is vital when entering into the college education system. I really think that there should be some type of college credit awarded to us for participating in these intense classes that we took.

His perception was that these career and technical courses provided him a solid foundation for his technical studies and prepared him for the high-level work that he would complete while in college.

When pushed about the rigorous nature of classes during the GLA, Participant C responded:

> I just think there needs to be a fair median, like between [AP, dual credit, and career courses], because you obviously can't have an education system that just prepares you for the workforce because you won't receive the essential skills that are needed…yet, you also receive essential skills when you are being taught how to go to college. Academies should be a medium between those two, like preparing you for college and preparing you for the workforce, if necessary.

For this young man, a graduate of the medical academy, one of the primary goals of the academy school needs to be preparation for college or career. For him there needs to be rigorous courses, but those courses also need to teach essential skills, which he later defined as "being able to communicate and work with other people." This ability to

collaborate successfully appeared multiple times throughout the GLA and serves as the impetus for the second most important theme.

Working across academies. Perhaps one of the biggest areas where students perceive a missed opportunity is in collaboration across academies. Six of the student participants lamented the lost opportunity here; it appeared twenty times in their responses throughout the GLA and was the topic for the most sustained discussion among the students. A selection of responses follows.

> **Participant H:** Something that I haven't really seen someone say, but I just thought of was like, I wish the academies were together more. I wish there was some... There were some things where IT could've done something for the leadership students. I remember there was a time when they needed business cards and they were making their own, but we have a whole pathway for graphic design. It kind of was like, "well, we could collaborate on some stuff" and I think that would help with when people want to see what's going on outside of their academies, like I feel like that would really help if students worked together cross-academies to complete something.
>
> **Participant E:** That kind of relates to how it works in the real world too because if you need business cards in real world, you go to a company that makes business cards. The people working in this company might be students in the tech academy, so they can get experience like customer service, what is the actual process for... if somebody comes to you with business cards, how are you going to present these things to them?

Participant G: I think that also motivates students to do a better job in their academy work because they know that that, whatever they produce, was going to their peers….Yeah, creating like a marketing campaign or something for something that's going on during the school, that's good experience too.

Participant A: I think getting the students involved and not just teachers communicating to each other and then to the students, so like you said about the... how you're putting on the musical. We'll have the techs of the musical, the students who are in charge of directing the musical, talk to the graphic design team. Don't have the teachers communicate with each other and that helps communication skills between people.

For each of these students, they feel like the opportunity to work with peers from other academies would have given them experiences that they needed to succeed in the real world. Looking at such an opportunity from the lens of Social Cognitive Career Theory, presents an argument for the development of self-efficacy through the positive social feedback these students would have earned from their peers, as well as the sense of pride they could have taken in completing a complex task. Lent et al. (1994) argue that the completion of tasks encourages the growth of self-efficacy for a variety of reasons: goal completion, perseverance in the face of obstacles, and social influences. These students felt as if they would experience all of these by participating in projects across academies.

Not only would these experiences have contributed to the development of self-efficacy, they would have provided students with the chance to develop strong networking skills. Participant D wrote, “In most every field interaction with others and teamwork is a critical point in entering AND succeeding the field.” She goes on to add,

"I wish there were more opportunities for networking opportunities [*sic*]." The inter-academy project work suggested by her peers may have provided the space for her to develop and enhance her networking skills, something she clearly believes necessary for career success.

More guest speakers and community connections. One of the foundational components of the career academy model is the access to community partners through guest speaking opportunities, internships, job shadowing, and cooperative educational opportunities. Scholars argue that this type of experiential learning provides the students access to real world and relevant experiences (Dixon at al., 2011; Fletcher & Cox, 2012; Kemple & Snipes, 2000), which are important for developing career self-efficacy. Lent et al. (1994) write that career self-efficacy is, in part, developed through the observation of experiences from persons similar to the individual. These vicarious experiences are important to provide the individual with a persuasive source of information about the career and the tasks associated with the career. Additionally, these experiences contribute to the individual's realistic development of outcome expectations. In other words, through these experiences, an individual is better equiped to know if they might experience a positive or negative outcome after engaging in the career or career activity. Positive outcome expectations are foundational to the development of career self-efficacy (Lent et al., 1994).

For the graduates from this career academy school, community partnerships and community connections were an important piece of their career academy experience and one that they wished would have been more abundant. Participant I stated, "I wish that academies would allow us to have more guest speakers, job shadowing, and college visits

that are more suited towards our academy." This was highlighted by three of her peers, placing an emphasis on the importance of this thought to other GLA participants. These students saw the community partnership piece as the connection between what they were learning and what they would do in the real world. Participant A added

> I think students need to see more people in the line of work that they are studying. A lot of students will feel like they know what this career field is like from their high school classes however when they go to the next level they will hate it. If more field trips, job shadowing, internships, etc opportunities were given students would see in real time what this is like. This would save from spending thousands on college classes or starting a career and having to figure out what else you're going to do with your life. [*sic*]

By seeing professionals in their chosen fields, students are able to determine if they are suited for the career field, which is an important aspect to developing career self-efficacy (Lent et al., 1994). Moreover, these students gain an appreciation for what it takes to be successful in that career and helps them develop important communication and networking skills. One participant wrote that community connections and these types of experiences "allow students to become more comfortable" in the workplace and with coworkers. For her, the community connections are valuable resources for skills development; not only that, the experiences are important for developing a professional network for when they enter the workforce because "no matter what academy, students should [have] networking or communications" opportunities.

In addition to the valuable experiences students gain from community engagement, the community connections also increase their likelihood of seeing the

diversity and diverse perspectives found in many career fields. Of the things that the student participants discussed, they noted a lack of diversity in their career academies. When talking about the students in her career academy, Participant D noted, "There were also hardly any female representatives in my business classes." Participant A added, "The groups of students in my career academy and my pathway specifically were stereotypical of the field." In contrast, Participant H noted, "We had a fairly diverse range of students." For each of these students, the composition of their academy stands as a representation of their future field; however, partnerships from the community can show the diversity inherent in the field and help to break such stereotypes and push students outside of their comfort zones.

When individuals are unwilling or uncomfortable trying something new, or do not see themselves represented in the field, they struggle to develop career self-efficacy because they can't relate to the experiences shown to them (Ali & Menke, 2015; Conchas & Clark, 2002; Cuthrell et al., 2010). Participant D acknowledged, "My academy [Leadership] is considered the 'Black' spot. Everyone who was in there was only in their because they felt comfortable being around people who understood them and their views." In the discussion she added

> Some kids were like, "there's not enough black people here and I don't feel really comfortable, so I'm not going to go. I'm going to go over here." They're like, "no, man. They're probably not even going to help me or even let me do anything, so forget it. I'm just going to go here where there's somebody who I know is actually going to try to encourage me to do something."

Scholars argue that Students of Color assign a higher meaning to their career academy experiences when they are in communities of students – not simply those from the same demographic background – who value what they value and want to engage in the same work they do (Fletcher & Cox, 2012). Community connections, ones that provide exposure to diverse perspectives and diverse participants, provide students with they ability to see themselves in their field. Furthermore, these partnerships can provide minority students with mentors and role models that they might not get at the school level.

Ability to double major. Another important aspect to students' perception about how career academies contributed to their college and career readiness was the limitations that the school imposed on students who wished to participate in multiple career academies. Participant C asserted, "I do think there could have been a better opportunity for people to double major because you do have jobs out there that combine different fields with each other, like lawyers for the medical field." He added that this type of experience provides a more realistic view about "what the real world looks like out there." Several of his peers highlighted his comment and built upon it with their own thoughts and examples. Participant G argued that there were "too many variations [of careers] to be narrowed down" into the small amount of career academies the school had. "If there isn't a way to successfully incorporate more of the possible career fields within the [academy] then I think at that point the academy system becomes weakened and ineffective in preparing individuals for the workforce." These students suggested that the double major is the way to incorporate more career fields without having to increase the number of academies in the building.

Limiting the students to a single academy, Participant C asserted, "held people back from experiencing everything they could." By not allowing students to take courses outside of a single pathway, the career academy school "made students feel like they were not taken seriously" because they were only able to pursue a prescribed course of study. Participant F commented that this limitation was only good for "boxing students in" because "there was little opportunity to experience the other academies." He felt this resulted from the career academy school's interest in getting students "to become 'career' certified….The emphasis is on completion instead of exploration." This comment pits two of the career academy's stated goals against each other: industry certification and career exploration. For this student, these two goal stands diametrically opposed to each other because students expected to explore various opportunities while the school promoted completing a single pathway, in order to earn an industry certification.

According to Participant D, the one pathway limitation caused students to disconnect from the experience. "Many people believed that their careers were not covered by the academies and it was hard to get buy in from students." For these students, "the academies felt like they told us we can only do one thing." By allowing students to double major, the career academy can support students who struggle identifying a future career field. Participant E added, "I wish that I was shown how to balance various interests….I have many interests that do not always balance." In the discussion, Participant B added, "I was in the business pathway, but I was also interested in the law pathway but they wouldn't allow me to take [law] classes because that technically wasn't my pathway. But there are often times where people go to business school and then they go to law school."

The academy, Participant C believed, would improve with an innovative look at the academy model.

> The workforce is always changing and the 4 years between the end of high school and the end of college can mean a different world. Fostering students to challenge the way things are done and create new things is a manner of shaping the workforce. Not every student wants to go down this path, but innovation is paramount to progress and the academy model can leave students very narrow focused.

Participant E summed the discussion up by saying, "Because especially in the world today, you always have to specialize yourself to set you apart from everyone else, and by just staying in one academy, we're kind of like everyone else."

Better prepared for the academy. Regardless of what they wanted to study, each of the participants perceived they would have had a fuller experience if they were better prepared for the academy. For some, this meant better overall preparation prior to selecting their academy. For others, this took the form of middle school preparation. One student (Participant B) commented, "I wish I understood what benefits I could get from being a part of the model. And how I should take advantage of what they had to provide within my academy." For Participant A, the academy selection process was burdensome. "I was sort of thrown all the information at once…so it took me longer than it should have to feel comfortable with the academy setting." Echoing this comment, Participant I wrote, "I had no idea what an academy model was. I had no idea what to expect or what they academies meant when they handed me the paper and told me to pick my pathway."

This preparation for the academy, students perceived, needed to extend to their traditional core classes. Participant G, "I feel like the academies could have done a better job incorporating career education with general education….I also feel like it would set it up better for students to succeed and help them figure out what [academy to choose]." If teachers connected the content they taught in their English or math classes with the career or technical focus on the academy, students believed they would be better prepared for the career academy. In addition, this collaborative approach serves to support students' development of career self-efficacy because they see how their knowledge and skills connect.

Four participants felt they needed to engage with the career academy earlier in their academic career. Participant F wrote, "I think allowing students to explore options there [*sic*] 8th grade year [would prepare them for the academy]." This earlier engagement allows students to explore careers at a younger age; this career exploration is one of the most important aspects of the career academy (Kemple & Snipes, 2000) and foundational to developing career self-efficacy (Lent et al., 1994).

Internships. According to career academy literature (Castellano at al., 2003; Dixon et al., 2011; Farr et al., 2009; Hackmann et al., 2018; Kemple & Snipes, 2000), internships are one of the most important aspects of career academies and one of the major ways to prepare students to future career success. Lent et al. (1994) note that these vicarious opportunities provide students with a vision of future success and help them develop a goal orientation. For the participants in this Group Level Assessment, internships were integral to their feelings of career decision self-efficacy. The internships, Participant C attested, help "students more to give the real life experience

that would help them gain confidence with working in the job force." These confidence instilling internships provided the students with experience and knowledge, allowing them to marry what they learned in their classes with what they would have to do in the field. This was the "threshold that allows for the optimal performance of students with the academy system."

