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An Exploration of Career Self-Efficacy, Career Aspirations, and School Performance for Students From Low-Income Communities Of Color

Author

Onyejiji, Ifeanyi

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An Exploration of Career Self-Efficacy, Career Aspirations, and School Performance for Students From Low-Income Communities Of Color

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requirements for the degree Doctor of Education

by

Ifeanyi Chibuikem Onyejiji

2023

ABSTRACT OF THE DISSERTATION

An Exploration of Career Self-Efficacy, Career Aspirations, and School Performance for Students From Low-Income Communities Of Color

by

Ifeanyi Chibuikem Onyejiji

Doctor of Education

University of California, Los Angeles, 2023

Professor Mark Hansen, Co-Chair

Professor Kimberley Gomez, Co-Chair

Students from low-income communities of color face distinct challenges in K-16 schooling and still experience a disparity in educational attainment when compared to other groups. This study centered around the role that career self-efficacy development can potentially play in improving school performance for these students during K-12 education. Data collection for this research occurred at a career academy high school in Southern California which featured students from low-income communities of color. Employing a mixed methods approach, interview responses from two key staff members were collected in addition to survey responses from 145 high school students. The student survey was largely based on the short form version of the Career Decision Self-Efficacy Scale originally created by Taylor & Betz (1983). Student survey responses were compared to the school performance metrics of grades and attendance through a set of

descriptive and inferential statistical analyses. Interview responses underwent an inductive coding analysis.

This study finds that key staff members at a career academy high school perceive a clear rationale for career exploration programming as they find there to be a battle for attention with students and also recognize that students from low socioeconomic backgrounds face a lack of exposure to different career options. Staff members also perceive there to be academic and social benefits to such programming. Analysis of the student survey results revealed that there is a positive association between career self-efficacy components and student GPA. The study also finds there to be stronger insights into a positive relationship between career self-efficacy components and school performance for boys as compared to girls. The results of this study have implications for education policy makers and school leaders around emphasizing and incorporating career self-efficacy development into standard K-12 programming.

The dissertation of Ifeanyi Chibuikem Onyejiji is approved.

Robert Cooper

Cecilia Rios Aguilar

Kimberley Gomez, Co-Chair

Mark P Hansen, Co-Chair

University of California, Los Angeles

2023

DEDICATION

To my fiancé and future wifey, Baaba. Thank you for being there side by side with me on this journey. Thank you for lifting me up and getting me back on my feet when I was tired and overwhelmed. WE did it!

Also, to my family, including Mom, Dad, siblings, and cousins. You recognized this journey that I've been on and given me reassurance throughout the way. Much appreciated.

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VITA

EDUCATION

2010	B.A. Economics University of California, Berkeley Berkeley. California
2014	M.S. Educational Counseling w/PPS Credential National University Los Angeles, California

PROFESSIONAL EXPERIENCE

2014 – 2017	College Counselor Fulfillment Fund Los Angeles, California
2017 – 2019	Digital Learning Operations Manager Fulfillment Fund Los Angeles, California
2019 – 2022	Manager, College Counseling Alliance College Ready Public Schools Los Angeles, California
2023 – Present	Founder/CEO Onye Speaks Los Angeles, California

CHAPTER ONE

STATEMENT OF THE PROBLEM

Educational leaders in this country still need to grapple with the fact that there is a disparity in educational outcomes between urban, low-income students of color and suburban groups in K-12 education (Jeynes, 2015). Urban, low-income students of color students are still more likely to score lower on test scores and have lower high school graduation rates, college enrollment, and college completion rates (Jeynes, 2015; Hyslop & Imperatore 2013). In efforts to rectify this issue and improve outcomes overall, educational policy makers have primarily utilized tools and frameworks that focus on student proficiency in academic core subjects. However, evidence suggests that when schools prioritize the adjustment of instruction approach and format to serve psychological needs of the populations they serve, there are performance benefits for urban students (Hyslop & Imperatore, 2013). Students from these particular demographics face a multitude of obstacles that impact performance and connection to schooling. Career self-efficacy may be an important component in fostering healthy connections to schooling and thus impacting performance. Moreover, there is an entire realm of "soft skills", or skills and knowledge not directly connected to academic core content, that is underemphasized at the policy level.

A closer look into this psychological asset of career self-efficacy can raise this particular soft skill to greater prominence in educational planning which could ultimately increase academic performance. The aim of this study is to learn about the possible association between career-self-efficacy and school performance for students from low-income communities of color. In doing so, this study aims to gather perspectives from both student data and from key staff involved in implementing career exploration programming.

Background of the Problem

Major Education Policies

Past major educational initiatives have prominently featured the use of academic benchmarks to generate equity. In particular, and perhaps the most noteworthy policy in the last several decades, No Child Left Behind (NCLB) based its accountability almost entirely on academic assessments (Dee & Jacob, 2011). Although some would argue that NCLB led to modest gains in achievement in particular grade levels, it did not address the disparity in outcomes between low-income students and other groups (Mathis & Trujillo, 2016). Moreover, the heavy focus on testing, generated questions about the quality of teaching practices that the system was incentivizing.

Eight years after the NCLB's inception, another major academic initiative developed known as The Common Core State Standards Initiative (CC). This voluntary, state led effort outlined a set of academic standards that specify the skills and knowledge students need for college and today's workforce. The goals were similar to NCLB and other assessment driven policies: to improve outcomes and improve outcome equity (Gao & Lafortune, 2019). At one point, over 40 states were implementing the CC curriculum standards. Though some states can point to modest academic and achievement gains due to the standards, outcome disparity remains and the potential for the standards to rectify this gap between low income and underrepresented students and other groups is unclear (Davis, 2019). Thus, several states have already departed and replaced the framework.

In the midst of the roll out of Common Core State Standards, the passing of the Every Student Succeeds Act (ESSA) in 2015 signaled a subtle shift in public school reform strategy. The law supplanted NCLB and gave states more flexibility to choose accountability measures

(Lee, 2020). Like NCLB and CC, the policy still relies on a foundation based on assessments and academic indicators but includes a key shift that may be pivotal for the future. This shift involves the inclusion of non-academic accountability measures. In addition to four academic indicators, the law requires that at least one non-academic metric be used to measure school quality or student success which states can decide on for themselves. Examples of these metrics include college and career readiness, absenteeism, arts access & participation, or discipline rates. Some have lamented the fact that ESSA still incorporates some of the same test-reliant features of NCLB that have weakened its legacy (Mathis & Trujillo, 2016). However, increased flexibility and the inclusion of non-academic accountability factors are signs of an altered approach.

Challenges and Needs of Low SES Students

There appears to be merit in extending school accountability systems to include non-academic factors. The obstacles facing students from low-income communities of color are multifaceted and extend beyond the realm of academia (Berliner, 2013). Students from these communities are more prone to experience a lack of health care, single parent households, less stable and more violent neighborhoods, and food insecurity (Berliner, 2013). These conditions and more compound to create distinct challenges for low-income students of color as opposed to other groups. Such factors create added obstacles and burdens to navigate while also attempting to matriculate through K-12 schooling. Consequently, school improvement strategies that rely solely on standardized achievement assessments do not appear to be effective at reducing performance gaps (Jeynes, 2015). In fact, the potential solutions to these disparities are likely multifaceted and multi-disciplinary (Jeynes, 2015). Undoubtedly, there are sources of inequity that extend beyond the traditional jurisdiction of schools. However, schools can be designed in

ways that anticipate the mental pull caused by real world problems related to low-socioeconomic status and develop programming and strategies to recenter the focus on education.

It would be intriguing to consider what the impact would be if state and federal policies centered the creation of "nurturing" school environments in accountability metrics. Such a focus on accountability may incentivize and reinforce school practices that may not be directly tied to academic standards but are indirectly essential to student achievement. School practices that have supported the level of intrinsic motivation, or self-determination, of students have been shown to produce positive results (Deci & Ryan, 2000). There are performance benefits when students develop their own reasons for school work and school matriculation instead of relying on outside or external motivators (Ryan & Deci, 2020). Thus, school administrators may find merit in developing ways to foster greater student engagement and motivation when studying courses such as algebra, biology or even history. One way to foster this relationship between student and school can be to establish a purposeful connection between school and the tangible outcome of a career or career field. Policy makers could look to the success of innovative school structures for more insights on improvement strategies. Career academies are one example of innovative school structures. These school structures may highlight the role that career self-efficacy plays in primary and secondary schooling.

Career Academies

Career Academies were first introduced over 30 years ago and have since been an effective school reform strategy to engage and motivate students most at risk of not completing schooling (Institute of Education Sciences, 2015). Typically, students in career academies take a mixture of both academic and career focused coursework. Students can potentially gain work experience through school and business partnerships. Many career academies divide the school

into small learning communities (SLC) delineated by career themes, which creates a school-within-the-school structure. Career themes can include fields such as medicine, finance, technology, communications, and public service.

Studies have found performance benefits of incorporating career academy school structures—particularly for urban students. Elliot et al. (2002) compared the outcomes of 18 cohorts of students in career academy programs from major urban districts across the country, with the outcomes of what would have been expected from the same students in general academic programs. The research demonstrated that the presence of career academy structures could be linked to pivotal indicators: higher grade point averages, attendance rates, and graduation rates (Elliot et al., 2002). This large-scale study displays the potential impact that these school structures can have for students from urban and low-income communities. Career academies have also been linked to higher college attendance rates for male students (Hemelt et al., 2019). In addition, with their inclusion of SLCs, career academies have been seen to increase emotional engagement between student and school, or a sense of belonging (Fletcher et al., 2020). The promise shown by career academies and career curriculum programs highlights a greater need to understand how pivotal it is for students to identify an ultimate purpose for their education. Fostering a healthy level of career-self efficacy may play an integral role in fostering a connection to schooling and thus impacting school performance.

Focal Issue

Career self-efficacy stems from Bandura's (1977) Self-Efficacy Theory, which highlights the power of positive belief. Self-efficacy refers to a person's belief that one can successfully perform a task or behavior. This concept has been applied to the career development/identity process in the form of a concept called career self-efficacy (Betz & Taylor, 1983). Career self-

efficacy serves as an umbrella term to describe one's belief in the ability to develop a wide set of behaviors related to career identity, obtainment and performance (Lent & Hackett, 1987). My study seeks to determine if this particular type of "self-belief" is associated with school performance. It seems apparent that such an association could motivate a greater emphasis on career development skill planning for schools of all formats. Furthermore, the positive benefits of career academies suggest that they can be helpful in encouraging students to build connections to school.

When analyzing the typical approach to educational reform, it appears that educational policy makers frequently find themselves tinkering over the "what" of schooling. This "what" consists of the prescribed knowledge that K-12 students ought to know and by when. However, there may be merit for school improvement strategies to emphasize the "why" of school. Meaning, *why* should students prioritize algebra, biology or nuances of English when other real-world dilemmas may overwhelm the consciousness? Career self-efficacy may be a pillar in establishing this connection. Career self-efficacy has already been shown to be associated with positive outcomes after high school. Students with high levels of career self-efficacy tend to have less career indecision and also higher college persistence rates (Peterson & Delmas, 2001). Career self-efficacy may be linked to benefits in the K-12 setting as well.