The academies, Participant D stated, "did pretty well with introducing real world experiences," including internships. However, she noted, "I did feel like it was easier in a way for some of the other academies to get internships and more experience." This comment was highlighted by her peers who agreed that some academies had greater opportunity for internships than others. One argued that "more internships that push the boundaries of what most kids believe relates to the academy would be beneficial." More internships would allow career academy students to "see in real time what [the career] is like." Yet, one concern shared by Participant H was that the limitations on the career academy class offerings almost prohibited her from taking part in an internship: "I was almost not able to do internships because I didn't fulfill the class requirements." Agreeing, Participant A added in the discussion, "I'll have to agree, especially where, like I know the nursing program didn't even get a chance at a clinical just because it was so late in the year and then COVID happened." Building on that discussion, Participant F contended, "We have to realize that, unfortunately, the society we live in right now doesn't promote that. Colleges reward us based on how many AP classes we take or dual credit classes." For these students, career readiness and preparation are subordinate to college readiness and academic preparedness. They perceive that colleges care less about skills attainment and future career preparation than they do about a student's academic

record and strength of schedule. In response, Participant E added, "We need to be prepared for essential life skills. I was career ready by my junior year before I was college ready."

Summary of Phase II findings. Phase two of this study consisted of a Group Level Assessment of graduated students from a career academy high school. Thirty recent graduates received invitations to participate. Of the 30 invited, nine participated in the virtual GLA held via an online video conferencing program. During this process, participants responded to prompts developed from the survey results released by the Academies of Lexington. Collaboratively, students worked towards identifying the most important aspects of their career academy experience, both in terms of college and career readiness, as well as career self-efficacy.

Summary of evidence for research question three. Research question three explored the aspects of the career academy model that contributed to students' perceptions of college and career readiness. Study participants remarked on the rigorous nature of the courses in the career academy, while pointing out that students considered some academies less rigorous than other academies. They noted that accelerated courses, such as AP and dual credit classes, provided rigorous coursework. Additionally, some of the career and technical courses offered prepared students for the types of courses they will encounter when they enter college. Students also asserted that the collaboration and essential skills they developed in the career academy helped develop a foundation they need to succeed in both college and career. The networking and communications skills that the career academy provide can benefit a student as they work with professors and industry professionals alike.

Experiential learning opportunities – guest speakers, fieldtrips, and internships – offer students the requisite skills necessary for career success. From these experiences, students learn the skills that they need to succeed in the career field. They are able to see how their classroom learning connects with the real world, which teaches them to value what they are learning. These experiences also support the learning students do as they prepare to take industry certifications, another hallmark of career readiness. Many of the participants lamented the amount of opportunities available to connect with the community, which points out the value they see in these experiences.

The participants also argued for increased inter-academy experiences that would allow them to work with peers in other programs. The collaboration necessary for success here, they asserted, supports their career readiness because the nature of many jobs is about successful teamwork.

Summary of evidence for research question four. Research question four focused on whether students perceived that the career academy model provided them with a sense of career self-efficacy. Participants remarked that they gained confidence in their abilities through their participation in career courses and experiential learning opportunities. Through their participation in internships, for example, they argued that they had better knowledge of what to expect in their career field. Additionally, they had confidence that they might not otherwise have. The development of self-efficacy stems, in part, from these vicarious learning opportunities.

Self-efficacy, though, also arises out of an individual's belief in the knowledge they have and their orientation towards what they are learning. Participants advocated for a change in the career academy program to allow students to double major. They

contended that many careers straddled the line between multiple fields, such as law and business. By allowing students to study across multiple areas, the career academy would support student knowledge acquisition, as well as provide an increased number of courses of study. They suggested that such as change would improve student engagement, thereby improving the development of career self-efficacy.

Chapter Summary

The Academies of Lexington provided students with a 25-question survey to determine how they felt about their ability to make and succeed in a career after completing a course of study in a career academy school. In addition, they added five open-ended questions to give them an insight into the aspects of the career academy model that best served students. These data served as the foundation for this study and the springboard for the Group Level Assessment with career academy graduates.

By completing a sequential mixed methods study of the findings, it is possible to draw conclusions about career academies and the development of student career self-efficacy. From the quantitative data analysis, no statistically significant differences existed in feelings of self-efficacy among various student subpopulations graduating from a career academy school. While there were notable variations among different demographic groups, overall respondents felt a strong sense of career self-efficacy as measured by the CDSES-SF.

From the Group Level Assessment, it is possible to draw conclusions about the aspects of the career academy model that contributed to the students' feelings of readiness and self-efficacy. Participants felt like there were several aspects of the career academy model that provided a sense of college and career readiness. They also felt as if

there were aspects of the model that contributed to their career self-efficacy. However, participants also pointed to aspects of the model that need improvement.

Conclusions drawn from the findings appear in Chapter 5 along with research implications and recommendations for future research, as well as a discussion of the limitations of this study.

CHAPTER FIVE

CONCLUSIONS

The Academies of Lexington began as an initiative of Fayette County Public Schools in 2016 with the aim of transforming public education to meet the needs of all students and prepare them for a dynamic workforce that is constantly evolving (Academies of Lexington, 2017). Implementation of this initiative began at a single school in 2016 before launching at two others the following year. The graduating class of 2020 from that first school represents the inaugural cohort of students who completed a full course of study in the career academy model. This graduating class presents a unique opportunity to study the effects of the career academy model on students' development of career self-efficacy and their perceptions of the effect of the career academy on their future readiness. This chapter provides an overview of the research methods used in this study, as well as a summary of the research finds. In addition, it includes a synopsis of the limitations of this study and provides recommendations for future research on this topic.

Summary of Rationale and Research Methods

This study examined the extent to which demographic factors and a student's participation in a career academy affect future readiness, as well as belief in future career success. Using survey results compiled by the Academies of Lexington team from graduating members of the first career academy high school together with a Group Level

Assessment of members of this class, data aid in the study of whether participation in a career academy provides students with transferrable skills and academic knowledge needed to develop a sense of career self-efficacy.

This research study used a sequential mixed method design oriented within a case study framework. The inductive approach taken towards this research seeks to build from the data to develop a generalized model of the experience of career academy students as it relates to their development of career self-efficacy (Creswell & Creswell, 2018). Conducted in two phases, this study initially drew on survey data provided by the school district. Using the CDSES-SF survey, the district sought to measure a student's sense of career self-efficacy. These data, in addition to the responses from five open-ended questions, served as the foundation for the Group Level Assessment conducted during Phase II. This GLA allowed recent graduates from one career academy high school to discuss collaboratively their perceptions of the factors that contributed to whether or not they developed a sense of career self-efficacy. A statistical analysis of the data collected from the district survey of graduates provided insight into the first two research questions while the qualitative data collected during the Group Level Assessment helped to discern answers to research questions three and four.

Conclusions

Whatever the term used – college and career readiness, future readiness – there exists a belief that when students graduate from high school they should have it. For some, this means having the requisite academic knowledge to be successful in college. For others, this means having the skills and dispositions for workforce success. For all, though, this means being prepared to succeed in some future endeavor. Throughout the

United States, businesses, industries, and universities lament the falling number of high school graduates prepared for postsecondary pursuits. They place blame squarely on the shoulders of the country's educational system putting pressure on it to adapt and deliver on the promise of college and career readiness (Murphy & Adams, 1998; Murphy, 2016; Thessin et al., 2017; Zhao, 2015).

The career academy model promises to provide students with a rigorous high school education rooted in practical knowledge and skills development centered on themed small learning communities. Career academy advocates maintain that this educational model provides access to all students to achieve future success in postsecondary pursuits. This is due to the relationships developed in the smaller learning environment, the curriculum founded in real world and relevant material, and the opportunities for experiential learning through internships and the like (Dixon et al., 2011; Farr et al., 2009; Hackmann et al., 2018; Kemple & Snipes, 2000; Supovitz & Chrisman, 2005). These aspects of the career academy assist students in developing a sense of career self-efficacy and better prepare them for the workforce, whether that is immediately after high school or after graduating from college or some other postsecondary program.

Although they varied in demographic and economic background, the majority of graduates from the career academy high school believed they had a high degree of career self-efficacy, as measured by the *Career Decision Self-efficacy Survey – Short Form*. Additionally, GLA participants noted important aspects of the career academy model that provided both a sense of self-efficacy and a perception of college or career readiness.

The following sections provide context and a discussion of the concepts arising out of the results of this sequential mixed method study.

The relationship between race and economics. Myriad scholars write about the mitigating effects of race and economics on student academic achievement and postsecondary success. They argue that Students of Color and students in poverty, historically and systemically excluded from a quality public education, are at a greater risk of lower academic achievement, dropping out, and engaging in at-risk behaviors. For these students, opportunities are limited and future success often feels out of reach. School ignores the history and lived experiences of these students, which causes them to underperform their peers academically. This reverberates into adulthood increasing the likelihood that they are unable to perform tasks requiring higher levels of cognition and skill (Abramsky, 2013; Cuthrell et al., 2010; Guo & Harris, 2000; Howard & Navarro, 2016; Hughes et al., 2010; Ladson-Billings and Tate, 1995; Ledesman & Calderon, 2015; Noblit & Mendez, 2008).

Bandura (1977), followed by Lent et al. (1994), argue that in order for individuals to develop a sense of self-efficacy they need, among other things, positive social feedback, meaningful knowledge acquisition, and positive outcome expectations. For Students of Color and students in poverty who do not see themselves represented in the halls of the schoolhouse, the risk of not developing a sense of career self-efficacy increases. In their study of Portuguese high school students, Lent et al. (2009) hypothesized that a student's sense of self-efficacy determined the outcome they expected from a task or activity, as well as their interest in the task and developing goals related to the task. If, as scholars argue, education fails to include Students of Color and

students in poverty (Hughes et al., 2010; Ladson-Billings and Tate, 1995; Noblit & Mendez, 2008), then they will not have positive social feedback and meaningful knowledge acquisition at school. They will not develop a strong sense of career self-efficacy and may continue to struggle with future success.

Analysis reveals that recent graduates from this career academy high school generally hold a strong belief in their career self-efficacy. Although no statistically significant mean differences exist between Students of Color and Whites or between FRL students and their non-FRL peers, respondents in the Group Level Assessment revealed perceived differences among Students of Color and students in poverty when compared with their white peers. This finding suggests that student perception of career self-efficacy might not be measurably different; there is a sense that students graduating from a career academy program perceive that they are better prepared to select a future career or eliminate a future career possibility, based on their experiences in the course of study.

During the GLA, one participant revealed that Students of Color did not feel comfortable choosing academies that did not have minority representation, even if they preferred the course of study. Instead, the student stated that Students of Color chose academies where they had peers despite a lack of desire to learn within that academy's theme. This clustering of students by demographic group caused students to stereotype academies by their population, with one GLA participant noting that her academy was the "black spot." This comment highlighted the inequity in the system and need for increased diverse representation across each of the career academies. This raises the question about the ability of the career academy model to break the cycle of educational inequity. Historically, educational inequity manifests with students unable to access

academic content and classes (Ladson-Billings & Tate, 1995; Howard & Navarro, 2016; Hughes et al., 2010). The students' feelings of discomfort caused them to choose an academy where they found minority representation rather than an academy where they would find classes of their choice. The lack of diversity in academies, causing to students to select against their academic preference, shows a perpetuation of educational inequity. While there were not statistically significant differences between the mean career self-efficacy scores, some individual students perceived the model as perpetuating the challenges of Students of Color and students in poverty. One of the intents of the career academy model is to create programs that are diverse and representative of the school population, which serves to draw students into areas in which they are interested rather than into areas where they feel comfortable. When students are engaged in their learning because they are interested in the content, they are more likely to develop a stronger sense of career self-efficacy thereby closing the apparent gap in CDSES-SF means differences, as well as improve the students' perception of the nature of the career academy model.

The value of experiential learning. One of the most touted benefits of the career academy model is the access to real world and relevant material that connects both core content and career/technical education with what is happening in business and industry. Through these practical connections, scholars argue, students find value in their learning and are able to translate what they learn in a classroom into applicable knowledge for the field (Dixon et al., 2011; Fletcher & Cox, 2012; Kemple & Snipes, 2000). This study reveals that, while there were not statistically significant differences, the students perceived a benefit from the career academies because of the access to guest speakers and

experiential learning activities, like internships. The students expressed a desire for an expansion of these activities, which highlights the activity's value. Moreover, these perceived benefits, as one student wrote, served to instill a sense of confidence that might not have been present otherwise.

Experiential learning opportunities come in several different forms: guest speakers, job shadowing, fieldtrips, and internships. No matter what form the opportunity takes, it connects the community with the learner and allows the student to learn vicariously through another individual. Lent et al. (1994) argue that these vicarious experiences are foundational to an individual's development of self-efficacy. By seeing someone complete a task or live through an experience, an individual sees that it is possible. Additionally, they are able to assess whether or not they possess the competencies to complete the task without having to attempt it. A negative outcome, especially at tasks of which an individual is unsure of personal success, harms the development of self-efficacy; this differs from a negative outcome where an individual believes they can succeed and simply needs to learn how – learning through failure.

For the recent graduates, internship opportunities, fieldtrips, and guest speakers were integral parts of the career academy experience and contributed to the development of future readiness and career self-efficacy. The internship experience, one participant noted, gave students the opportunity to gain confidence and to learn while doing. Fieldtrips, participants suggested, provided students with the chance to explore the career field in an actual environment rather than the hypothetical environment the classroom provides. Moreover, they give students access to professionals in the field without requiring those professionals to give up time at work to come to the school and discuss

their profession. As scholars point out, these work-based and experiential learning opportunities allow students to make authentic connections between academic content and future careers. Seeing the real world application of their learning serves to more deeply engage them in them in their coursework and increases motivation, self-confidence, and feelings of self-efficacy (Castellano et al., 2003, Bennet 2007; Rojewski & Hill, 2017).

Although these experiential opportunities were key factors for the students, they felt that the career academy school did not provide them frequently enough. The GLA participants contended that the design of the career academy course of study, in some cases, did not allow the time needed to participate in internships. They also added that the school did not offer fieldtrips with enough frequency to allow students to explore both various career fields and the various aspects of a single career field.

Interestingly, though, one student noted that while internships and other experiential opportunities were beneficial for the students' growth, colleges did not value them enough to warrant choosing it over a rigorous Advanced Placement or Dual Credit course. True programmatic alignment might require creative balance between rigorous course offerings and experiential learning opportunities so that a student might participate in both without feeling as if he/she needs to sacrifice the other.

The literature supporting experiential learning clearly outlines the benefit of providing students with such opportunities. The perceptions of the GLA participants support this contention and suggest that the school needs to provide more opportunities for students to interact with community partners, such as business and industry professionals. Furthermore, it seems evident that increasing the number and type of

community connections benefits students not only by giving them more experiential learning but also by increasing the potential for exposure to diverse members of a career field.

The need for exploration and exposure. The "academy model should be a testing ground so students can find what they LOVE, thus leading to a passionate workforce," wrote one GLA participant. Echoing the responses by other GLA participants, this student advocated for the career academy model as a chance for students to explore the world and find what they love. For these students, the career academy model provided them an opportunity to explore various career fields and narrow their focus. Perhaps they would not find their forever career, but they would have the chance to learn through the lens of something in which they are interested. If they did not find a field they loved, just maybe they were able to rule out something they did not like.

One of the major challenges that the graduates perceived was the narrow focus of the offerings of the career academy school. These students felt as if the school limited their choices considerably by forcing them to stay in a single course of study. While they recognized the limitations of the school to provide access to a large number of career fields, they argued that students should have the ability to take courses in multiple pathway programs. For example, one student spoke about having an interest in both business and the law, but being limited to only business courses. This student noted there are joint MBA/J.D. programs, including one at the local university. These programs provide graduates with extensive knowledge across career fields.

The GLA participants felt that their peers disengaged from the academy model, and some of their courses, because of the limitations on the courses of study and the

belief that the academy did not cover their preferred career field. The focus of the career academy school on ensuring that students had the opportunity to graduate with an industry certification, as well as a diploma, was one of the contributing factors to this limitation, they felt. Additionally, this certification emphasis served to limit exploration to the available pathways and not to the broader career opportunities.

Allowing students to study across academies, and participate with peers in other academies on large projects, exposes them to careers beyond their single academy. These seemingly simple adaptions, students believed, would improve the overall academy experience. They believed that students would improve their overall communication and collaboration skills by working with peers in other programs, which would also expose them to the teamwork they felt happened in the real world. In terms of exploration, they perceived that simply allowing students to participate in interdisciplinary study provided access to a larger number of career fields than currently exist at the school. They also felt as if this change would better engage their peers in the career academy model and their classes because it would eliminate the perception that the school boxed students in to a specific pathway.

Summary of Conclusions. Although no statistically significant differences resulted from the quantitative analysis, qualitative analysis revealed perceptions of differences in the experiences of Students of Color and students in poverty who participated in a career academy. These students felt marginalized by the lack of minority representation in the academy or they actively chose to avoid their interest area in order to be with a similar peer group. In other words, the lived experiences of

disenfranchised populations did not differ in career academy and traditional high school models.

Students believed the increased exposure to community partners through guest speakers, fieldtrips, and internships would improve the overall career academy experience and provide more students with access to real world and relevant learning opportunities. In addition, an increase in community connects would serve to expose students to diverse members of various career fields, perhaps encouraging Students of Color and students in poverty to enroll in courses of study in which they are interested rather than those populated by their peers.

Students also felt as if they were limited in the ability to explore a wide variety of career fields. Through a modification in the career academy structure, students could access multiple courses of study and develop an interdisciplinary tract that better aligns with their career interests. The GLA participants believed that by allowing students to innovate in this way encourages them to develop skills necessary for success in the modern workforce, where adaptation and innovation are quintessential. In addition to this structural modification, students suggested that teamwork across academies on projects promotes essential skill development, specifically in terms of collaboration and communication. These students believed that these skills were paramount to both their future readiness, as well as the development of confidence in themselves and their abilities to succeed at tasks, their self-efficacy.

Implications

From racial and economic inequities to structural design, there are implications for both policy and practice arising out of this study for career academy school and

district leaders. The need to value the history and lived experiences of Students of Color and students in poverty is as important now as ever. With an increasing number of poor and minority students enrolling in schools across the United States, there is an increasing need to ensure that they receive a high quality education that prepares them for future success.

Policy implications. As business and industry leaders call upon school systems to prepare graduates for an ever-changing, modern workforce, schools must find ways to innovate and engage all learners. As outlined in Kentucky's Academic Standards for Career Studies (Kentucky Department of Education, 2019), schools must find ways to teach students more than just traditional academic content by teaching them essential skills, such as collaboration and communication that transfer across professions and technical knowledge that leads to industry certification. As detailed in federal education policy, it is not enough to engage only a subset of learners; in order for the workforce to grow and communities to prosper, all students must succeed. In order for that to happen, all learners must feel valued and see a place for themselves in the system (Carl D. Perkins Vocational and Applied Technology Education Act of 1990, 1990; Every Student Succeeds Act of 2015, 2015; No Child Left Behind, 2001). The implications of this research on educational policy at both the state and federal levels serves to acknowledge the importance of career and technical education, as well as support the inclusion of career academies as a reform model aimed at providing students with a sense of career self-efficacy. Such an inclusion in policy would serve the economic needs of business and industry by reducing the economic disadvantages caused by job turnover from employees who are unprepared for what to expect in a career.

Implications for Practice. It is important to acknowledge the feelings of these recent graduates who believe that their peers do not see a place for themselves in every academy and who eschew their own preferences in order to be with people who share their lived experiences. One of the implications this research has on career academy practices includes diversifying the academies and engaging students in their interests, which relies on leaders to take these students' feelings seriously and develop a clear vision for how to move forward. No doubt, this will include increased community participation through guest speakers, fieldtrips, and internships with diverse members of various career fields. By exposing students early and often to the diversity in their particular interest areas, it is possible to attract them into the academies that best align with their interests, rather than those that represent them demographically.

Another practical implication for academy school and district leaders is the engagement of students in their learning. Exploration is a key component of the career academy experience and foundational to giving students the chance to find a future career about which they can have passion. While it is impossible to provide students access to study every available career field, it is important to ensure they are engaging in the ones they can access. When students are able to engage in a career field, they develop career self-efficacy along with a sense about whether a career is a fit for them. Jovanovic (1979) and Moscarini (2005) both detail the economic disadvantages of initial job uncertainty and job turnover based on knowledge acquisition. Members of this graduating class believed their peers disengaged from school because they did not have access to something in which they were interested, which is important to discovering what they do not like but does little to help them find something they would like. While

the graduates viewed this as a negative consequence of the career academies, from a job matching theory perspective these disengaged students benefited from learning what career field does not fit their interests.

From a structural standpoint, creating interdisciplinary courses of study that allow students to explore multiple career fields provides them with expanded exploration and does not require modification of the existing structure. If it is truly important to create innovative schools that both engage students and prepare them for future success, it is necessary for them to feel their interests are valued and they are not viewed as a possible industry certification score.

Moreover, an ever-changing and modern workforce does not exist in a binary state. If you are an entrepreneur, you need to understand the laws applicable to your business. If you are in healthcare, you need to have some knowledge of the technical components of the equipment you rely on to save people's lives. If you are an artist, you need to know how to market your art. Allowing students to choose from preselected interdisciplinary pathways, or better yet, design their own, will capture their interests and engage them in their learning. In this way, students can participate in true career exploration and, perhaps, find something about which they are passionate and allows them to contribute to society.

Limitations

This research study is subject to a number of limitations imposed by the research design, time constraints, and other social considerations. From a quantitative perspective, the *Career Decision Self-Efficacy Survey – Short Form* is a self-reported measure and is subject to participant bias. Tested repeatedly, the instrument provides a valid measure of

an individual's career self-efficacy based on perceived ability to complete listed tasks; however, it is possible that an individual's score is biased or inaccurate if not completed honestly and faithfully.

The Academies of Lexington provided the survey to students through their required Senior English course during the last week of school. At that time, students did not meet in person so instructors distributed the survey via email or online learning management system, based on their preference. Neither incentives nor consequences existed for students who received the survey. The number of students who responded to the survey, which likely would have been higher if classes met in person and a teacher could monitor participation, limited the response rate.

This study did not exhaust the possibilities of correlative factors on an individual's CDSES-SF score. This study did not include factors such as age, grade point average, number of classes failed, along with each of the five subscales. This study was limited to CDSES-SF composite score, ACT composite score, ethnicity, and FRL participation. The use of a univariate ANOVA to analyze closed-ended survey data assumes that the data come from a normally distributed population. The idea of surveying the entire population of graduates was meant to increase the overall sample size and help to stabilize any distribution issues that might arise; however, the school closure resulting from the SARS-CoV-2 virus caused the survey distribution to change from in class to online, which resulted a smaller than anticipated sample.