Gaps In Research

While there is research highlighting the impact that career self-efficacy can have on career outcomes and college persistence, there is less research drawing a direct connection between career self-efficacy and performance in primary and secondary school. There appears to be a research gap in describing how one's career outlook or career decision development may be

connected to engagement and performance in the classroom. This connection may illustrate the "real time" benefits of a student's career self-efficacy.

Statement of Purpose

The purpose of this study was to help illuminate the impact that career self-efficacy has on students in a K-12 setting. Essentially, my study sought to determine the potential relationship between career self-efficacy and school performance for low-income students of color. Such a relationship can elevate the need to help students find a connection to school and coursework. It could also shift school improvement strategies closer to centering on psychological needs and intrinsic motivation and further away from an over-reliance on test-centric or core academic based strategies.

In addition, my study sought to determine if there is a relationship or association between a student's career aspiration and their current performance in secondary schooling. For example, students who intend to pursue STEM (Science, Technology, Engineering, & Math) careers may be associated with higher GPAs then students who are pursuing careers that require less college or no college at all. Any significant association between indented career path and school performance can further elevate the role that career identification and career-self efficacy play in secondary schooling.

Research Questions

1. What do key staff at one career academy high school perceive as the rationale, goals, and benefits of career exploration programing?
2. Among career academy high school students from low-income communities of color, what is the relationship between career aspirations, career self-efficacy, and school performance?

Overview of the Research Design

My study incorporated a mixed methods design to answer the two research questions. For the first research question, I conducted semi-structured interviews with key staff at a career academy high school in Southern California. I define key staff as school members who play a central role in overseeing or implementing career exploration programming. For my second research question, I relied largely on a student Career Self-Efficacy Survey. This survey featured the short form version of the Career Decision Self-Efficacy Scale (CDSES) instrument which measures students' self-belief in their abilities to complete steps necessary for career decision making (Betz et al., 1996). Student survey data was matched with school performance data to perform descriptive and inferential statistical analyses. These analyses were able to examine the relationships between the study variables.

Site Selection

My study is centered around high school students from low-income communities of color. The study was conducted at a high school site with students of this demographic, a career academy high school called Career Charter (pseudonym) located in Southern California. In addition to a suite of core academic curriculum, Career Charter offers students the opportunity to complete courses that follow a career technical education (CTE) pathway in several career domains such as engineering, finance, and medical sciences. Although the structure at this particular high school site may not reflect the conditions of all other urban high schools, the key element of focus for this study centers on the relationship between career self-efficacy, career aspirations, and key school performance metrics such as grades and attendance. There may be other schools that do not classify as career academies that may be interested in or are already implementing some elements of career exploration programming. This psychological asset of

career self-efficacy, or career confidence, can be measured in students regardless of the structure that their school takes on. Insights into the relationship between these variables at this site may generate plausible inferences at schools with other formats.

Study Significance

My overall findings shed crucial light on this "soft skill" of career self-efficacy and on how it relates to school performance in high school. As noted in this chapter, the academic performance of K-12 students continues to be a pressing concern at state and federal levels. In the pursuit of school improvement, policy makers have focused heavily on establishing academic mastery expectations, as well as on testing systems to ensure compliance. However, students from low-income communities of color benefit from holistic supports as well as from efforts to build connection to schooling (Jeynes, 2015; Elliot et al., 2002). In addition, career self-efficacy has been linked to college and career long benefits (Peterson & Delmas, 2001). This study finds that there is a connection between career self-efficacy components and immediate or current scholastic performance. This suggests that there should be interest alignment for those concerned about student outcomes after high school and those concerned with student performance during K-12 schooling. The association between the variables may encourage schools to further explore methods of supporting the levels of career self-efficacy in their student body. Such practices may even be incorporated into accountability systems as a necessary methodology to support students' short-term and long-term success. Also, this study sought to uncover nuances that may help tailor certain strategies and activities toward certain students when aiming to increase motivation or school performance overall. This study revealed that there may be strategies that may be more impactful at improving outcomes for male students as opposed to female students. Furthermore, the measurable association between the variables in this study may inspire deeper

research into other psychological assets, motivators, and soft skills, to determine their connection to not only healthy student development, but to performance and engagement in the classroom.

CHAPTER TWO

LITERATURE REVIEW

In efforts to generate greater parity in educational outcomes in the U.S., policy makers have historically primarily focused on creating academic core standards and establishing accountability systems that are based on grade level assessments. However, the challenges facing students from low-income communities of color are multifaceted and systemic, which may require more holistic solutions. Policy makers may look to innovative school structures such as career academies for ideas on how to engage and equip students from diverse backgrounds. Psychological elements play a role in how students approach school and future planning. Career self-efficacy may play a role not only in future career and college major selection outcomes, but also in K-12 schooling engagement and performance outcomes.

In order to fully detail the relevance of this study, this literature review provides the broad context in which it resides. It first reveals the systemic, historic, and holistic challenges that students from low-income communities of color face on the path to educational attainment. In doing so, the goal is not to suggest that the subsequent study offers solutions to each dilemma, but instead I seek to clarify that the factors involved in the current predicament are complex. Next, the review dives into motivational theory and discusses its connection to school improvement strategy. This is followed by an inspection of the career academy school improvement strategy, and what the research shows about the effects these school structures can have on student performance Finally, this chapter explores career self-efficacy and its connection to student outcomes. I end the chapter with an explanation of my conceptual framework and how it guides my study.

Background and Systemic Challenges of Low SES Students

It is important to illuminate any apparent disconnect between major federal educational policy and the true sources of educational disparity between low-income communities of color and other groups. Thankfully, this disparity or gap has indeed narrowed in key areas over the last couple of decades. For instance, from 1992 to 2017 the U.S. White – Black gap in 4th grade reading achievement scores narrowed from 32 points to 26 (Brey et al., 2019). In that same time frame, the White – Latinx 8th grade reading achievement score gap narrowed from 26 points to 19. However, the White – Black 8th grade reading achievement score gap stood unchanged at 32 points over this 25-year span, and the White – Black 8th grade math achievement score gap stood still at 32 points (Brey et al., 2019). These disparities in primary schooling performance project to have lifelong consequences for the students involved (Barton & Coley, 2010). However, there have been improvements in high school graduation rates for both Black and Latinx students in the last couple of decades (Brey et al., 2019).

That being said, race and income continue to be predictors of school performance (Brey et al., 2019). Black and Latinx students are more likely to live in low-income neighborhoods and deal with many challenges related to low socioeconomic status. Compounding these effects is the reality that low-income students of color are more likely to attend schools with a high percentage of other low-income students. In 2013, 43% of Black students and 40% of Latinx students attended schools with high poverty rates. This is compared to just 7% percent of White students who attended similar schools (Brey et al., 2019). Schools with higher concentration of low-income students tend to have lower overall academic performance (Berliner, 2013).

In the midst of these challenges related to socioeconomic status, this country's complex history with racism adds another layer of distinct challenges for low-income communities and

the many students of color that inhabit them. The foundational pillars of education, like all other institutions in this country, were originally built to favor the White majority at the expense of communities of color (Lopez, 2003). The legacy and continued presence of institutional racism continue to impact how some students of color approach the institution of schooling. Research has suggested that this impact is potentially manifested in a variety of ways from a desire to resist all structures that were originally designed to marginalize people of color, to perceiving a requirement to sacrifice one's culture in exchange for achievement or progression through academic channels (Tabron & Chambers, 2019).

Given these wide reaching and systemic challenges facing low-income students of color, it is apparent that educational practitioners and policy makers may not have all the tools and influence necessary to rectify all issues related to low socioeconomic status and legacies of racism. However, educational institutions do have the capacity to either dampen or strengthen efforts for greater parity. Unfortunately, the reality is that traditional schools have not always been supportive and nurturing environments for students from low-income communities of color. Aside from scholastic performance, it appears that students of color are forced to spend more time out of the classroom due to in and out of school suspension. In 2014, by a wide margin, Black students had the largest percentage of students who had received one or more out of school suspensions than any other racial/ethnic group; 13.7% of Black students received at least one out of school suspension in that year, compared to 3.4% of White students (Brey et al., 2019). Contributing to this disparity is the fact that students of color tend to be disciplined differently for similar infractions and at higher rates than their White counterparts (Howard, 2016). Also, school systems have often been conditioned to view behaviors of non-conformity or signs of trauma as acts that require extreme repercussion particularly when they originate from students

of color. These conditions limit the opportunity and will for students to prepare for college attainment.

Regarding this college attainment, it is also evident that students of color are not receiving the necessary coursework in primary and secondary schooling to prepare them for academic advancement and college. In a report published by Patrick et al. (2020), the research team found that students of color are less likely to be enrolled in advanced courses than their counterparts. The report cited several factors contributed to this reality including teacher implicit or explicit bias when recommending students for advance courses, assessment test cultural bias, and lack of educator diversity which further contributes to recommendation inequities. Importantly, this under enrollment is present even when controlling for previous coursework. Also, students of color perform just as well as their counterparts when given the opportunity to enroll in coursework that would better prepare them for college (Patrick et al., 2020). Thus, our school systems have been implicitly and explicitly barring students of color from the means to educational advancement.

Therefore, students from low-income communities of color face many challenges and obstacles on the path towards educational achievement. Remedies to this situation may entail more than just establishing academic benchmarks and testing for proficiency. The evidence suggests that schools ought to be intentionally nurturing, especially for students from low-income communities of color. It also implies a need to be proactive when encouraging a connection to schooling. Although our education system may not be able to counteract all symptoms related to low socioeconomic status, leaders and policy makers ought to consider these unique challenges when implementing improvement strategies.

Motivational Theory – Self Determination Theory

This study focuses on career self-efficacy and its influence on school performance. However, it is important to explore the realm of motivational theory as it may contain insights into why career academies and the psychological element of career self-efficacy, may play a role in student performance. I will center the motivational theory discussion on the components of Self-determination Theory (SDT), which was established by Drs. Edward Deci and Richard Ryan of the University of Rochester. The theory asserts that students perform better and are more creative when they are intrinsically motivated or self-driven (Deci & Ryan, 2000). The theory also implies that there are times when outside forces can damage this self-drive in a child (Deci & Ryan, 1985). With regards to high school students from low-income communities of color, these outside forces can take the form of teachers, administrators and even parents.

According to SDT, there are three factors that lead to healthy mental development: *Autonomy,* which means self-regulated (Deci & Ryan, 1985); *Competence*, which means mastering challenges and possessing the belief and will to expand one's capacities (Ryan & Deci, 2020); and *Relatedness,* which means feeling significant to others and experiencing a sense of belonging (Deci & Ryan, 2000). According to SDT, these three factors determine the strength of a person's intrinsic motivation or self-drive. Importantly, intrinsic motivation is a stronger catalyst for school performance than extrinsic motivation is or behaviors that are inspired by external rewards or punishments (Deci & Ryan, 2000).