While it stands as one of the most popular methods for sampling, convenience sampling comes with a variety of disadvantages, including generalizability. Because researchers analyze data that results from whomever responds, the results often have bias

because the sample does not reflect the total population (Jager et al., 2017). Homogeneous convenience sampling addresses some of the issues with generalizability by limiting the sample population to a subgroup that more closely reflects the total population. This homogeneity allows for a higher probability of a representative sample. Using a homogeneous convenience sample for the group level assessment reduced, but did not eliminate, the possibility of bias.

The qualitative phase of this study relied on participants who recently graduated from a single career academy high school. Using homogenous convenience sampling, 30 students or their guardians, depending on the student's age, received an invitation email (see Appendices I and J). Emails sent to guardians required the guardian to agree to the study and forward the information to his/her student; the student, then, had to sign onto an online video conference meeting to participate. Guardian agreement and follow-through limited the number of participants. Access to reliable internet also limited participation.

Stake (2010) writes that qualitative research is interpretive because of the researchers quest to make meaning from the experiences and perceptions of the subjects, who themselves interpret their experiences and construct meaning differently. As the researcher is making meaning from these experiences, the researcher is also experiencing the phenomenon under investigation vicariously through participant observation and must be keenly aware that reality is a human construct (Stake, 2010); therefore, there is subjectivity on the part of the participant. It is the role of the qualitative researcher to be empathetic and work to understand the perception of each individual participant.

At the time of this study, schools in Kentucky, as well as across the United States, closed to in-person classes due to the SARS-CoV-2 virus. Statewide social distancing measures eliminated the ability for in-person meetings, which restricted the Group Level Assessment to a virtual administration thereby limiting participation. This closure also affected the district's ability to access students for survey completion, resulting in a limited response rate.

Recommendations for Future Research

Based on the conclusions of this study, the *Career Decision Self-Efficacy Scale – Short Form* survey is a useful tool to identify if students who graduate from a career academy high school believe they can succeed in career-oriented tasks and have future career success. Future researchers would benefit from looking at longitudinal data for students when they enter a career academy school and graduate from a career academy school. These data may provide insight into the affect the career academy model has on the development of career self-efficacy. Additionally, future researchers can advance career academy scholarship by following the graduates of a career academy school into their postsecondary pursuits to see if they follow the career pathway they studied while in their career academy school.

This study explored the composite CDSES-SF score and excluded the five subscales. Additionally, when looking at academic achievement, it focused solely on composite ACT score and omitted the four subscale scores. Additionally, this research excluded a student's chosen academy program. Research connecting a student's academy with the development of each individual subscale area of career self-efficacy might reveal trends between different academies and the CDSES-SF subscale areas. It

might also be interesting to connect a student's academic achievement in a specific area (i.e., English, Math, Science, Reading) with their academy to see if trends exist between traditionally math and science programs (e.g. Engineering, Medicine) and their student's academic achievement.

The scope of this research did not include comparisons with demographically similar traditional model high schools. Future researchers may consider replicating this study and examining the means differences in scores from traditional model high school graduates and career academy model graduates to determine if there is, in fact, any statistically significant difference.

Finally, one finding of this study uses the lens of Critical Race Theory to explore the perceptions that Students of Color have about participating in a career academy and future career fields where there is disproportional representation. Future researchers may consider using a Feminist Theory lens to explore the perceptions of female students in career pathways such as Technology and Science, where there is historical underrepresentation.

Summary

This research sought to examine the extent to which demographic factors and students' participation in a career academy affects his/her belief in college or career readiness, as well as future career success. The research questions included:

- Are there career self-efficacy differences among students of diverse ethnic groups?
- Are there career self-efficacy differences across diverse socio-economic and ethnic student groups?

- What aspects of the career academy model contributed to students' perceptions of college and career readiness?
- What are the students' perceptions of whether the career academy model provides a sense of career self-efficacy?

This research study used a sequential mixed method design oriented within a case study framework. The intersection of Social Cognitive Career Theory and Critical Race Theory forms my understanding and serves as the lens through which I view the literature and approach this study.

The findings of this study are noteworthy for a variety of reasons, not the least of which is the implications they have for the continued development of the career academy model. While a statistical analysis of the quantitative data did not reveal any statistically significant differences between the mean scores of Students of Color and White students, as well as students in poverty and their peers, on the CDSES-SF, students perceived differences in the experiences these students had in the career academy.

The findings also suggest ways in which students believe their career academy experiences might be improved. Students struggled with the limitations of the career academy school and did not believe the offerings to be fully representative of the career fields in which they were interested. They advised structural changes that allowed students to access interdisciplinary courses of study, as well as projects that promoted collaboration across various academies. Additionally, the findings reveal a perpetuation of historical inequities that divide students along racial and cultural lines. Minority students in this study self-selected academy programs that did not align with their interests because the academy programs that aligned with their interests did not have a

sufficient minority population. The lack of minority population created an uncomfortable environment that, while unintentionally, limited opportunities to these minority students. Critical Race Scholars argue that educational structures are one of the hallmarks of educational inequity and historical marginalization (Abramsky, 2013, Cuthrell et al., 2010; Hughes et al., 2010; Morris, 2016). This study indicates that career academy structures do little to break that historical trend. Future academy improvements must be responsive to the racial inequities present in the career pathways and promote diverse membership, in order to break a cycle of exclusion.

Examining the literature on career academies, technical education, and school reform models makes the case for an educational model that provides students with an improved sense of future readiness and career self-efficacy. The themes surrounding schools today suggest that a fundamental redesign of the public school system is necessary (Schmoker, 2006). If the literature is correct and there needs to be a shift, the career academy model is one possible solution, especially if the emphasis on career and technical education remains. Rather than suggest a return to a more traditional model, the growth areas identified by the students demonstrate their desire to see the career academy model improve and support the claim that it benefits students.

REFERENCES

Abramsky, S. (2013). *The American way of poverty: How the other half still lives.* New York, NY: Nation Books.

Academies of Lexington. (2017). *The Academies of Lexington Master Plan.* Retrieved from Academies of Lexington: https://academiesoflex.com/wp-content/uploads/2017/10/Academies-of-Lexington-Master-Plan.pdf

ACT. (2019). *The conditions of college & career readiness 2019: Kentucky key findings.* Retrieved from ACT: https://www.act.org/content/dam/act/unsecured/documents/cccr-2019/Kentucky-CCCR-2019.pdf

Ali, S. R., & Menke, K. A. (2015). Rural Latino youth career development: An application of Social Cognitive Career Theory. *The Career Development Quarterly, 62*, 175-186.

Allen, M. E. (2016). The relevance of Critical Race Theory: Impact on Students of Color. *Urban Education Research and Policy Annuals*, 33-44.

American Youth Policy Forum. (2004). *Career academy national standards of practice.* Retrieved from American Youth Policy Forum: http://aypf.org

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.

Beane, J. (1995). Curriculum integration and the disciplines of knowledge. *Phi Delta Kappan, 76*(8).

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

Benson, C. S. (1997). New vocationalism in the United States: Potential problems and outlook. *Economics of Education Review*, 201-212.

Betz, N. E., Hammond, M. S., & Multon, K. D. (2005). Reliability and validity of the five-level response continua for the Career Decision Self-Efficacy Scale. *Journal of Career Assessment, 13*, 131-149.

Brooks, J., Hughes, R., & Brooks, M. (2008, January). Fear and trembling in the American high school: Educational reform and teacher alienation. *Educational Policy, 22*(1), 45-62. doi:10.1177/089590480731

Camara, W. (2013). Defining and measuring college and career readiness: A validation framework. *Educational Measurement: Issues and Practice, 32*(4), pp. 16-27.

Carl D. Perkins Career and Technical Education Act of 2006, PL 115-224, 20 USC 2301 (2019).

Carl D. Perkins Vocational and Applied Technology Education Act of 1990, PL 101-392 (1990).

Carlson, A. A. (2017). *Perceptions of the first graduating class of the National Academy Foundation finance academy in an urban Title I school (Doctoral disseration).* Retrieved from ProQuest. (ProQuest No. 10687819).

Castellano, M., Stringfield, S., & Stone, J. (2003). Secondary career and technical education and comprehensive school reform: Implications for research and practice. *Review of Educational Research, 73*(2), 231-272.

Castellano, M., Sundell, K. E., & Richardson, G. B. (2017). Achievement outcomes among high school graduates in college and career readiness programs of study. *Peabody Journal of Education, 92*(2), pp. 254-274. doi:10.1080/0161956X.2017.1302220

Chaney, D., Hammond, M. S., Betz, N. E., & Multon, K. D. (2007). The reliability and factor structure of the Career Decision Self-Efficacy Scale-SF with African Americans. *Journal of Career Assessment, 15*(2), 194-205.

Christman, J., Cohen, J., & Macpherson, P. (1997). Growing smaller: Three tasks in restructuring urban high schools. *Urban Education, 32*(1), pp. 146-165.

Compton, J. I., Santos Laanan, F., & Starobin, S. (2010). Career and technical education as pathways: Factors influencing postcollege earnings of selected career clusters. *Journal of Education for Students Placed at Risk, 15*, pp. 93-113. doi:10.1080/10824661003635044

Conchas, G., & Clark, P. (2002). Career academies and urban minority schooling: Forging optimism despite limited opportunity. *Journal of Education for Students Placed At Risk, 7*(3), pp. 287-311. doi:10.1207/S15327671ESPR0703_1

Cox, W. E., & Mathews, F. L. (2005). Black issues become diverse. *Diverse: Issues in Higher Education*, 6.

Creswell, J. (2009). Mapping the field of mixed methods research. *Journal of Mixmed Methods Research, 3*(2), 95-108.

Creswell, J., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches.* Los Angeles: Sage.

Creswell, J., & Poth, C. (2018). *Qualitative Inquiry and research design: Choosing among five approaches.* Los Angeles: Sage.

Crites, J. (1961). A model for the measurement of vocational maturity. *Journal of Counseling Psychology, 8,* 255-269.

Cuthrell, K., Stapleton, J., & Ledford, C. (2010). Examining the Culture of Poverty: Promising Practices. *Preventing School Failure, 54*(2). Washington, US.

Dare, D. (2006). The role of career and technical education in facilitating student transitions to postsecondary education. *New Directions for Community Colleges*(135), pp. 73-80. doi:10.1002/cc.249

Deil-Amen, R., & DeLuca, S. (2010). The underserved third: How our educational structures populate an educational underclass. *Journal of Education for Students Placed at Risk, 15*(1-2), pp. 27-50. doi:10.1080/10824661003634948

Devaney, B. L., Ellwood, M. R., & Love, J. M. (1997). Programs that mitigate the effects of poverty on children. *The Future of Children, 7*(2), 88-112.

DiMaria, F. (2010). Education - not a way out of poverty? *The Hispanic Outlook in Higher Education, 21*(1).

Dixon, M., Cotner, B., Wilson, T., & Borman, K. (2011). Implementing career academies in Florida; a case study approach to understanding successes and obstacles. *Career and Technical Education Research, 36*(3), 207-227. doi:10.5328/cter36.3.207

Doyle, L., Brady, A.-M., & Byrne, G. (2016). An overview of mixed methods research - revisited. *Journal of Research in Nursing, 21*(8), 623-635.

Every Student Succeeds Act of 2015, Pub. L. No. 114-95, 114 Stat. 1177 (2015).

Farmer, J., Spearman, M., Qian, M., Leonard, A. E., & Rosenblith, S. (2018). Using children's drawings to examine student perspectives of classroom climate in a school-within-a-school elementary school. *The Elementary School Journal, 118*(3), pp. 384-408.