Since its inception, the elements of the SDT have informed many models of instruction, such as the Self-Determined Learning Model of Instruction (SDLM; Wehmeyer et al., 2000), which teaches students to be problem-solvers and encouraged self-regulation. Over the years,

more and more schools have implemented school structures that feature alignment with SDT principals.

With regards to the pillar of *relatedness,* Small Learning Community (SLC) high schools have attempted to give youth a greater sense of belonging. After Congress allocated funding for the creation of Small Learning Communities for larger high schools in 2000, the concept has gotten traction. Whether through group cohorts, career academy programs, schools within schools, keeping teachers with same students, or magnet programs, these communities help "shrink" the school for each student and allow them to feel a better connection with their classmates and teachers (U.S. Department of Education, 2001).

When it comes to developing students' sense of *autonomy* and *competence*, individual instructors can play a significant role. According to Deci and Ryan (1985), at times it is the direct outside forces of the child that will determine whether a student will grow or diminish in self-determination, and it is often better for teachers to encourage rather than instruct and better to give positive reinforcement than negative reinforcement. The theory has implications on what more schools could be doing today to boost student performance.

Research has supported the theories regarding the benefits of intrinsic motivation on performance. Froiland and Worrel (2016) analyzed the association between intrinsic motivation to learn and school factors such as learning goals, behavior engagement, and academic performance for 1,575 students at a racially diverse high school. They found that intrinsic motivation to learn was directly positively associated with behavior engagement and thus indirectly positively associated with learning goals and academic performance. Importantly, this relationship held when the analysis was conducted just for the 647 Black and Latinx students in the study. Other studies have focused on particular elements of SDT for research. Adams and

Palmer (2017) focused on the element of *autonomy* or self-regulation. Their analysis showed that students in schools with self-regulatory climates and students who experience autonomy-supportive classroom instruction had higher average reading growth than other students.

These studies—and the overall discussion on SDT—highlight the value of altering instruction or school format to serve the psychological health of students. Primarily, these instances focus on the benefits of cultivating student intrinsic motivation for schooling and thus fostering deeper learning and improved performance. Despite the evidence, there remains a lack of emphasis of these psychological assets at the policy level, a reality that was noted and lamented by Deci and Ryan (2020). Furthermore, while the evidence reveals performance advantages for schools and classrooms that align with student needs as outlined by SDT, there are other related psychological assets and motivational strategies that warrant further study. Career academies unveil another motivational strategy of note.

Lessons From Career Academies

Career Academies are entities that fall under the broad discipline of Career Technical Education (CTE). The general goal of CTE programs is to provide academic knowledge along with technical and occupational skills related to a career path. Though the composition of such programs can vary, career academy school structures tend to take on a similar form. In addition to the formation of small learning communities within the school, career academies still seek to emphasize a core college preparatory curriculum while attempting to provide exposure to broad career themes. This inclusion of a full college prep curriculum should distinguish it from a more streamlined CTE program that one may find at a community college. In career academy high schools, the goal is to provide career exposure through CTE coursework and community partnerships while still incorporating a suite of standard core academic classes. This feature is

pertinent to my study, as it would appear feasible for traditional schools to incorporate certain elements of career academy structures if they believed there would be benefits to academic performance and student career self-efficacy.

As mentioned in Chapter One, it has been found that career academies and career education programs can produce performance benefits. In an early meta-analysis of 67 studies on the impact of career education programs on academic achievements, Evans & Burck (1992) found positive benefits to implementing these features in school structures and curriculum. The research analyzed studies focusing on a range of grade levels from 1st through 12th and produced findings that have potent ramifications for education and policy leaders. One of these conclusions was that the increase in academic performance due to career education programs was greater when the components were fused with the standard curriculum. Also, the study found the impact to be larger for elementary students. Finally, the study found additional benefits when the programs were sustained over a greater period of time; for example, those in their second year of career education programming experienced greater benefits than those in their first.

In addition to findings such as this, other studies have focused on particular elements of career academy schools. Though the extent to which a career academy connects students to real professions can vary significantly from school to school, career academies can activate positive motivators for school success through business and community partnerships. Scales et al. (2005) emphasize an essential point as they state that "students need more than academic instruction to succeed in school" (p. 145). The study found a strong correlation between exposure to business partnership activities and healthy or productive decision making. These business partnership activities included items such as discussing careers while connecting it to academic subjects,

hearing a businessperson make a presentation, visiting a business on a field trip, and having a business person as a mentor. Higher levels of participation in events such as these were found to be negatively correlated with risk behaviors such as alcohol use, school problems, and violence. Participation was positively correlated with thriving indicators such as resisting danger and valuing diversity and self-reported school outcomes such as improved schoolwork, discussions about college with teachers, and plans to go to a 4-year college. This study reveals the added benefits of extending career-oriented curriculum into human interaction and mentorship with working professionals.

The benefits of these activities and structures appear to extend into the long term. One report focused on the long-term impact of career academy participation. Kemple and Willner (2008) analyzed the outcomes of students from nine career academy programs across the country located in urban school districts. These career academy programs followed the recommended career academy structure as similarly described earlier in this section. The students of these school comprised of a high percentage of Black and Latinx students as well as of students from low-income backgrounds. By utilizing a control group consisting of students from similar demographics who were not receiving career academy programming, the researchers were able to compare outcomes at eight years after the students' high school graduation date. Although the study found there to be no significant difference in educational attainment between the groups, students in career academy programs were found to have statistically significant higher annually earnings when compared to the control group. Career academy alumni were found to have average annual earnings that were $2,460 higher, with most of this increase occurring for male students (Kemple & Willner, 2008).

When diving deeper into the composition of career academies and outcomes, it appears that Self Determination Theory (SDT) supports several practices contained in these school structures. The existence of small learning communities or cohorts can help foster feelings of *relatedness* or connectedness as outline by SDT. Also, if students are allowed a choice as to which career academy theme they want to pursue, this could potentially encourage conditions of *autonomy*. Finally, if students are given the opportunity to experience success or growth in relation to a career field, this could illicit feelings of *competence.* Along these lines, there are other psychological elements or avenues that are worthy of study. It is important to consider other ways in which career academy structures impact the internal motivation of participating students. In particular, there is a lack of thorough research connecting a student's internal sense of belief in their ability to acquire and display career decision skills to their academic performance in a high school setting.

Career Self-Efficacy

Career academies appear equipped to support students' abilities around career identification, obtainment and performance. These concepts form the foundation of career self-efficacy. Stemming from Bandura's (1977) foundational work on general self-efficacy, or the power of self-belief, the concept of career self-efficacy was first introduced by Hackett and Betz (1981). The two researchers were studying the plight of women entering the labor market and noted that some women were lacking the necessary self-efficacy with regards to career-related behaviors and were failing to reach their potential as a result (Hackett & Betz, 1981). The pair postulated that these women lacked access to the necessary sources and conditions for healthy self-efficacy development. Although this seminal work focused on women, it alluded to the importance of this psychological asset for all individuals.

Self-efficacy and career self-efficacy play a key role in anticipating behavior, engagement, and overall outcomes. As outlined by Bandura (1977), efficacy can determine the likelihood that a behavior will be initiated. Importantly, it can also persuade how much effort will be put forth towards a goal and also the likelihood that certain behaviors will persist when faced with obstacles or adversity. According to the theory, the development of self-efficacy is influenced by four major components: *performance accomplishment*, or experiencing successful performance of the behavior in question; *vicarious learning,* or seeing others model behavior; *verbal persuasion*, or encouragement; *emotional arousal*, or the relationship between the behavior and feelings of anxiety (Taylor & Betz, 1983). It is worth noting that these are all issues that ought to be of concern to schools and all practices that potentially can be implemented at the school level.

As Taylor and Betz (1983) continued to refine the notion of career self-efficacy, they introduced the Career Decision Self-Efficacy Scale (CDSES) which has become a pillar instrument (Luzzo, 1993). The scale borrows its foundation from Crites's (1961,1978) work on career choice competencies and model of career maturity. This instrument was designed to measure a person's level of career decision self-efficacy across five domains: (a) accurate self-appraisal, (b) gathering occupational information, (c) goal selection, (d) making plans for the future or planning, and (e) problem solving. The instrument is comprised of 50 items in total—10 items per domain. Responses are scored on a Likert scale ranging from 0 (no confidence) to 9 (complete confidence). Each domain possesses a maximum score of 90, making the maximum overall score 450. Higher scores imply higher levels of career self-efficacy. The CDSES has been found to have internal consistency values ranging from .86 to .89 for the five domain subscales and .97 for the overall score (Guadron, 2011).

Betz et al. (1996) developed the Career Decision Self Efficacy Scale Short Form, which reduced the number of items per domain from 10 to 5 (and the total number of items from 50 to 25). This version maintained a 10-level Likert scale to measure confidence. Finally in 2005, this short form version was abbreviated further to a 5-level Likert Scale measuring confidence (Betz et al., 2005). The short form version of the CDSES was still found to maintain high reliability and validity (Guadron, 2011). Internal consistency values on this version of the instrument range from .78 to .87 for the five subscales and was .95 for the total score (Betz et al., 2005). Both versions of the survey have scored well in terms of validity when compared with other tools that measure career choice and development (Guadron, 2011).

Since its inception, career self-efficacy and the CDSES have been primarily used to assess vocational patterns and decision making. In the same study that birthed the creation of the CDSES, Taylor and Betz (1983) sought to gauge the association between career self-efficacy and career indecision. Using the newly created career self-efficacy scale, the pair of researchers compared scores on this survey with scores on the Career Decision Scale, which was designed to measure vocational indecision (Osipow et al., 1976). In a sample of 346 college student students, the study found levels of career self-efficacy to be strongly and negatively related to career indecision. The researchers also compared scores on the CDSES with the scores on the SAT and ACT college admission tests. In this analysis, the study found the relationship between these variables to be small and generally nonsignificant.

Despite this brief foray into the K-12 space with the usage of admission test results, subsequent studies on career self-efficacy have primarily centered on outcomes that occur after high school. Soon after this seminal work, Lent et al. (1984) studied the relationship between career self-efficacy and the factors of college academic success and persistence for

science/engineering students. Using a different self-efficacy scale designed for technical and scientific occupations, the study found that students with higher self-belief achieved higher grades and greater persistence in science and engineering majors. In another study, Peterson and Delmas (2002) found that career self-efficacy contributed to the academic social integration of nontraditional, underprepared college students. Since academic social integration was found to influence college persistence, career self-efficacy was found to be connected to persistence as well.

Some studies have tested intervention programs designed to impact career self-efficacy, in addition to gauging the effects of increased career self-efficacy. Komarraju et al. (2014) performed this endeavor as they set out to gauge the effectiveness of an undergraduate Careers In Psychology course. This particular course included assignments on career self-exploration, resume creation, future planning, and interviewing professionals in the field. It also included internship opportunities. The study found that participation in this course did, in fact, increase career self-efficacy. The researchers additionally found that career self-efficacy held a significant positive relationship with course satisfaction, major satisfaction, and importantly, self-determination.