Farr, B., Bradby, D., Hartry, A., Sipes, L., Hall, L., & Tasoff, S. (2009). *Evaluation of the demonstration sites in the ConnectEd network.* MPR Associates.

Fletcher, E., & Cox, E. (2012). Exploring the meaning African Americans students ascribe to their participation in high school career academies and the challenges they experience. *High School Journal, 96*(1), 4-19.

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

Glesne, C. (2016). *Becoming qualitative researchers: An introduction.* Boston: Pearson.

Gordon, M., & Cui, M. (2014, Dec). School-related parental involvement and adolescent academic achievement: The role of community poverty. *Family Relations, 63*(5). Minneapolis, MN, US: National Council on Family Relations.

Gottfried, M., & Plasman, J. (2018). Linking the timing of career and technical education coursetaking with high school dropout and college-going behavior. *American Educational Research Journal, 55*(2), 325-361. doi:10.3102/0002831217734805

Guo, G., & Harris, K. M. (2000). The mechanisms mediating the effects of poverty on children's intellectual development. *Demography, 37*(4), 431-447.

Hackett, G., & Betz, N. (1981). A self-efficacy approach to the career development of women. *Journal of Vocational Behavior, 18*, 326-336.

Hackmann, D., Malin, J., & Gilley, D. (2018). Career academies: Effective structures to promote college and career readiness. *The Clearing House: A Journal of Educational Strategies, Issues, and Ideas, 91*(4-5), pp. 180-185. doi:10.1080/00098655.2018.1490196

Hampton, N. Z. (2006). A psychometric evaluation of the Career Decision Self-Efficacy Scale - Short Form in Chinese high schol students. *Journal of Career Development, 33*(2), 142-155.

Hernandez-Gantes, V. M., Brookins, S. J., & Fletcher, E. C. (2017). Promoting active and sustained school-business partnerships: An exploratory case study of an IT academy. *Journal of Research in Technical Careers, 1*(2), pp. 26-35. doi:10.9741/2578-2118.1023

Hollins, E. (2008). *Culture in School Learning*. Florence, US: Routledge.

Homer A. Plessy v. John H. Ferguson, 163 U.S. 537 (1896).

Howard, T. C., & Navarro, O. (2016). Critical race theory 20 years later: Where do we go from here? *Urban Education, 51*(3), 253-273. doi:10.1177/0042085915622541

Hughes, C., Newkirk, R., & Stenhejm, P. (2010, Spring). Addressing the challenge of disenfranchisement of youth: Poverty and racism in the schools. *Reclaiming Children and Youth, 19*, pp. 22-26.

Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods, 18*(1), 3-20.

Jager, J., Putnick, D., & Bornstein, M. H. (2017). More than just convenient: The scientific merits of homogeneous convenience samples. *Monographs of the Society for Research in Child Development, 82*(2), 13-30.

Jocson, K. M. (2018). "I want to do more and change things": Reframing CTE toward possibilities in urban education. *Urban Education, 53*(5), pp. 640-667. doi:10.1177/0042085915618714

Jovanovic, B. (1979). Job matching and the theory of turnover. *Journal of Political Economy, 87*(1), 972-990.

Kemple, J., & Snipes, J. (2000). *Career academies: Impacts on students' engagement and performance in high school.* Manpower Demonstration Research Corporation. MDRC.

Kentucky Center for Education and Workforce Statistics. (2017). *Outcomes for career ready high school graduates.* Frankfort: Kentucky Center for Statistics.

Kentucky Department of Education. (2019, August). *Kentucky Academic Standards for Career Studies.* Retrieved from KY Academic Standards: https://education.ky.gov/curriculum/standards/kyacadstand/Documents/MIR_704_KAR_8.080_Kentucky_Academic_Standards_for_Career_Studies.pdf

Klasik, D. (2013). The ACT of enrollment: The college enrollment effects of state-required college entrance exam testing. *Educational Researcher, 42*(3), 151-160.

Ladson-Billings, G., & Tate, W. F. (1995). Toward a Critical Race Theory in education. *Teachers College Record, 97*(1), 47-68.

Ledesma, M., & Calderon, D. (2015). Critical race theory in education: A review of past literature and a look to the future. *Qualitative Inquiry, 21*(3), pp. 206-222.

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

Lent, R., Paixao, M. P., Tomas da Silva, J., & Leitao, L. M. (2009). Predicting occupational interests and choice aspirations in Portuguese high school students: A test of social cognitive career theory. *Journal of Vocational Behavior, 76*, pp. 244-251. doi:10.1016/j.jvb.2009.10.001

McDaniel, R. G. (2008). *Implications and perceptions of students and teachers participating in two ninth grade success academies during the year of implementation (Doctoral dissertation).* Retrieved from ProQuest. (UMI No. 3333135).

Miguel, J. P., Silva, J. T., & Prieto, G. (2013). Career Decision Self-Efficacy Scale - Short Form: A Rasch analysis of the Portuguese version. *Journal of Vocational Behavior, 82*, 116-123.

Miles, M., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook* (3 ed.). Thousand Oaks: Sage.

Miller, M. J., Roy, K. S., Brown, S. D., & McDaniel, C. (2009). A confirmatory test of the factor structure of the short form of the Career Decision Self-Efficacy Scale. *Journal of Career Assessment, 17*(4), 507-519.

Milner, H. R. (2007). Race, culture, and researcher positionality: Working through dangers seen, unseen, and unforeseen. *Educational Researcher, 36*(7), pp. 388-400. doi:10.3102/0013189X07309471

Monahan, J., Lombardi, A., & Madaus, J. (2018). Promoting college and career readiness: Practical strategies for the classroom. *Teaching Exceptional Children, 52*(2), pp. 144-154.

Morris, M. (2016). *Pushout: The Criminalization of Black Girls in Schools.* New York, NY: The New Press.

Morrison, G. Z. (2010). Two separate worlds: Students of color at a predominately white university. *Journal of Black Studies*, 987-1015.

Moscarini, G. (2005). Job matching and the wage distribution. *Econometric, 73*(2), 481-516.

Murphy, J. (2016). The evolution of the high school in America. *Teachers College Record*.

Murphy, J., & Adams, J. E. (1998). Reforming America's schools 1980-2000. *Journal of Educational Administration, 36*(5), pp. 426-444.

Murphy, M. C., & Zirkel, S. (2015). Race and belonging in school: How anticipated and experienecs belonging affect choice, persistence, and performance. *Teachers College Record, 117*, 1-40.

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

No Child Left Behind, PL 107-110, 115 Stat. 1425 (2001).

Noblit, G. W., & Mendez, J. C. (2008). Legacies of Brown versus Board: An introduction to the Special Issue. *Urban Review, 40*(1-4). doi:10.1007/s11256-007-0079-1

Oliver Brown, et al. v. Board of Education of Topeka, et al. , 347 U.S. 483 (1954).

Orr, M. (2005, August). Career academies as a professionally engaging and supportive teaching experience. *Education and Urban Society, 37*(4), 453-489.

Oxley, D. (2001). Organizing schools into small learning communities. *NASSP Bulletin, 85*(625).

Palardy, G., Rumberger, R., & Butler, T. (2015). The effect of high school socioeconomic, racial, and linguistic segregation on academic performance and school behaviors. *Teachers College Record, 117*, 1-52.

Park, T., Pearson, D., & Richardson, G. B. (2017). Curriculum integration: Helping career and technical education students truly develop college and career readiness. *Peabody Journal of Education, 92*(2), pp. 192-208. doi:10.1080/0161956X.2017.1302213

Pastorino, E. (2013). *Job matching within and across firms.* Minneapolis: Federal Reserve Bank of Minneapolis.

Quartz, K. H., & Washor, E. (2008). Meeting the Individual and Collective Aims of Schooling. In J. Oakes, & M. Saunders (Eds.), *Beyond Tracking: Multiple Pathways to College, Career, and Civic Participation* (pp. 55-70). Cambridge: Harvard Education Press.

Reber, S. (2004). Court-ordered desegregation: Successes and failures integrating American schools since Brown versus Board of Education. *The Journal of Human*

Resources, 40(3), pp. 559-590. Retrieved from https://www.jstor.org/stable/4129552

Rojewski, J. W., & Hill, R. B. (2017). A framework for 21st-century career-technical and workforce education curricula. *Peabody Journal of Education, 92*(2), pp. 180-191. doi:10.1080/0161956X.2017.1302211

Roosevelt, T. (1903, September 7). A Square Deal. Syracuse, New York. Retrieved December 2019, from http://www.speeches-usa.com/Transcripts/teddy_roosevelt-square.html

Saldana, J. (2016). *The coding manual for qualitative researchers.* Thousand Oaks: SAGE Publications.

Schmoker, M. (2006). *Results now: How we can achieve unprecedented improvements in teaching and learning.* Alexandria: Association for Supervision and Curriculum Development.

Smith, T., Cannata, M., Cohen-Vogel, L., & Rutledge, S. (2016). Design and implementation of high school reform: Perspectives from research and practice. *Teachers College Record, 118*.

Spears, V. H. (2016). What's your major? Some Lexington students will soon declare in high school. *Lexington Herald Leader*. Retrieved December 2019, from https://www.kentucky.com/news/local/education/article107314002.html

Spears, V. H. (2020, March 13). *Online, on paper, on edge: Teachers, students, parents prepare for school shutdown*. Retrieved from Lexington Herald Leader: https://www.kentucky.com/news/local/education/article241168096.html

Stake, R. E. (2010). *Qualitative research: Studying how things work.* New York: The Guilford Press.

Stone, J. R. (2017). Introduction to pathways to a productive adulthood: The role of CTE in the American high school. *Peabody Journal of Education, 92*(2), pp. 155-165. doi:10.1080/016956X.2017.1302207

Supovitz, J. A., & Christman, J. B. (2005). Small learning communities that actually learn: Lessons for school leaders. *Phi Delta Kappan, 86*(9), pp. 649-651.

Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior, 22*(1), 63-81.

Thessin, R., Scully-Russ, E., & Lieberman, D. (2017). Critical success factors in a high school healthcare education program. *Journal of Career and Technical Education, 32*(1), pp. 51-72.

Torok, R., Toth-Kiraly, I., Bothe, B., & Orosz, G. (2017). Analyzing models of career decision self-efficacy: First-order, hierarchical, and bifactor models of the Career Decision Self-Efficacy Scale. *Current Psychology, 36*, 764-773. doi:10.1007/s12144-016-9464-9

Tucker, M. (2016). Researching other countries' education systems: Why it's indispensable but tricky, how we did it, why this time it's different. In M. Tucker, *Surpassing Shanghai* (pp. 1-18). Cambridge: Harvard Education Press.

U.S. Department of Agriculture. (2020). *National School Lunch Program*. Retrieved from U.S. Department of Agriculture Food and Nutrition Service: https://www.fns.usda.gov/nslp

US Department of Education. (2008). *Implementation of smaller learning communities: Final report.* Washington: US Department of Education. Retrieved from https://www2.ed.gov/rschstat/eval/other/small-communities/final-report.pdf

US Department of Education. (2017). *Status and trends in the education of racial and ethnic groups 2017.* Washington: National Center for Education Statistics.

Vaughn, L. (2014). Group level assessment: A large group method for identifying primary issues and needs within a community. London. doi:10.4135/978144627305014541626

Vaughn, L., & Lohmueller, M. (1998). Using the group level assessment in a support group setting. *Organizational Development Journal, 16*(1), 99-104.