These examples provide evidence of the positive associations and outcomes that can occur with high levels of career self-efficacy, particularly as one moves closer to obtaining a career. However, the benefits of this psychological asset have received little attention within the K-12 setting, particularly among low-income populations of color. For even though Taylor and Betz (1983) examined relationships between career self-efficacy and SAT and ACT scores, there are many other outcomes of interest to K-12 administrators and policy makers alike. GPA paints another picture of a student's engagement and performance. A student's GPA could presumably

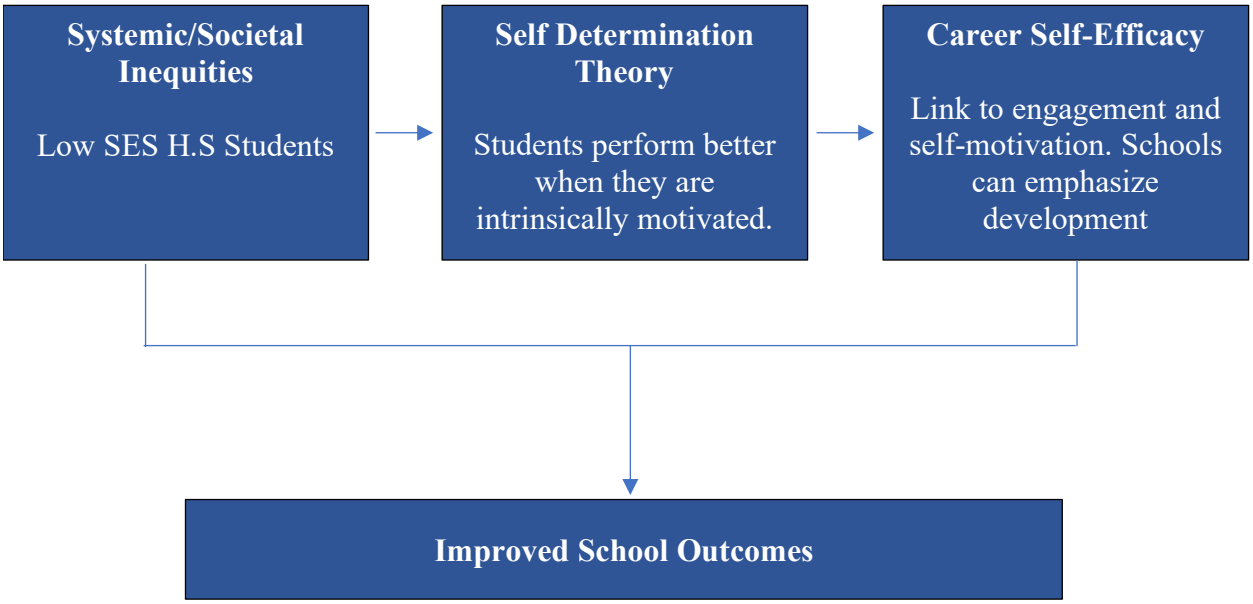
represent a multitude of student factors such as aptitude, engagement, attentiveness, motivation, and presence or attendance. As current K-12 accountability structures may not always allow local administrators to target future benefits of their student body when faced with current priorities, further clarity on the real time benefits of career self-efficacy can shed more light on its impact and significance.

Conceptual Framework

A central premise for this study is the reality that students from low-income communities of color face distinct challenges on the path to educational attainment. Some of these challenges originate outside of the school, while some reside within (Berliner, 2003). These students may have a multitude of obstacles to contemplate while navigating school. There are reasons to believe that students can benefits from strategies to increase connection to schooling (Jeynes, 2015). Also, it is important that students draw their own meaning and purposes for school work. Thus, a pivotal framework for this study centers on Self-Determination Theory (SDT). As the theory indicates, students perform better when they are intrinsically motivated (Deci & Ryan, 2000). Schools may be able to create conditions that generate greater intrinsic motivation for schooling. One such effort centers around career self-efficacy. Student's career self-efficacy—or the belief in their ability to acquire a wide set of behaviors related to career identity, obtainment and performance—may bring about greater intrinsic motivation and connection to schooling. These elements may be associated with better school performance. This framework will guide my study as it seeks to determine the relationship between a student's sense of career self-belief and their school performance. Figure 1 illustrates this framework.

Figure 1

Career Self Efficacy as a Means to Connection



Conclusion

The obstacles and barriers affecting students from low-income communities of color, are multifaceted and complex. Effective school improvement strategies may encompass multiple components and strategies to combat these obstacles. Part of the solution package can be experiences that impact the career self-efficacy of students. This element may be connected to real-time performance in the secondary setting and thus worthy of greater emphasis.

CHAPTER THREE

METHODS

My study focuses on educational outcome disparities in our schools and the strategies that are employed to rectify them. In efforts to rectify inequities and improve outcomes overall, educational policy makers have primarily utilized tools and frameworks that focus on student proficiency in academic core subjects. However, there may be indirect solutions to this dilemma. Evidence suggests that when schools prioritize the adjustment of instruction approach and format to serve psychological needs of the populations they serve, there are performance benefits for urban students (Hyslop & Imperatore, 2013). Career self-efficacy may be a psychological element that plays a role in how students engage with school and perform.

My study solicited the perspectives of key staff members involved in career exploration programming implementation and examined the relationships between a student's reported level of career self-efficacy, their intended career field, and their school performance.

Research Question

1. What do key staff at one career academy high school perceive as the rationale, goals, and benefits of career exploration programing?
2. Among career academy high school students from low-income communities of color, what is the relationship between career aspirations, career self-efficacy, and school performance?

Design Rationale

My study used a mixed methods design to answer the two research questions. For the first component of the study, I conducted semi-structured interviews with two Career Charter staff members who were knowledgeable and played an intricate role in career exploration

programming. This process allowed me to gather perspectives and input from people charged with orchestrating this programming. Their insights brought clarity to the perceived rationale for implementing activities such as these and into what benefits are perceptible.

For the second component or research question, I compared student responses on a career self-efficacy survey with their GPA and attendance records to examine the relationships between the study variables. This data collection and analytic process allowed me to reveal student perspectives. Utilizing both qualitative and quantitative methods allowed me to understand the thought process that goes in to developing career exploration programming for students from low-income communities of color, while also dissecting trends in student data for any poignant associations or takeaways.

Study Site

My study is centered around high school students from low-income communities of color. These students often face distinct challenges and obstacles on the path to educational attainment. It was important that my study site contained students from this intended demographic. The study was conducted at a public charter high school in Southern California named Career Charter (pseudonym). The school operates in a career academy format. This school site allows students to select CTE pathways in the domains of engineering, finance, information technology, law & diplomacy, and medical sciences upon enrolling at the school. In addition to a standard general curriculum, students have the opportunity to take career themed electives related to their chosen pathway throughout their high school tenure. The school also provides career exposure through experiential learning field trips to professional work locations and the campus hosts events such as career fairs. There are also opportunities for students to be

referred to work internship programs, but staff report that only about 10% of students take advantage of this opportunity when it is presented.

Career Charter's total enrollment is about 400 students. On this campus, 94% of the student body is considered socioeconomically disadvantaged, including 84% of students who qualify for free or reduced-price meals. The campus also consists of 99% students of color. Students have access to laptops on this campus, which made it feasible to implement a digital student survey.

Site Access

With regards to access for my study, I was introduced to the CEO of the charter school network and the principal of the study site by a personal friend and colleague. I informed these leaders of the merits of my study and explained the reasons for my desire to perform the study at this particular site. The school leaders agreed to allow the study to take place at Career Charter. I was then introduced to another member of the school administration who would facilitate access to staff and students for the study. This administrator indicated key staff on campus who would be suitable interview candidates for my study. After reviewing the components and features of my student survey instrument, the school administrator took interest in the potential raw results the survey could garner. After subsequent discussions, the administrator and school leadership agreed to take ownership of the student survey instrument and its dissemination. The school would find use and value in assessing the raw data. Data would later be provided to me in an anonymous fashion as a data release.

Sample Selection

For the staff interviews, I conducted purposeful sampling. I sought after staff members who had an intricate knowledge of the school's career academy components and career

exploration programming activities. I presented these desires to a school administrator who, after a discussion, identified two staff members who met my desired criteria. From there, I was able to approach the two staff members and provide them with a verbal overview of my study as well as an information sheet for them to review. I mentioned to both individuals that I would provide a $25 Amazon gift card to my survey participants after completion of the interview. Both staff members were willing to participate in my study after hearing its merits and reviewing the information sheet. One staff member was a school administrator in charge of operations, while the other was a teacher that was in charge of two of the career academy departments on campus.

I also collaborated with school leadership to ensure that the dissemination of the student Career Self-Efficacy Survey produced an appropriate sample for statistical analysis. Early on, the goal was to gain participation from students in multiple grade levels. It was also an aim to survey students from a wide range of GPA outcomes. After deliberation, a mutual agreement was reached to implement the student survey during advisory classes. At Career Charter, every student in every grade has an advisory period. These periods featured students from a variety of GPA levels. The survey was introduced to advisory teaching staff as an instrument to help measure student career confidence and career self-efficacy levels. The goal was to present the survey to all students in all grades in the school. School leadership mentioned that the school had previously rolled out surveys to students in the past and 100% completion would not be expected. With the school assisting the roll out of the survey, I expected a completion rate of about 45%.

Data Collection

Data was collected from multiple sources for this study. For the qualitative component,

two key staff members were interviewed to share their perspectives on the programming designed to impact career self-efficacy. The interview protocol questions can be seen in Appendix A. These semi-structured interviews took place in-person at the school and lasted about 40 minutes each.

Data collected for statistical analysis had multiple elements. The centerpiece for quantitative data collection revolved around the full Career Self-Efficacy Survey found in Appendix B. This questionnaire featured the Career Decision Self Efficacy Scale (CDSES) Short Form version (Betz et al., 1996), along with additional questions related to career identity and programming. The CDSES aims to measure a student's career self-efficacy, or belief in their ability to develop a wide set of behaviors related to career identity, obtainment and performance (Lent & Hackett, 1987). The scale in its short form has a total of 25 questions that measure student confidence on a five-level Likert scale. Confidence scores are added up and divided by 25 to generate an overall CDSES score which ranges from one to five. The instrument also includes five subdomains of career self-efficacy, also ranging from one to five. In each case, a higher score reflects a higher level of reported confidence. As this survey has primarily been used on scholars who are past high school age, I have adjusted certain questions on the survey to add clarity for my intended demographic (Taylor & Betz, 1983). For instance, for survey items centered around selecting a major, I made efforts to specify that these questions are referencing future forecasting for college. I also replaced "occupation" with "career" in certain instances to reflect common adolescent vernacular.

In addition to the CDSES, the full Career Self-Efficacy survey also asked questions centered around particular career identifications. Students were asked if they had made a decision on the career field they would like to pursue. If student participants answered "yes" to

this question, they were prompted to select their particular career field of interest from a list of career categories largely derived from the U.S. Bureau Labor of Statistics (see Appendix B, Question #28). Participants were also asked to indicate the factors or people that have had influence on their intended career field choice.

The survey was implemented by Career Charter advisory teachers. In total, the Career Self Efficacy Survey was meant to take approximately 15-20 minutes to complete for each student while using school provided laptops.

Apart from these self-reported sources of data, my research question called for analysis of school performance data. Career Charter matched student survey results with performance metrics from the school's learning management system. In this way, the school provided me with an anonymized datafile that included the survey responses, GPA, and attendance records.

Data Analysis

Data analysis for this study involved the coding of responses from two semi-structured interviews and the use of descriptive and inferential statistics to examine the relationships between the variables in the study. The transcribed responses from the semi-structured interviews underwent an inductive coding analysis. The individual perspectives were analyzed for themes as they relate to concepts directly related to the research question and also to ones that are tangent to them and relevant to K-12 school programming overall. Importantly, the analysis of these interviews provides a bird's eye view of the connections between the study variables; these connections may be manifested by the statistical analysis.

The statistical analysis of this study involved the pairing of quantitative variables with other quantitative variables, as well as the pairing of quantitative variables with nominal (categorical) variables. Associations between quantitative variables were examined using

Pearson's correlation coefficient (*r*). This *r* would indicate the nature and strength of the relationship between the variables. Associations between quantitative and nominal variables were examined using one-way analysis of variance (one-way ANOVA) and effect size η^2. The statistical significance of the results was assessed using a threshold *p*-value of .05. The p value determined the likelihood that a resulting association was simply a matter of chance and not reflective of a real relationship.

To examine whether the relationship between career-self-efficacy and academic achievement is moderated by gender, I fit a series of linear regression models with career self-efficacy, gender, and the interaction (product) of career self-efficacy and gender as independent variables and GPA and absences as dependent variables. The estimated coefficient for the interaction term was examined, along with *p*-value of the *t*-test of that coefficient.

The comparisons between career self-efficacy or school performance and intended career field required a different statistical approach. Here, a quantitative variable (career self-efficacy or school performance, measured by grades and attendance) was compared to a nominal variable (students' intended career field). I used a one-way analysis of variance (ANOVA) to determine if there were statistically significant differences in the means for the quantitative variables (career self-efficacy, grades, or absences) based on the indented career field a student had chosen. If the ANOVA yielded an overall *p* value of <.05, post hoc tests were used to examine the mean differences for each pair of intended career fields. An ANOVA test was also used to check for mean differences based on whether or not a student had settled on a career field (regardless of the field). Prior to running the statistical analysis, I grouped similar career fields into buckets to ensure that there were not any career fields with two few selections to be used in the analysis.

Positionality

During the data collection process, my main positionality was that of a doctoral student researcher seeking assistance for a research study. I had no prior working relationship with the staff members at the intended school site. The research topic incorporates concepts and populations that are connected to my identity and employment history. I identify as a first generation Nigerian American, a Black man, and as someone who grew up in a low-income community of color. I have first-hand knowledge of some of the obstacles and challenges faced by the communities featured in this study. I have also spent the majority of my professional career supporting K-12 students from these demographics through counseling, mentoring, and resource creation.

Ethical Issues

It is important that my research study does not harm student or staff participants, nor the school site in general. On that note, it was important that the school and all participants in the study not be identified in the study write up. The school repurposed the student survey instrument as a tool to help them view student career confidence levels. I did not introduce any consequences and/or rewards for student survey completion. The datafile I received from the school did not include student identifiers. Staff interview participants are not identified in this study.

Validity and Reliability

There are several aspects of my research that I paid close attention to in order to ensure my results were valid, reliable, and trustworthy. First, it was important that the sample of students included a broad mix of students and classrooms. Although the school took ownership of the survey roll out, we agreed upon on a dissemination approach that would achieve this

affect. Since advisory classrooms were typically divided by grade level, I checked the participation rates per grade level in the final survey data numbers. Grade levels with really low participation rates were excluded from data analysis as there may have been something particular about these students and dissemination overall in these grade levels.

There were also other risks to consider. When issuing a self-reported survey of this nature, there may be a risk of social desirability bias. Student participants may have answered questions in ways that they thought would be perceived more positively, rather than reporting their true feelings on particular survey items. This could alter the results. To circumvent this potential bias, instructions for the survey clearly indicated that there were no right or wrong answers on the survey and that honest responses are all that is being asked.

In addition to these threats, it is important that my data sources and data instruments generate valid and reliable results. I am confident that I have received accurate student performance data as they were pulled from the school's learning management system. Though there remains the slight chance of system error or glitches when pulling these reports, it remains the most direct way to pull grade data. With regards to the Career Self-Efficacy Survey Instrument, my tool was based on the Career Decision Self-Efficacy Scale (CDSES) created by Taylor and Betz (1983). This instrument was found to have high scores of both validity and reliability. This instrument was later condensed into an alternate version that was found to retain validity and reliability (Betz et al., 2005). I have utilized this shortened version of the form with slight tweaks for user understanding purposes.

Conclusion

This study intends to shed light on a soft skill or psychological asset known as career-self efficacy. This element may play a role in connecting students to schooling and thus influencing

performance. This mixed methods study aimed to reveal the nature of the relationship between the elements and the extent in which this connection takes place. It also aimed to provide staff perspectives on how these interactions might be taking place.

CHAPTER FOUR

FINDINGS

This study sought to examine the relationship between school performance and career confidence for K-12 students from low-income communities of color. In efforts to improve school outcomes, it may be helpful to utilize creative strategies and monitor skill development that may be only tangentially related to core classroom content. This study focused on the concept of career self-efficacy, one's belief in the ability to develop a wide set of behaviors related to career identity, obtainment and performance (Lent & Hackett, 1987). This study set out to answer the following research questions:

1. What do key staff at one career academy high school perceive as the rationale, goals, and benefits of career exploration programing?
2. Among career academy high school students from low-income communities of color, what is the relationship between career aspirations, career self-efficacy, and school performance?

Ultimately this study finds that staff members believe that career exploration programming helps remedy specific issues and challenges that arise for students from low-income communities of color. This study also finds that there are indeed positive associations between career self-efficacy components and school academic performance. In coming to this conclusion, this study used mixed methods to both show how these variables interact in the data and also provide staff perspectives and on how these interactions may look like from a bird's eye view level. This chapter will begin by detailing the themes and findings from two semi structured interviews conducted with key staff members at the study site. Next, this chapter will unveil the

study findings concerning the students in the study and the relationships between career self-efficacy, school performance, and career aspirations.

Research Question 1: Staff Perspectives

In order to gather insight into the rationale for implementing career exposure activities and into any purported benefits of programming that can impact career self-efficacy, two key school staff members were interviewed from Career Charter. In early discussions with the school administration, these two staff members were referred to as key individuals who played a role in organizing career exploration programming and could speak on the rationale, goals, and benefits of such programming. One was an administrator who handles operations for the school and the other was a teacher who oversaw multiple career academies for the school. In early discussions with school administrators, these two staff members were referred to as key individuals who played a role in organizing career exploration programming and could speak on the rationale, goals, and benefits of such programming. Inductive coding was performed to generate themes from the interview responses. The interview participants were able to shed light on the justifications or rationale for programming that impacts career self-efficacy, the specific goals of such programming, and the perceived benefits and effects of such programming. The school officials made a supporting case for career exploration activities as the battle for attention in schools can call for creative strategies.

Finding 1: Staff perceive that there is a battle for attention when working with students from low-income communities of color and students receive limited exposure to a variety of career options.

Both the administrator and the teacher spoke of particular challenges when it comes to learning, connecting to school, and college obtainment for their study body. These challenges

centered around captivating the attention of their students and competing with influences outside of the school realm. The interview participants described an environment where students can appear to be much more engaged with apps on their cell phones as well as much more influenced by expectations—or the lack thereof—that are sometimes generated from the outside world or their families. In addition, according to the teacher, students are not always exposed to other career options they can obtain and can tend to idealize about certain glamorous yet hard to obtain careers. These factors create a set of justifications for programming that galvanizes students towards an array of career options and exposes them to career self-efficacy skills.

The Career Charter administrator had this to say on the matter:

> I think, overall, it's just always a fight with everyday world. Because fighting for attention, I mean, as we know, advertisers invest a lot of money into how do they capture attention. And so that's happening all the time, all day, every day inside of a phone that the kids still have with them on school. You know, so there's those kinds of things. So it's just fighting for their attention. How does education get their attention? I think that's the biggest fight.

The Career Charter teacher expressed a similar view regarding competing influences and also spoke to on the lack of a wide breadth of opportunities:

> Oftentimes as an immigrant, I know the immigrant mentality sometimes, well, I know it is different, you know where you're coming from. But often time, a lot of our kids, the parents have not went to high school. They may not have even finished middle school. So it's always working. They have to go to work. We have to go to work. … Or when it's time to graduate. The lack of opportunities that are presented to our kids by the system. … And I believe it's cuz the system is looking at our students as though they're

not worth the effort. Just get 'em graduate and that's it. But a lot of times it's really cultural where, oftentimes, especially young men, they put sports first, then their education. And even though they understand they have to be student athletes, by the time I see them, the media or the system has already put in their head that they're gonna play B ball, basketball, soccer player or football. And I will say it to one, why don't you think about buying the team instead of just playing for the team. But it's the, it is the media, it's the culture. Education is seen as optional here. It's seen as a chore here. You know, that's the big challenge right now. And we're fighting against that at home. Sometimes the system, the school itself, sometimes it's the way [the district] structures himself. Cause it's not really helping the kids.

Finding 2: Staff perceive that career exploration programming in high school provides a necessary head start, sense of direction, and sense of purpose for students from low-income communities of color.

The interview participants also described specific goals, aims, and visions for programming designed to provide career exposure and support career self-efficacy development. Interestingly, when initially prompted with the question on goals, both participants focused on expected benefits that start after students have left high school. The participants mentioned that these programs help students become college ready. The hope is that these programs incorporate rigor and help students develop critical thinking skills that will be crucial in post-secondary life. They also mentioned that it aims to give students a jumpstart into figuring out what they want to do with their lives career wise, as it is important for students from these communities to have an idea of career matriculation steps. For example, the Career Charter administrator noted:

> There's a need in this community strictly because, when minority or inner-city children go straight to college, they flounder in trying to decide and figure out what to do. And so to help guide them, in K12, you give them a strong understanding or introduction to certain paths and fields and industries. So that way by the time they actually are looking to choose a major and get to a college and hopefully go to college, they have an idea of what they can choose. And so the, the goal is to give students in these underserved communities a launching pad because, some communities can afford to mess around and figure it out because they have a safety net. But in this community, there is no safety net. We have to be deliberate as soon as they graduate high school, unfortunately.

The teacher echoed these sentiments around the goal of provided a head start and increasing college readiness.