Vaughn, L., Jacquez, F., Zhao, J., & Lang, M. (2011). Partnering with students to explore the health needs of an ethnically diverse, low-resource school: An innovative large group asswssment approach. *Family and Community Health*, 72-84.

Yin, R. K. (2018). *Case study research and applications: Design and methods.* Los Angeles: Sage.

Young, E. (2011). The four personae of racism: Educators' (mis)understanding of individual vs. systemic racism. *Urban Education, 46*(6), 1433-1460.

Zhao, Y. (2015). A world at risk: An imperative for a paradigm shift to cultivate 21st century learners. *Society, 52*(2), pp. 129-135. doi:10.1007/s12115-015-9872-8

APPENDICES

Appendix A: Student Survey Protocol

The following survey, conducted by The Academies of Lexington, an arm of Fayette County Public Schools, seeks anonymous feedback about your career academy experience. This survey is in three parts. Part I asks you to rank your confidence on 25 items using a 1-5 scale. Part II asks you to briefly respond to 4 prompts. Part III asks you answer a few questions about yourself.

PART I

(adapted from Taylor, K.M., & Betz, N.E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior*, *22*(1), pp. 63-81.)

After completing your course of study in a career academy school, please rate how much confidence you have that you can do the following things.

Please respond to each of the items below using one of these five levels:

1	2	3	4	5
No confidence	Very little confidence	Moderate confidence	Great confidence	Complete confidence

1. Select one major from a list you are considering (goal selection)
2. Determine the steps you need to successfully complete your chosen major (planning)
3. Make a plan of your goals for the next 5 years (planning)
4. Select one occupation from a list of potential occupations you are considering (goal selection)
5. Make a career decision and then not worry if it was right or wrong (goal selection)
6. Persistently work at your major or career goal even when you get frustrated (problem solving)
7. Determine steps to take if you're having academic trouble with your major (problem solving)
8. Figure out what you are and are not ready to sacrifice for your career goals (self-appraisal)
9. Accurately assess your abilities (self-appraisal)
10. Find information about occupations that interest you (occupational information)
11. Choose a career that will fit your preferred lifestyle (goal selection)
12. Determine the kind of lifestyle you would like to live (self-appraisal)

13. Determine what your ideal job would be (self-appraisal)
14. Find the average yearly earnings of people in an occupation (occupational information)
15. Choose a major or career that will fit your interests
16. Decide what you value most in an occupation (self-appraisal)
17. Find out employment trends for an occupation over the next 10 years (occupational information)
18. Find information about graduate or professional schools (occupational information)
19. Successfully manage the job interview process (planning)
20. Identify employers relevant to your career possibilities (planning)
21. Identify some major or career alternatives if you are unable to get your first choice (problem solving)
22. Talk with a person already employed in a field you are interested in (occupational information)
23. Prepare a good resume (planning)
24. Change occupations if you are not satisfied with the one you enter (problem solving)
25. Change majors if you did not like your first choice (problem solving)

PART II

Reflecting on your career academy participation, provide a brief response to the following prompts.

1. The aspects of the career academy that helped me the most were (RQ 3)
2. The aspects of the career academy that helped me the least were (RQ 3)
3. Because of my participation in the career academy, I am (RQ 3/4)
4. Because of my participation in the career academy, I am not (RQ 3/4)
5. The career academy has impacted my future by (RQ 4)

PART III

1. I am a member of the
    a. Information Technology Academy
    b. Medical Academy
    c. Leadership Academy
    d. Engineering and Manufacturing Academy
2. My gender is
    a. Male
    b. Female
    c. Other
    d. Prefer not to say
3. My ethnicity is
    a. White
    b. Black

    c. Hispanic
    d. Two or more races
    e. Other
4. I participate in the Free or Reduced Lunch program
    a. Yes
    b. No

Appendix B: Group Level Assessment Protocol

Group Level Assessment is a collaborative and participatory process through which chosen stakeholders have a voice in the data collection and analysis process. Group Level Assessment is a multi-step protocol that fosters dialogue to develop common understanding. This Group Level Assessment consists of 6 steps and is adapted from the work of Vaughn and Lohmueller (2014).

The following steps took place prior to the inclusion of participants.

1. The Academies of Lexington collected data via a survey of graduating seniors from the local academy model high schools.
2. I accessed and analyzed the open-ended responses to generate the prompts used. These prompts are a combination of open-ended and structured responses, reflections on strengths and weakness of the academy model, as well as positive and negative aspects of the model. The topics range from broad to specific.
3. I wrote the prompts on large poster paper around the room and covered them until step 2.

During this Group Level Assessment, which will last for approximately 90 minutes, participants engage in individual and group reflections, consensus building, and data analysis.

Step 1: Establishing trust, collaboration, and participation

During this step, we will review the overall process and participate in a short team building exercise: Extreme Rock, Paper, Scissors. Teams of 2 participants battle in a best-of-three game of Rock, Paper, Scissors. The participant who lost the battle becomes the cheerleader for his or her opponent; the winner finds another winner to compete with. This cycle continues with losers cheering and winners competing until a single champion remains.

Step 2: Ideation

During this step, I reveal the prompts. Each participant takes a marker and circulates to each of the posted prompts. To ensure anonymity, all markers are the same color. As participants circulate around the room, they should respond to the prompt. They may also place a checkmark beside any statement on the poster paper with which they agree.

Step 3: Gallery walk

During this step, participants spend time walking around and looking at all of the prompts and responses. Participants are encouraged to interact with each other and discuss the responses they read. They may also add additional checkmarks to responses they agree with.

Step 4: Reflection

In silent reflection, participants consider their responses and the responses of their peers. Any participant who wants to take notes is encourage to do so.

Step 5: Coding and theme generation

I will divide participants into small groups and assign a set of posters. Collaboratively, participants should look at all of the posters, cluster similar ideas together, and generate themes common to their set. Avoid generating a summary of each poster; instead, look for thoughts or ideas that repeat across the set.

After participants have generated a list of themes across their set of posters, each group will report out to the whole group. As groups are sharing their most commonly occurring themes or ideas, I will write them on another poster paper.

Step 6: Selection and prioritization

After the most commonly occurring themes are listed, each participant will receive a page of 6 colored dots. Using these colored dots, which are all one color to protect anonymity, participants will vote on the themes the best reflect their experiences by placing a dot beside the theme on the poster paper. The themes receiving the most dots are the most representative of the groups' experience.

Following this step, I will collect all of the poster pages for later analysis.

Adapted from Vaughn, L.M. & Lohmueller, M. (2014). Calling all stakeholders: Group-level assessment (GLA)—A qualitative and participatory method for large groups. *Evaluation Review, 38*(4), 336-355.

Appendix C: Virtual Group Level Assessment Outline and Script

Virtual GLA

Part 1 - Stage Setting

- Introduction (Host)
- Tell them about recording, moderator will change names to Participant A, Participant B, etc.
    - One moderator will be assigned to this task

Part 2 - Breakout rooms Round 1 - (embed Google Docs)

- Breakout Group A: Prompt Set 1 -
- Breakout Group B: Prompt Set 2 -
- Breakout Group C: Prompt Set 3 –

Part 3 - Breakout rooms Round 2 - (embed doc link in chat for next doc)

- Breakout Group A: Prompt Set 2 -
- Breakout Group B: Prompt Set 3 -
- Breakout Group C: Prompt Set 1 -

Part 4 - Breakout rooms Round 3 - (embed doc link in chat for next doc)

- Breakout Group A: Prompt Set 3 -
- Breakout Group B: Prompt Set 1 -
- Breakout Group C: Prompt Set 2 -

Part 5 - Breakout rooms Round 4

- All back to the main room
    - Introduce the next concept - which is theme generation
    - Moderator will type the themes at the bottom of the document
    - Have no more than 3 choices
- Re-enter breakout rooms
    - Go back to original document and find frequently occurring words/phrases
    - Moderator leads discussion about which of the themes are the most important
    - After identifying the themes, discuss which themes are the most important
        - You could have an informal poll in the chat box

Part 6 - Voting

- Main room
    - Explain what will happen next
- Moderators will populate Google Form with top three themes from each Breakout Group Prompt Set
    - Breakout Group A - rows 1-3
    - Breakout Group B - rows 4-6
    - Breakout Group C - rows 7-9

- Google Form for Rank Order Voting -
- Link to edit Google Form:

Part 7 - Wrap-up

- Thank you, etc.

Speaker	Script
Part 1	
GLA Host (3 minutes)	**Host say:** Thank you, everyone for joining us today. I know that your time is important, so we will try to be as efficient as possible. I expect this Group Level Assessment to take approximately 60 minutes. I will record this so that we can have a record of all of the responses and a transcript of all of the chats. Please be aware that the private chat room transcripts will also appear when I download the meeting. I will begin the recording now. *<<START RECORDING>>* As you might be noticing, I am changing (or have changed) your names to correspond with a letter of the alphabet as I go over this information. All of the names are being changed to help protect your confidentiality and allow you to feel comfortable responding honestly and with candor. Let me explain what is going to happen today. A Group Level Assessment, or GLA, is a data collection tool that I am using to collect data for my dissertation. Typically, this process is done with everyone together in a room responding to prompts on poster paper, walking around and talking with each other to get ideas. With everything that is going on, I had to adapt that process to this electronic medium. It is not a perfect match. After I finish going through these instructions, you will be asked to open up a Google Document with 10 prompts. Today's prompts are focused on areas related to career academy schools and your experiences: There are multiple pages to the Google Document. I will walk you through the process of responding to each prompt. You will have 4 minutes to respond to the prompt. At the end of 4 minutes, we will move on to the next prompt. We will repeat this cycle until we've been through all of the prompts.

	Are there any questions before we begin? In a moment, a link will appear in the chat box. Click it to open it.
Part 2	
(40 minutes)	*<<Moderator should put the appropriate bit.ly link in the chat box>>* ● All prompts: https://bit.ly/HINDS-GLA **Moderator say:** This is the first of three parts. We have four total minutes with each prompt, including the time it takes me to go over these instructions. In the chat box, I have put a link to the prompt. Please open that link. Now that you've opened the link, you will see a table with 10 rows. Please find the row that corresponds with your participant letter. For example, Participant A will use Row A. Find your row, please. We will now begin to address the prompt. *<<Read the prompt at the top of the page to the group.>>* In your row, you can type words, phrases, whole sentences. This is a collaborative process, so you are encouraged to speak with each other. To talk about your experience, to repeat something someone else has said, to ask questions, etc. You will have about 4 minutes remaining for your responses. If you see a response on the page that you agree with or want to emphasize strongly (especially if it is not yours), please use the highlight feature to highlight the text in yellow. The highlight feature is in the toolbar and looks like a highlighter. *<<Moderator, as the participants are typing answers, ask probing questions to encourage discussion. You can encourage them to emphasize the other comments on the page by highlighting. Below are some questions to help promote thinking.>>* Probing questions

	1	What else did you need to know?	Was the curriculum sufficient?	Were there enough experiences?
	2	Think about internships or job shadowing.	What about field trips or guest speakers?	Was there exploration? Was it too broad? limited?
	3	Were you satisfied with your choices?	What do you wish you could've studied?	Were there too many? Too few?
	4	How was the rigor?	Was their real-world content? Real projects?	
	5	Will they help your future?	Did they give you a realistic view of the world?	
	6	What could've been better?	What do you wish you learned?	Think about your interpersonal and professional skills.
	7	Think about your interactions with students and teachers.	What could you have done differently or take advantage of that you didn't?	
	8	Think about recruitment.	Think about activities that you did or didn't do.	
	9	Are they limited?	Are they restrictive?	Are they helpful?
	10	Think about your peers. Were they representative of the school?	Would you say the students were a stereotype of that field?	