> The whole program's [goal is to] essentially have our young kids ready to compete in college. So many kids, especially for the community that we serve…a lot of the kids are really bright. The thing is, when they go off to college, you know, the remedial classes are full of a lot of our kids from the low-income communities. So they're not ready to be in college. So instead of doing four years, they have to do a year for remedial classes to get ready to be a freshman. It's five years. So here is to get 'em college ready, with their critical thinking. With the rigor, with the understanding how the, the system works.

Upon further questioning around the importance of career exploration activities, the school administrator continued to center responses around the idea that it "is important to give [students] a sense of direction and purpose as you send them out of here away from K-12." The teacher spoke more generally about the benefits of expanding educationally programming beyond the academic core subjects. According to the teacher, students need to learn about the

world at large and about how they can contribute to it and also about how people from their backgrounds have contributed to it in the past:

> Because they have to know that there's a world outside of their window, outside of their social media, outside the community they live in. They don't, a lot of our kids, even though a lot of our kids are either immigrants or children of immigrants, they're coming from a particular area of the world. They don't understand or know the rest of the world is out there…So all they're seeing is math, English, math, English, math, English. But they're not being shown how to link, you know, the whole thing. Why am I learning this stuff?

Finding 3: Staff perceive that career exploration programming has career self-efficacy benefits, academic benefits and some benefits to connection to schooling. There may be a delay in assessing benefits as they can sometimes manifest or become apparent many months after programming.

The two interview participants were able to share their perceptions on the multiple benefits of career exploration programming and activities that foster healthy levels of career self-efficacy, both in real time and in the students' futures. The school officials were able to speak on benefits to academic performance, career self-efficacy development, and some impact to motivation and connection to schooling. Another theme that arose from the interviews was around the delay or lag that is sometimes involved when trying to assess the benefits of career exploration programming or improved career-self efficacy.

In regards to improved career self-efficacy, the interviewees mentioned that students leave high school with a clearer idea of how to obtain certain careers and a greater sense that they can realistically obtain them as a result of programming. For example, the teacher noted,

> They wanna go to the mountain top, but they don't see anything below the mountain top. They understand they have to go up the mountain, they have to do work. It has a big impact in reference to those that are like, wow, I'm actually doing this. Wow, someone's actually speaking to me about this. Wow, I'm getting this inside knowledge. Wow, I'm actually, I've always wanted to be a doctor or I wanted to be a teacher or I wanna be what have you. Now I'm actually like around people that can help me, that want to help me. That's, that's a revelation to a lot of our kids that don't get that kind of help. That's the big impact. I like watching. The other impact is showing that, I don't really wanna do all that work so I don't wanna do it. So there you go.

The two also spoke on their perceptions of how career exploration programming potentially impacts student motivation and connection to school. The administrator mentioned that students are aware that they need to be in good standing academically to participate in certain field trips. This may serve as a source of motivation. The administrator also indicated that when students are excited about a project or activity then they are more excited to come to school. The teacher admitted that the impact on motivation may be small as there is a competition for attention because it "is the classroom against what they experienced outside the door."

In the realm of academic performance, the staff members were able to perceive positive benefits from school career exploration programming. The school administrator made a claim that there are discernible differences between students from particular career academies in both demeanor, professionalism, and academic performance in certain subjects.

> Our medical students carry themselves in a more professional manner throughout their high school career. Because somehow they just have a sense of more responsibility of

> learning about patient care, different rules of the field industry, also practicing hands-on like CPR training and different things. … We also have a law program, very strong. And over the years we've noticed that their English scores tend to be higher than some students in other pathways simply because they do a lot more debating and dialogue and discussion of legal matters and really looking at the English language a little bit more than the other pathways might be. … We also have a strong debate program, and so we win a lot of events and a lot of tournaments. And again, most of those students that are winning are in the law program.

The school teacher mentioned that career themed programming provides rigor and positively impacts students academically:

> Oh definitely academically, it affects them. Especially because my class is actually college level. The law programs are based on law school. It's not based on like, whatever. Finance is based on business. … So it definitely affects their grades. In my particular class, I see the work, I see the results there for those that wanna do the work.

In some scenarios, assessing academic or any benefits from career exploration programming is not always straightforward according to the staff members**.** This point was asserted more by the Career Charter teacher. In essence, students are not always forthcoming with testimony about how the school's programming is benefiting them in real time. When initially asked about whether or not the school's programming helps students feel more connected, the interviewed teacher responded in jest: "Most definitely. But they'll never tell me that." The teacher did mention, however, that it is not uncommon for students to contact staff after graduating from the high school to share words of gratitude and appreciation for the growth experienced at the school. The teacher described a former student who shared that a class activity

designed to give students teaching experience really helped them on their current journey and career as an aspiring teacher. Another former student of the finance career academy shared with the teacher the jubilant news that they had purchased their first stock. The teacher has been able to find great joy in these moments though they occur months or even years after the student last engaged in high school career exploration programming.

Research Question 2: Student Perspectives

After conducting, analyzing and digesting the input from these Career Charter school members, statistical analyses were conducted to examine the relationships between career self-efficacy, career aspirations and school performance for students. Correlations were used to evaluate the relationship between career self-efficacy and school performance, and one-way ANOVA was used to evaluate the relationships between school performance and career aspirations and between career self-efficacy and career aspirations. In this section, I will first provide an overview of the student survey participant demographics, then present the results of the analyses of the study variables. The second research question will be divided into three different components to disseminate the findings: The first component will involve the relationship between career self-efficacy and school performance; another component will analyze the relationship between school performance and career aspirations; the third component will involve the relationship between career self-efficacy and career aspirations.

Sample Demographics

Data for the statistical analyses came from the Career Self Efficacy Survey seen in Appendix B. Career Charter managed the distribution of the student survey. The original aim was to distribute the survey to all students in all grades, via the school's advisory classes. However, there were extremely low response rates for 11^{th} and 12^{th} grade students (14% and 1%,

respectively), suggesting that some advisory teachers had not introduced the survey to their classes. The responses for these grades level were so sparse that it brought into question whether there was something unusual about those who did respond. For this reason, 11th and 12th grade students were omitted from the study analysis. There were however, solid participation rates for 9th and 10th grade students. These grade levels were used for the study analysis and ultimate findings. As shown in Table 1, there were 68 9th grade respondents (47% of the total 9th grade enrollment) and 77 10th grade respondents (71% of 10th grade enrollment).

Table 1

Response Rates by Participants Demographic Characteristics (n=145)

Demographic	Participants	Enrolled	Response Rate
Grade Level			
9th Grade	68	144	47%
10th Grade	77	108	71%
Gender			
Boys	84	140	60%
Girls	61	112	54%
Ethnicity			
Black/AA	11	15	73%
Latinx	110	192	57%
Unknown	24	43	56%
Total (All 9th/10th Grade Students)	145	252	58%

Note: There were two students enrolled (but not in study) that were not Black/AA, Latinx, or Unknown ethnicity

There were more 10th graders in the study than 9th graders and also a higher response rate for 10th graders at 71% compared to 47% for 9th graders. There were more boys in the study than girls, however the response rates were similar between these groups.

In terms of ethnicity, most if not all students in the study were students of color (the ethnicity of 24 students in the sample is unknown). There was a majority of Latinx students in the study as they represented at least 76% of total participants. There was a small number of Black/African American students in the study, however there was a high response rate from these students (73%) when compared to the total amount of Black 9th and 10th graders at the school. The school utilized its own database to assign ethnicity to participants. Unfortunately, there were 24 students who had a missing or unknown ethnicity classifications. Had there been an ethnicity classification for each student, the true total percentages could be different.

Finding 4: Self confidence in the ability to access Occupational Information is positively associated with higher academic performance.

Data analysis revealed that one of the career self-efficacy subdomains has a statistically significant relationship with academic performance. The subdomain of Occupational Information was positively associated with higher academic performance. Students who have a higher self confidence in their ability to "locate sources of information about college majors and occupations, including the ability to identify and talk with people employed in the occupations of interest" tend to perform better academically in school (Mind Garden, 2023). To come to this conclusion, a correlation analysis was used to compare career self-efficacy to school performance. Career self-efficacy was measured by scores on the CDSES. School performance was measured by student's simple or unweighted GPA in the first semester of 2022, as well as students' total absences in the first semester of 2022. Since the sample only included 9th and 10th graders, I refrained from using cumulative GPA and cumulative attendance records as 9th graders would have only 1 semester worth of data at the time of data collection. Table 2 shows the association between the main variables in the study. The school performance factors listed are

GPA and Absences. There is also the Total CDSES Scores and the 5 subdomain scores of Self Appraisal, Occupational Information, Goal Selection, Planning, and Problem Solving.

Table 2

Correlations Between Career Self Efficacy and School Performance Variables (n=145)

#	Variable	1	2	3	4	5	6	7
1	GPA							
2	Absences	**-.293**						
3	Total CDSES Score	.139	-.024					
4	Self Appraisal	.133	-.005	**.923**				
5	Occupational Information	**.179**	-.064	**.889**	**.769**			
6	Goal Selection	.085	.036	**.918**	**.854**	**.776**		
7	Planning	.079	-.010	**.903**	**.766**	**.761**	**.768**	
8	Problem Solving	.160	-.068	**.892**	**.801**	**.711**	**.760**	**.774**

Note: Correlations with p<.05 are shown in bold font; with p<.01 are underlined.

One of the most noteworthy associations in the matrix show in Table 2 is between GPA and Absences. This relationship was not a focal point of this study; however, it is important to analyze. It reports an extremely significant *p* value of <.001. There is extremely high confidence in the association. The association is also negative. This means that as the total number of Absences in the 1st semester went up, simple GPA in the same semester tended to be lower. This relationship would most likely be intuitive to many educators. Though not shown by this analysis alone, many educators would expect a causal relationship between these variables. The less class time a student receives, the harder it would be to perform well on the materials. Despite all these intuitive connections, the *r* correlation coefficient is -.293. At most, this can be described as a moderate association between the variables. This relationship can be a key anchor or guide for our expectations of the relationships between our key study variables.

In regards to the school performance factor of attendance, no significant associations were found with the career self-efficacy total score or with their subdomain scores (*p* values ranged from .419 to .950). Thus, there is no evidence to show that career self-efficacy is connected to high school attendance.

When focusing on the other school performance factor of GPA, only the Occupational Information subdomain was found to have a statistically significant relationship (r=.179, p=.033). This study finds that belief in this ability is positively associated with GPA. Next, I will split the sample by gender to determine if they are any lessons or takeaways that can be derived for motivating different gender groups

Finding 5: Overall career self-efficacy and subdomains of Self Appraisal, Occupational Information, and Problems Solving are positively associated with academic performance for boys; confidence in the ability to perform Self Appraisal is more strongly positively associated with academic performance for boys than it is for girls.

To further explore the connection between career self-efficacy and school performance, the sample was divided by gender and analyzed. There were 84 students noted as boys in the study and 61 noted as girls. Ultimately this study finds that when only boys are considered, the data revealed positive associations between overall career efficacy and its subdomains of Self Appraisal, Occupational Information, and Problem Solving. Additionally, when directly comparing the difference in the relationships between career self-efficacy and school performance for boys and girls, there is a stronger positive association for boys as opposed to girls in the subdomain of Self Appraisal. When boys have a higher confidence in their capability to accurately appraise their own abilities, interests, and values as they relate to educational and career decisions, there is a greater chance that this will be linked to higher academic performance

than what would be expected for girls. To begin analyses by gender, correlation matrixes were created for the two genders in the study. Table 3 shows the associations between the variables when only boys from the sample are considered and table 4 shows the associations for only girls.

Table 3

Correlations Between Boys Career Self Efficacy and School Performance Variables (n=84)

#	Variable	1	2	3	4	5	6	7
1	GPA							
2	Absences	**-.328**						
3	Total CDSES Score	**.226**	-.001					
4	Self Appraisal	**.242**	.001	**.923**				
5	Occupational Information	**.253**	-.036	**.882**	**.748**			
6	Goal Selection	.166	.062	**.939**	**.866**	**.784**		
7	Planning	.139	.021	**.913**	**.793**	**.741**	**.821**	
8	Problem Solving	**.238**	-.048	**.912**	**.822**	**.743**	**.814**	**.804**

Note: Correlations with p<.05 are shown in bold font; with p<.01 are underlined.

Table 4

Correlations Between Girls Career Self Efficacy and School Performance Variables (n=61)

#	Variable	1	2	3	4	5	6	7
1	GPA							
2	Absences	-.216						
3	Total CDSES Score	-.047	-.070					
4	Self Appraisal	-.090	.011	**.924**				
5	Occupational Information	.000	-.119	**.902**	**.809**			
6	Goal Selection	-.103	-.012	**.881**	**.835**	**.760**		
7	Planning	-.035	-.067	**.889**	**.724**	**.803**	**.680**	
8	Problem Solving	.016	-.101	**.865**	**.770**	**.664**	**.677**	**.731**

Note: Correlations with p<.05 are shown in bold font; with p<.01 are underlined.

As indicated in Table 3, the matrix for the boys reveals multiple statistically significant and positive associations between career self-efficacy components and academic performance. Total CDSES Score was positively associated with GPA with an *r* correlation coefficient of .226. The resulting *p* value was .039 which passes the significance test. The Self Appraisal subdomain was also positively connected in a statistically significant way to GPA with an *r* coefficient of .242 and a *p* value of .027. The subdomain of Occupational Information was positively associated with GPA with an *r* coefficient of 0.253 and resulting *p* value of .020. This association was statistically significant and only slightly smaller than the strength of the association between GPA and Absences. Finally, the Problem Solving subdomain produced a positive association with GPA measured by an *r* coefficient of .238 and a resulting *p* value of .029. This relationship was also statistically significant. There were no statistically significant relationships between Total CDSES Score or its subdomains and attendance. Although associations were negative, the *p* values were far from the necessary benchmark. Taken together, boys' academic performance was positively associated with Total CDSES Scores and subdomain scores of Self Appraisal, Occupational Information, and Problems Solving. The strength of these associations can be considered small. However, they were not much smaller than the association between GPA and Absences.

Table 4 reveals a completely different story. There were no statistically significantly relationships on the matrix for both GPA and Absences comparisons with Total CDSES Score or its subdomains for the girls in the sample. That being said, in order to directly compare the nature of these relationships when taking gender into account, linear regressions tests were run with the full sample. Table 5 reveals the regression coefficients for predicting the school performance factor of Absences.

Table 5

Linear Regression Coefficients For Predicting Absences

	Coefficient	Standard Error	t	p
Total CDSES Score				
Total CDSES Score	-0.297	0.656	-0.452	.652
Gender	-0.777	2.847	-0.273	.785
Gender×CDSES	0.305	0.823	0.370	.712
Self Appraisal				
Self Appraisal	-0.043	0.608	-0.071	.943
Gender	0.083	2.770	0.030	.976
Gender×Self Appraisal	0.052	0.778	0.066	.947
Occupational Information				
Occupational Information	-0.473	0.614	-0.770	.442
Gender	-0.871	2.664	-0.327	.744
Gender×Occupational Information	0.320	0.752	0.426	.671
Goal Selection				
Goal Selection	-0.048	0.614	-0.078	.938
Gender	-0.820	2.633	-0.311	.756
Gender×Goal Selection	0.321	0.756	0.425	.671
Planning				
Planning	-0.229	0.533	-0.429	.668
Gender	-0.813	2.345	-0.347	.729
Gender×Planning	0.323	0.685	0.472	.638
Problem Solving				
Problem Solving	-0.367	0.565	-0.650	.517
Gender	-0.204	2.490	-0.082	.935
Gender×Problem Solving	0.138	0.742	0.186	.852

When analyzing the key product variable which featured the career self-efficacy component multiple by Gender, there are no statistically significant differences in slopes present in the

analysis. There is no evidence to suggest that the relationship between overall career self-efficacy, its subdomains, and Absences differs by gender. This same analysis was run for the school performance factor of GPA. The results are seen in Table 6.

Table 6

Linear Regression Coefficients For Predicting GPA

	Coefficient	Standard Error	t	p
Total CDSES Score				
Total CDSES Score	-0.045	0.144	-0.310	.757
Gender	-1.242	0.619	-2.008	.047*
Gender×CDSES	0.300	0.179	1.673	.097
Self Appraisal				
Self Appraisal	-0.079	0.131	-0.597	.551
Gender	-1.441	0.597	-2.414	.017*
Gender×Self Appraisal	0.349	0.168	2.079	.039*
Occupational Information				
Occupational Information	0.000	0.135	0.000	.999
Gender	-1.074	0.580	-1.852	.066
Gender×Occupational Information	0.247	0.165	1.503	.135
Goal Selection				
Goal Selection	-0.092	0.135	-0.681	.497
Gender	-1.105	0.576	-1.919	.057
Gender×Goal Selection	0.258	0.166	1.557	.122
Planning				
Planning	-0.028	0.119	-0.232	.817
Gender	-0.799	0.516	-1.548	.124
Gender×Planning	0.171	0.151	1.129	.261
Problem Solving				
Problem Solving	0.013	0.124	0.104	.918
Gender	-1.019	0.541	-1.884	.062
Gender×Problem Solving	0.243	0.162	1.500	.136

Note: * $p < .05$

Table 6 reveals one career self-efficacy component that has a statistically significant different slope by gender – Self Appraisal. The slope for girls is -0.079 and the slope for boys is 0.270.

The slope for boys is larger by 0.349. This represents a quite sizable positive jump from girls. This coefficient value was accompanied by a *p* value of .039. The study shows a real difference by gender of the association between Self Appraisal confidence and academic performance.

Finding 6: Students that are pursuing a military career pathway tend to have lower GPAs compared to students pursuing other careers.

Another component of the research question revolved around the comparison between career aspirations and school performance. The career aspirations for students were collected by an item on the Career Self-Efficacy Survey asking students to select their intended career field. Students were prompted to answer this question only if they indicated that had in fact decided on a career path. Among 145 the student participants, 77% (112) indicated that they knew what career they wanted to pursue in the future. School performance was still measured by GPA and Absences for the 1st semester of school. This study finds that students who are pursuing a career in the military tend to have lower GPAs than students who are pursuing other careers.

To uncover this finding, similar career fields were grouped into buckets. Table 7 displays the career field buckets that were created for this analysis and the careers that are associated with those buckets.

Table 7

Combined Career Categories

Arts/Entertainment/Sports (n = 22)	Military (n = 7)	Social Sciences (n = 20)	STEM (n = 63)
Art	Military	Business	Architecture
Communication		Counseling	Computers
Design		Education	Engineering
Entertainment		Financial	Health
Journalism		Law	Information Technology
Sports		Teaching	Medicine
			Science

Table 8 displays the means and standard deviations of GPA and Absences for the different career buckets.

Table 8

Descriptive Statistics: School Performance (GPA and Absences) by Intended Career Field

Career Field	GPA			Absences		
	n	Mean	SD	n	Mean	SD
Art/Entertainment/Sports	22	3.023	0.661	22	2.909	3.006
Military	7	2.226	0.619	7	2.000	2.517
STEM	62	3.221	0.675	63	2.889	3.465
Social Sciences	20	2.965	0.730	20	1.700	2.029
All Decided Students	111	3.073	0.714	112	2.625	3.114

When simply looking at the descriptive statistics, there are some interesting observations. In terms of GPA, it appears that students who are pursuing careers in the STEM (Science, Technology, Engineering, & Math) had a higher average GPA than students pursuing other fields. STEM career seekers were the only group to have an average GPA (3.221) that was higher than the average for all students who chose an Intended Career Field (3.073). It also

appears that students pursuing a career in the Military had the lowest average GPA. For Absences, the trends differ. Students pursuing careers in Arts/Entertainment/Sports had the highest average number of Absences while students pursuing careers in Social Sciences had the lowest average number of Absences in the 1st semester of school. The ANOVA test will help determine if any of these trends show a true relationship or if these outcomes or simply a result of chance from the sample. Table 9 displays the result of the ANOVA analysis comparing school performance outcomes with students' chosen intended career field for students who answered this survey item.

Table 9

ANOVA – School Performance & Intended Career Field

Variable	F	df_1	df_2	p	η^2
GPA	4.809	3	107	.004**	0.119
Absences	0.892	3	108	.448	0.024

Note: ** p < .01

The key column of note in Table 9 is the *p* value. This value tells us the statistical significance of the observed mean differences across groups. The results show that there is no evidence that students in different intended career paths have different average number of Absences. For GPA however, the story is different. The ANOVA test reveals a *p* value of .004 which successfully meets our benchmark. There is a difference in GPA between at least 2 of the career path groups. Next, I conducted a post hoc Tukey Test to compare the relationships between each intended career field and their average GPA. Table 10 reveals the results of this post hoc test.

Table 10

Post Hoc Comparisons – GPA & Intended Career Field

Group 1	Group 2	Mean Difference	SE	t	p
Art/Entertainment/Sports	Military	0.797	0.295	2.704	.039*
	STEM	-0.197	0.169	-1.171	.646
	Social Sciences	0.058	0.210	0.275	.993
Military	STEM	-0.994	0.271	-3.672	.002**
	Social Sciences	-0.739	0.298	-2.478	.069
STEM	Social Sciences	0.255	0.175	1.461	.465

Note: * $p < .05$, ** $p < .01$

In Table 10, each Intended Career Field category was compared with each other to test for statistically significant differences in the mean GPAs. Mean Difference represents the differences in average GPAs between two career fields, SE represents the standard error, and the *t* statistic represents the number of standard errors the mean from one group is from another. The higher the *t* statistic in absolute value, the more likely that the two groups truly have different average GPAs. As the table displays with the *p* values, there are some statistically significant differences in means between Intended Career Fields. The comparison between Art/Entertainment/Sports and Military resulted in a difference in means of about 0.8 GPA points, a *t* statistic of 2.704, and a *p* value of .039. GPAs for students pursuing a career in Art/Entertainment/Sports are higher than GPAs from students pursuing a career in the military. The comparison between Military and STEM produced a difference in means of about 1 full GPA point, a *t* statistic of -3.672, and a highly confident *p* value of .002. GPAs for students pursuing the military are lower than GPAs of students pursing a STEM career. There is also a noticeable difference in GPAs between students pursuing a career in Social Sciences and those

pursuing a career in the military at 0.739 GPA points. However, this comparison just missed the significant mark with a *p* value of .069. Altogether, this study finds that students pursuing a career in the military tend to have lower GPAs than students pursuing other career fields.