Part 3	
GLA Host (1 minute)	**Host say**: During the next part of this GLA, you are going to return to the Google documents. I will lead you through a review of the comments that appear in the document. Remember that the highlighted words/phrases have been emphasized by someone else today.

	As you are reviewing the comments, you should group them together in like categories at the bottom of the page. After you have grouped and categorized, I will lead you in an informal voting process. Your goals are to identify three themes that are most important to the experience identified in the prompt. Are there any questions? We will have about 10 minutes.
GLA Host	*<<Go to the Google Form: https://docs.google.com/forms/d/19EvUl87DVwUbvsMomc6J1Rxl1H9Z9L2CPg-McRttp90/edit* *Type your three themes in the appropriately labeled rows. >>*
Part 6	
GLA Host (2 minutes)	**Host say:** We will now begin the final part of our Group Level Assessment. We grouped and categorized all of the answers into themes that reflect the experience identified in the prompt. You then worked collaboratively to determine which three of those themes are the most relevant to the experience identified by the prompt. Your next step is to individually look at the ten themes identified by the groups and determine the five that are most representative of your overall experience. These could be the five that weigh heaviest on your mind. They could be the five that you still have questions about. They could be five things that are important to you but totally disconnected from each other. These are your responses. All of the answers will be aggregated together and ranked based on the groups votes. In a moment, there will be a link to a Google Form. This form will list all 9 themes. You are asked to rank them in the order of the 5 most important; yes, there will be ones you can't vote for because you only have 5 votes. Please note that you are rank order voting, so 5 is the most important and 1 is the least important. *<<Host put the Google Form link in the chat box: >>* *https://bit.ly/HINDS-GLA-2*

	Are there any questions? I'll give you a minute to complete the Google Form.
Part 7	
GLA Host (30 seconds)	**Host say:** Once you have finished voting, we are done. If you have not already done so, please respond to the email from the other day with the address that you would like your thank you gift card sent to.

Appendix D: Group Level Assessment Prompts

The following prompts were adapted from the Academies of Lexington student survey. In the first cycle, the five open-ended response questions were coded using the language of the respondent to generate the main themes of the responses. Then, those codes were used in a second-cycle of coding to determine pattern within the responses. The most frequent patterns were turned into the below prompts.

11. In order to be more effective at training students for their future, career academies should…
12. Related to career exploration, I wish career academies…
13. The number and types of career academies were…
14. Our potential for success would be improved if the classes and activities offered were…
15. The things I learned in my career academy were helpful…
16. After my career academy experience, I wish I were better prepared to…
17. As a career academy student, my experience would have been different if I…
18. To improve the planning for my future, the career academy could…
19. The choices that students have in career academies are…
20. The groups of students in my career academy…

Appendix E: GLA Rank-order voting

Ranking Importance

Using this form, please take a minute to rank, in order of most important (5) to least important (1) the identified themes as they relate to your experiences and thoughts about your Career Academy High School.

1. Individually, rank the themes generated from your responses in order of importance to you. Use the following scale: 5 (most important) to 1 (least important)

Check all that apply.

	5	4	3	2	1
Real-life experiences	☐	☐	☐	☐	☐
More internships	☐	☐	☐	☐	☐
Working across academies	☐	☐	☐	☐	☐
Not enough classes in the pathways	☐	☐	☐	☐	☐
More guest speakers, job shadowing, etc. (more community connection)	☐	☐	☐	☐	☐
Ability to double major	☐	☐	☐	☐	☐
Need to balance interests	☐	☐	☐	☐	☐
Academy chosen based on people (other students) in it, not what it provides	☐	☐	☐	☐	☐
Better prepared to enter academy	☐	☐	☐	☐	☐
Testing ground for what students love	☐	☐	☐	☐	☐

This content is neither created nor endorsed by Google.

Google Forms

Appendix F: Parental Consent Form

Study Title:
Capacity Building: A Study of Career Academies and the Development of Student Career Self-Efficacy

Investigator(s) name and address:
W. Kyle Ingle (PI)
University of Louisville College of Education and Human Development
1905 South 1st Street, Louisville, KY 40292
Shawn Hinds (Co-PI)
3396 Blackford Parkway, Lexington, KY 40509

Study site:
Fayette County Public Schools | Bryan Station High School

Phone number for subjects to call for questions:
859-321-4504

What is this and who is doing it?
Your student is being asked to participate in a research study conducted by Shawn Hinds, Educational Leadership, Evaluation, and Organizational Development doctoral student at the University of Louisville. Dr. Kyle Ingle serves as the principal investigator. This study will take place within Bryan Station High School, a member of the Academies of Lexington, an arm of Fayette County Public Schools or virtually using online collaboration and meeting software.

What is the purpose of this study?
The purpose of this study is to understand the relationship between career academies and a student's development of a sense that they can succeed at a career they are interested in having.

What my student be asked to do and how long will it take?
Students will meet in-person or virtually, and will respond to a series of prompts written on poster paper or in an online collaboration space. They will write their responses and then discuss the responses with other students. Finally, they will vote on the responses that are most representative of their career academy experience. This will take place after graduation, in June 2020, and will last approximately one hour.

Are there any risks?

Subjects risk feeling uncomfortable by providing answers that are contradictory to the message of the school district.

Does my student get any benefit from being in this study?
No, there are no direct benefits to this study for student participants. The results of this study will assist in better understanding the feelings students have about what career academies do for them. The information gathered may help future schools better implement career academies.

Will my student be paid for participation?
No, student participants will not receive compensation.

Does my student have to participate in this study?
No, participation is optional. Students who choose to participate may end their participation at any time. Refusing to participate or stopping participation will not cause any penalty or loss of benefits that you would otherwise have.

How will you keep my student's information confidential?
Total privacy cannot be guaranteed. We will protect your privacy to the extent permitted by law. If the results from this study are published, your name will not be made public. Once your information leaves our institution, we cannot promise that others will keep it private.

Your information may be shared with the following:

- The sponsor and others hired by the sponsor to oversee the research
- Organizations that provide funding at any time for the conduct of the research.
- The University of Louisville Institutional Review Board, Human Subjects Protection Program Office, Privacy Office, others involved in research administration and research and legal compliance at the University, and others contracted by the University for ensuring human participants safety or research and legal compliance
- The local research team
- Researchers at other sites participating in the study
- People who are responsible for research, compliance and HIPAA/privacy oversight at the institutions where the research is conducted
- People responsible for billing, sending and receiving payments related to your participation in the study
- Applicable government agencies, such as:
    - Office for Human Research Protections

Who can I/my student contact with questions or concerns?
If you have any questions, concerns, or complaints about the research study, please contact Kyle Ingle, Ph.D. at 502-852-6097 or Shawn Hinds at either 859-321-4504 or shawn.hinds@fayette.kyschools.us.

If you have concerns or complaints about the research or researchers, you may call 1-877-852-1167 and anonymously provide your concerns. This is a 24-hour hotline operated separately from the University of Louisville.

What if I have questions about my student's rights as a research subject?
If you have questions about the rights of a research subject, you may contact the Human Subjects' Protection Program office at 502-852-5188. You may confidentially discuss any questions you have with a member of the Institutional Review Board (IRB). You may also contact this office if you have questions and cannot reach any of the researchers or would prefer to speak to someone else. The IRB is an independent committee comprised of people from across the University of Louisville community and institutional staff, including people who are not connected with the university. The IRB has approved the participation of human subjects in this research study.

Acknowledgement and signatures
This informed consent document is not a contract; it is an explanation of what happens during the study should you choose to permit your child to participate. By providing your student with the Student Assent Form and the Zoom meeting link for the virtual Group Level Assessment that accompanies the email containing this letter, you are agree to allow your child to participate in this study.

List of investigators:	**Phone number:**
W. Kyle Ingle, Ph.D.	502-852-6097
Shawn Hinds	859-321-4504

Appendix G: Student Informed Consent Form

Study Title:
Capacity Building: A Study of Career Academies and the Development of Student Career Self-Efficacy

Investigator(s) name and address:
W. Kyle Ingle (PI)
University of Louisville College of Education and Human Development
1905 South 1st Street, Louisville, KY 40292
Shawn Hinds (Co-PI)
3396 Blackford Parkway, Lexington, KY 40509

Study site:
Fayette County Public Schools | Bryan Station High School

Phone number for subjects to call for questions:
859-321-4504

What is this and who is doing it?
You are being asked to participate in a research study conducted by Shawn Hinds, Educational Leadership, Evaluation, and Organizational Development doctoral student at the University of Louisville. Dr. Kyle Ingle serves as the principal investigator. This study will take place within Bryan Station High School, a member of the Academies of Lexington, an arm of Fayette County Public Schools or virtually using online collaboration and meeting software.

What is the purpose of this study?
The purpose of this study is to understand the relationship between career academies and a student's development of a sense that they can succeed at a career they are interested in having.

What will I be asked to do and how long will it take?
Students will meet in-person or virtually, and will respond to a series of prompts written on poster paper or in an online collaboration space. They will write their responses and then discuss the responses with other students. Finally, they will vote on the responses that are most representative of their career academy experience. This will take place after graduation, in June 2020, and will last approximately one hour.

Are there any risks?
Subjects risk feeling uncomfortable by providing answers that are contradictory to the message of the school district.

Do I get any benefit from being in this study?
No, there are no direct benefits to this study for student participants. The results of this study will assist in better understanding the feelings students have about what career academies do for them. The information gathered may help future schools better implement career academies.

Will I be paid for participation?
No, student participants will not receive compensation.

Do I have to participate in this study?
No, participation is optional. Students who choose to participate may end their participation at any time. Refusing to participate or stopping participation will not cause any penalty or loss of benefits that you would otherwise have.

How will you keep my information confidential?
Total privacy cannot be guaranteed. We will protect your privacy to the extent permitted by law. If the results from this study are published, your name will not be made public. Once your information leaves our institution, we cannot promise that others will keep it private.

Your information may be shared with the following:

- The sponsor and others hired by the sponsor to oversee the research
- Organizations that provide funding at any time for the conduct of the research.
- The University of Louisville Institutional Review Board, Human Subjects Protection Program Office, Privacy Office, others involved in research administration and research and legal compliance at the University, and others contracted by the University for ensuring human participants safety or research and legal compliance
- The local research team
- Researchers at other sites participating in the study
- People who are responsible for research, compliance and HIPAA/privacy oversight at the institutions where the research is conducted
- People responsible for billing, sending and receiving payments related to your participation in the study
- Applicable government agencies, such as:
    - Office for Human Research Protections

.

Who can I student contact with questions or concerns?
If you have any questions, concerns, or complaints about the research study, please contact Kyle Ingle, Ph.D. at 502-852-6097 or Shawn Hinds at either 859-321-4504 or shawn.hinds@fayette.kyschools.us.

If you have concerns or complaints about the research or researchers, you may call 1-877-852-1167 and anonymously provide your concerns. This is a 24-hour hotline operated separately from the University of Louisville.

What if I have questions about my rights as a research subject?
If you have questions about the rights of a research subject, you may contact the Human Subjects' Protection Program office at 502-852-5188. You may confidentially discuss any questions you have with a member of the Institutional Review Board (IRB). You may also contact this office if you have questions and cannot reach any of the researchers or would prefer to speak to someone else. The IRB is an independent committee comprised of people from across the University of Louisville community and institutional staff, including people who are not connected with the university. The IRB has approved the participation of human subjects in this research study.

Acknowledgement and signatures
This informed consent document is not a contract; it is an explanation of what happens during the study should you choose to participate. By logging into the virtual Group Level Assessment using the Zoom link that accompanies the email containing this letter, you agree to participate in this study.

List of investigators:	**Phone number:**
W. Kyle Ingle, Ph.D.	502-852-6097
Shawn Hinds	859-321-4504

Appendix H: Student Assent Form

Capacity Building: A Study of Career Academies and the Development of Student Career Self-efficacy

I am invited to be in a research study being done by Professor Kyle Ingle and Shawn Hinds, a doctoral student. When a person is in a research study, they are called a "subject". I am invited because this study is exploring the relationship that graduating students' see between their membership in a career academy and their belief in future career success.

This means that students will participate in a Group Level Assessment, which is a method for data collection where a large group of subjects participates by answering prompts and then voting to determine the most important things revealed in their answers. The Group Level Assessment may be conducted either in-person or virtually. There are minimal risks to this study: data will be provided to the district leadership and subjects risk feeling uncomfortable providing messages that contradict the district message.

This study will last approximately one hour. There are no individual benefits to participation.

My family, the professor, and other classmates participating in the Group Level Assessment will know that I'm in the study. If anyone else is given information about me, they will not know my name. A number or initials will be used instead of my name.

I have been told about this study and know why it is being done and what I have to do. My parent(s) have agreed to let me be in the study. If I have any questions, I can ask Professor Kyle Ingle (william.ingle@louisville.edu) or Shawn Hinds (shawn.hinds@fayette.kyschools.us). They will answer my questions. If I do not want to be in this study or I want to quit after I am already in this study, I can tell the researcher and he will discuss this with my parents. By logging into the virtual Group Level Assessment using the Zoom link that accompanies the email to your guardian containing this letter, you agree to participate in this study.

Appendix I: Parental Consent Email Invitation

Good afternoon, _____.

My name is Shawn Hinds. I was an English teacher at Bryan Station High School; I am now an administrator at Frederick Douglass High School working on a study about career academies in Lexington. I am currently a doctoral candidate at the University of Louisville in the Educational Leadership and Organizational Development program.

I want to start by sharing my congratulations on your student's successful completion of high school, especially in these extraordinary times. The Class of 2020 from Bryan Station High School is a special group because they are the first group of students to complete an entire course of study in the career academy model. I would like to invite your student to participate in a research study on Wednesday, June 3, 2020 concerning the relationship between career academies and the confidence to succeed in a career. The study will be a group activity lasting no longer than 1 hour using the online platform, Zoom. It will take place on Wednesday, June 3, 2020 at 1pm.

As an administrator in a career academy school and a member of the team that designed Lexington's career academy program, I assure you that this study plays an important role in improving our career academy model and determining its effectiveness as an educational option.

My contact information is shawn.hinds@fayette.kyschools.us or 859-321-4504. The principal advisor for this study is Dr. W. Kyle Ingle.

I have scheduled this group activity for Wednesday, June 3, 2020 at 1pm. During this activity, your student will respond to a series of prompts written on Google Docs and then discuss the answers with the other student participants, ranking the importance relative to their experiences in a career academy school.

I have attached an invitation letter for your student, as well as the parental consent document for you and the student assent document. If you are comfortable with your student participating in this study, please provide the student assent document and invitation letter. If your student agrees to participate, just simply click the link below to complete a questionnaire about where to email the Zoom link.

The link to participate is https://www.surveymonkey.com/r/BLSZKSW.

If either of you have any questions for me, please do not hesitate to reach out to me. If you do not wish for your student to participate, you need to do nothing.

Thank you for helping us improve the educational experience of our students.

Best,
Shawn Hinds

Appendix J: Student Invitation Letter

Dear graduating senior,

Congratulations! Your graduation marks an important milestone in your life. In addition, it marks an important milestone for the Academies of Lexington. Your graduating class is the first group of students in Lexington to complete an entire course of study in the career academy model.

I would like to invite you to participate in a research study concerning the relationship between career academies and your confidence in your ability to succeed in a career you want to have. I am currently a doctoral candidate at the University of Louisville in the Educational Leadership and Organizational Development program. The principal advisor for this study is Dr. W. Kyle Ingle.

As an administrator in a career academy school and a member of the team that designed Lexington's career academy program, I assure you that this study plays an important role in improving our career academy model. I identified you as a possible participant because you represent an important group: the first graduating class of students from Lexington's career academy high schools. The purpose of this study is to identify if a relationship exists between your participation in a career academy and your feelings about success in a future career choice.

I would like you to participate in a group activity lasting no longer than 2 hours at your high school, Bryan Station. My contact information is shawn.hinds@fayette.kyschools.us or 859-321-4504; I will also follow-up with an email. If you have additional questions for my research advisor, contact him at 502-852-6097. I have scheduled this group activity for one week after your high school graduation. During this activity, you will respond to a series of prompts written on poster paper and then discuss the answers with your peers. As a group, you will determine common themes and rank their importance relative to your experiences in a career academy school.

You may indicate your willingness to participate through email or telephone at the contact below.

Primary investigator: Dr. W. Kyle Ingle, 502-852-6097
Co-investigator: Shawn Hinds, shawn.hinds@fayette.kyschools.us, 859-321-4504

Sincerely,
Shawn Hinds, Doctoral Student

CURRICULUM VITAE

Shawn T. Hinds, Jr.
3396 Blackford Parkway
Lexington, KY 40509
(859) 321-4504
shawn.hinds@gmail.com

Education

Ed.D. Educational Leadership and Organizational Development, Univ. of Louisville, December 2020

Ed.S. Educational Leadership, Eastern Kentucky University, Richmond, KY, May 2017

M.A. Education, Georgetown College, Georgetown, KY, December 2009

B.A. Literature, Roanoke College, Salem, VA, May 2000

Certification

- Rank I Teaching Certification, KY
  - Profession Certificate for Teaching English, Grades 8-12
  - Profession Certificate for Middle Grades English and Communications, Grades 5-9
- Level II Principal Certification
- Superintendent Certification
- Level I Supervisor of Instruction
- Level I Director of Pupil Personnel

Administrative Experience

Academy Coach, Frederick Douglass High School, Lexington, KY — 2017-Present

- Responsible for developing and implementing career-based small learning communities
- Responsible for connecting career education with core content instruction
- Responsible for fostering community, business, and post-secondary partnerships
- Work as part of the Steering committee for the Academies of Lexington

Teaching Experience

English Instructor, Bryan Station High School, Lexington, KY	2009-2017

- Bryan Station High School is a Title I school located in Lexington, KY and serves a predominately minority population with a high level of free/reduced lunch students.
- Writing Program Review Chair, 2014-Present
- Writing Cluster Leader 2011-2014
- English III Team Lead, 2011-2013
- AP Literature Team Lead, 2010-Present
- Curriculum and Instruction Committee Member, 2010-2014
- Courses taught include: English I – 2016-Present, AP Literature and Composition – 2009-16, English III – 2010-14, Reading Intervention – 2012-13, English IV – 2010-11 & 2014-16, English II – 2009-10, Women's Literature – 2009-10

Professional Experience

National Institute of School Leaders	September 2017-June 2018
Director, Bryan Station High School Freshman Academy	May 2016-March 2017
Aspiring Leaders, Fayette County Public Schools	July 2016-April 2017
Hollyhock Center Fellowship, Stanford University, Palo Alto, CA	June 2014-June 2016

- Content-specific professional development for teachers in high poverty schools.

English/Language Arts High School Curriculum Development Team	May 2015-March 2016

- Served as a content specialist focusing on 12th grade language arts as part of the FCPS curriculum development and alignment process for high schools

TPGES Peer Observer	2014-2017
AP Literature Exam Reader, CollegeBoard, Louisville, KY	June 2014-June 2016

- Evaluated and scored the free-response sections of the AP Literature and Composition Exam.

AP Literature Exam Table Leader, CollegeBoard, Louisville, KY	June 2016

KY Teacher Intern Program (KTIP) Resource Teacher 2013-2017

- Provide supervision and feedback for teacher intern during and after classroom observations
- Mentor teacher intern providing support and guidance for teacher intern
- Collaborate with members of the KTIP committee to monitor progress and growth of teacher intern

Supervising Teacher, College of Education, University of Kentucky Spring 2015

- Mentored student-teacher, co-taught classes, supervised curriculum development

Field Supervisor, College of Education, Department of Curriculum and Instruction, University of KY, Lexington, KY Spring 2013

- Supervised education students during student teaching component of the Masters in Curriculum program
- Responsible for field observations and feedback based on KY teaching standards

Regional English Content Coordinator – Bluegrass Region, AdvanceKY, Lexington, KY 2011-2016

- AdvanceKY, an "initiative of [the Kentucky Science and Technology Corporation] in partnership with [the National Math and Science Initiative]" seeks to increase AP enrollment and student achievement among previously unrepresented student populations: minorities, students in rural areas, and students on free/reduced lunch.
- Duties include: mentoring teachers, coordinating conferences for 400+ students multiple times per year, working with the English Program Director to promote the mission of AdvanceKY

AP Literature Mock Exam Reader, AdvanceKY, Louisville, KY 2010-2015

- AdvanceKY provides full-length exams to more than 10,000 students and then provides scoring of those exams. Current table and/or question leaders, as well as current and former chief and assistant chief readers train AdvanceKY readers.

AP English Literature Consultant, AdvanceKY, Lexington, KY — 2009-Present

- Duties include: working with student populations through one-on-one and small group presentations, providing additional time on task through Saturday Student Sessions, mentoring teachers new to Advance Placement, serving as a teacher trainer during AdvanceKY Fall and Summer trainings, score student essays at AdvanceKY Mock Exam

Writing Program Review Board Member, Fayette County Public Schools, Lexington, KY — 2012-2016

- Work in conjunction with the Fayette County Director of Curriculum and Instruction, as well other local teachers.
- Our team reviews the effectiveness of the writing programs at area schools, providing feedback based on the Kentucky Department of Education Writing Program Guidelines for review.

Presentations

Capacity Building: Career Academies and the Development of Student Career Self-Efficacy, Spring Research Conference, University of Cincinnati, Cincinnati, OH — March 2020

The Academies of Lexington: A Business and Education Collaboration, KY Association of School Councils Annual Conference, Lexington, KY — September 2019

A Mixed Methods Case Study of an Academy High School, Spring Research Conference, University of Kentucky, Lexington, KY — March 2019

IFL – Innovations for Learning, FCPS Office of Information Technology, Lexington, KY — June 2017

- Practical examples of the SAMR model – Examples of Technology Integration

IFL – Innovations for Learning, FCPS Office of Information Technology, Lexington, KY — June 2016

- Google Classroom Implementation – How to create a paperless learning environment

The Paperless (English) Classroom, KySTE, Louisville, KY — March 2016

- Introduction to Google Classroom
- Discussion of the struggles and success associated with going completely paperless

Advance Kentucky Saturday Student Sessions

- These 4-hour presentations were given to students in the AdvanceKY grant to provide additional time on task and aid in their preparation for the AP Literature Course and Exam
  - AP English Literature, Poetry & Multiple Choice, Madison Southern HS — February 2016
  - AP English Literature, Poetry, Madison Central HS — May 2015
  - AP English Literature, Poetry, Bullitt Co. HS — March 2015
  - AP English Literature, Poetry, Shawnee HS — April 2014
  - AP English Literature, Poetry, Lincoln Co. HS — March 2014
  - AP English Literature, Prose, Campbell Co. HS — March 2014

Affiliations/Memberships

Kentucky Association of School Administrators (KASA)
Association for Supervision and Curriculum Development (ASCD)
National Council of Teachers of English
National Education Association
Kentucky Education Association