Finding 7: Deciding on a career path is not connected to school performance.

In addition to analyzing differences in school performance based on intended career field, a test was run to determine if there are differences in school performance based on whether or not a student has chosen a particular career field to pursue regardless of what the field is. From the sample, 23% (33) of students indicated that they did not know which career they wanted to pursue in the future while the rest of the survey participants (112) indicated that they did know. This study finds that there is no association or connection between deciding on a career path and school performance in high school. Table 11 reveals some descriptive statistics regarding students who had made a decision on a career path to pursue and students who had not.

Table 11

Descriptive Statistics: School Performance (GPA and Absences) by Career Decision Status

Made a Career Decision	GPA			Absences		
	n	Mean	SD	n	Mean	SD
No	32	3.142	0.719	33	2.576	3.437
Yes	111	3.073	0.714	112	2.625	3.114
All Students	143	3.084	0.713	145	2.610	3.167

As indicated, there were many more students who had made a career decision versus students who had not. Students who Made a Career Decision had a slightly lower average GPA (3.073) compared to students who were undecided (3.142). Students who had Made a Career Decision also had an average number of Absences that were slightly higher (2.625) than students

who had not made a decision (2.576). An ANOVA test was also used to determine if any differences in school performance outcomes differed in a statistically significant way. Table 12 displays the results of this ANOVA test.

Table 12

One-way ANOVA: Career Path Decision Status & School Performance

Variable	F	df_1	df_2	p	η^2
GPA	0.234	1	141	.629	0.002
Absences	0.006	1	143	.938	0.000

Unlike the results of the ANOVA tests for Intended Career Field, Table 12 shows an ANOVA Test that has no statistically differences in outcomes for either GPA or Absences based on whether or not a student has decided on a career path. The *p* value for GPA was 0.629 and the *p* value for Absences was 0.938. There is no need to perform a post hoc test to dive deeper into the statistics. This study finds that there is no association or connection between deciding on a career path and school performance in high school.

Finding 8: Intended stem careers tend to have higher levels of career self-efficacy than students pursuing other careers

Another component of my second research question involved the relationship between career self-efficacy and career aspirations. Career self-efficacy is measured by scores on CDSES and career aspirations are measured by a survey item asking students to select their intended career field. The Total CDSES Score ranged from 1 to a max of 5. The scoring range was the same for the 5 subdomains. The higher score reflected the higher level of student confidence. This study finds that students who are intending to pursue careers in a STEM field tend to have

higher levels of career self-efficacy than students pursuing other careers. Tables 13 and 14 reveal some descriptive statistics related to the comparison at play.

Table 13

Descriptive Statistics: Total CDSES Score by Intended Career Field

Career Field	n	M	SD
Art/Entertainment/Sports	22	3.191	0.485
Military	7	3.331	0.849
STEM	63	3.582	0.640
Social Sciences	20	3.146	0.779
All Decided Students	112	3.411	0.675

Table 14

Descriptive Statistics: Career Self-Efficacy Subdomain Scores by Intended Career Field

Career Field	n	Self Appraisal		Occupational Information		Goal Selection		Planning		Problem Solving	
		M	SD	M	SD	M	SD	M	SD	M	SD
Art/Entertainment/Sports	22	3.273	0.581	3.191	0.597	3.145	0.624	3.191	0.587	3.155	0.562
Military	7	3.543	0.763	3.200	0.909	3.343	0.877	3.314	0.958	3.257	0.885
STEM	63	3.660	0.654	3.679	0.714	3.657	0.690	3.495	0.828	3.416	0.710
Social Sciences	20	3.330	0.871	3.200	0.868	3.220	0.899	3.070	0.795	2.910	0.801
All Decided Students	112	3.518	0.703	3.468	0.764	3.459	0.757	3.348	0.799	3.264	0.729

The descriptive statistics comparing the relation between career self-efficacy and Indented Career Field reveals a consistent trend. For each component of career self-efficacy, including the Total CDSES Score shown in Table 13 and all 5 subdomains shown in Table 14, students pursuing a STEM career had higher career self-efficacy scores. Also, for the most part, students pursuing the Military came in second in regards to career self-efficacy confidence. Placing for Arts/Entertainment/Sports and Social Science career pursuers appears to alternate

based on the component. Next, I conducted ANOVA tests to see if there were any statistically significant takeaways from these trends. The results are seen in Table 15.

Table 15

One-way ANOVA: CDSES Scores & Intended Career Field

Variable	F	df_1	df_2	p	η^2
Total CDSES Score	3.389	3	108	.021*	0.086
Self Appraisal	2.313	3	108	.080	0.060
Occupational Information	3.972	3	108	.010*	0.099
Goal Selection	3.664	3	108	.015*	0.092
Planning	1.852	3	108	.142	0.049
Problem Solving	2.777	3	108	.045*	0.072

Note: * $p < .05$

Table 15 reveals that there are several components of career self-efficacy that varied based on a student's intended career field. Statistically significant mean differences for at least two groups were found for the Total CDSES Score (p value of .021) as a well as for the subdomains of Occupational Information (p value of .010), Goal Selection (p value of .015), and Problem Solving (p value of .045). Next, a post hoc comparison test was run for each relevant career self-efficacy component to reveal the particulars about the differences in averages. Tables 16-19 reveal the results of these post hoc comparisons.

Table 16

Post Hoc Comparisons – Total CSES Score & Intended Career Field

		Mean Difference	SE	t	p
Art/Entertainment/Sports	Military	-0.141	0.284	-0.495	.960
	STEM	-0.391	0.162	-2.412	.081
	Social Sciences	0.045	0.202	0.222	.996
Military	STEM	-0.250	0.261	-0.960	.772
	Social Sciences	0.185	0.287	0.646	.917
STEM	Social Sciences	0.436	0.168	2.595	.052

Table 17

Post Hoc Comparisons – Occupational Information Score & Intended Career Field

		Mean Difference	SE	t	p
Art/Entertainment/Sports	Military	-0.009	0.319	-0.028	1.000
	STEM	-0.488	0.182	-2.682	.042*
	Social Sciences	-0.009	0.227	-0.040	1.000
Military	STEM	-0.479	0.293	-1.636	.363
	Social Sciences	0.000	0.323	0.000	1.000
STEM	Social Sciences	0.479	0.189	2.540	.059

Note: * $p < .05$

Table 18

Post Hoc Comparisons – Goal Selection Score & Intended Career Field

		Mean Difference	SE	t	p
Art/Entertainment/Sports	Military	-0.197	0.317	-0.622	.925
	STEM	-0.512	0.181	-2.827	.028*
	Social Sciences	-0.075	0.226	-0.330	.988
Military	STEM	-0.314	0.291	-1.079	.703
	Social Sciences	0.123	0.321	0.383	.981
STEM	Social Sciences	0.437	0.188	2.330	.098

Note: * $p < .05$

Table 19

Post Hoc Comparisons – Problem Solving Score & Intended Career Field

		Mean Difference	SE	t	p
Art/Entertainment/Sports	Military	-0.103	0.309	-0.332	.987
	STEM	-0.261	0.176	-1.482	.452
	Social Sciences	0.245	0.220	1.112	.683
Military	STEM	-0.159	0.284	-0.560	.944
	Social Sciences	0.347	0.313	1.110	.684
STEM	Social Sciences	0.506	0.183	2.768	.033*

Note: * $p < .05$

The post hoc comparison tests reveal that there are indeed statistically significant differences between the career self-efficacy scores. Starting with the Total CDSES Score in Table 16, although the ANOVA test indicated that there were differences in the average for at least two groups, none of the pairwise combinations satisfied the *p* level benchmark. The relationship between STEM students' Total CDSES Score and Social Sciences students' Total

CDSES Score did come close to satisfying it with a mean difference of 0.437, a *t* statistic of 2.330 and a corresponding *p* value of .052.

The relationship between the subdomain of Occupational Information and Intended Career Field did show a statistically significant relationship in Table 17 . This was seen in the pairing of Art/Entertainment/Sports score and STEM scores. The mean difference had a magnitude of 0.488, the *t* statistic has a magnitude of 2.682 and the *p* value was .042. Students pursuing STEM careers had higher Occupational Information scores than students pursuing careers in the Art/Entertainment/Sports sectors. The relationship between STEM and Social Sciences also came close to proving higher Occupational Information scores for STEM career seekers with a corresponding *p* value of .059.

Similar to Occupational Information scores, the Goal Selection subdomain showed that students seeking careers in STEM fields had higher scores than students seeking careers in the Art/Entertainment/Sports sectors. Indicated in Table 18, the mean difference in scores had a magnitude of 0.512, a *t* statistic that had a magnitude of 2.827 and a corresponding *p* value of .028.

Finally, Table 19 shows that students pursing STEM careers had higher scores in the Problem Solving subdomain than students pursuing careers in the Social Sciences. The mean difference in scores between these two fields was a magnitude of 0.506, the *t* statistic was 2.768, and the resulting *p* value was .033 which passes the significance test.

Altogether, students pursuing STEM careers had higher scores in several career self-efficacy categories than students pursuing other careers. The only career pursuit that did not have a statistically significant relationship with STEM in any component was the Military. Since the categories of Arts/Entertainment/Sports and Social Sciences featured many more disciplines than

that of the Military category, this study finds that students who are pursuing careers in the STEM field tend to have higher levels of career self-efficacy than students pursuing other careers.

Finding 9: Students that know their career path have higher confidence in their ability to select goals.

Apart from just Intended Career Field, this study also sought to determine if there is a connection between students who have Made a Career Decision and career self-efficacy scores. In the sample, 33 students indicated that they had not made decision on a career to pursue while 112 students indicated that they had made a decision. This study finds that students who have decided on a career path had higher confidence in the Goal Selection subdomain of career self-efficacy. Decided students have higher self confidence in their ability to match their "own characteristics to the demands and rewards of careers so as to identify one or more majors or careers to pursue (Mind Garden, 2023). To reach this conclusion, ANOVA tests were run to determine if the average career self-efficacy scores differed from one another based on whether or not a student had made a career decision. Prior to the ANOVA tests, descriptive statistics were analyzed. Tables 20 and 21 display some descriptive statistics regarding decided students and undecided students.

Table 20

Total CDSES Scores by Career Field Decision Status

Career Field Decision Status	n	M	SD
Decided	112	3.411	0.675
Undecided	33	3.263	0.690
All Students	145	3.378	0.679

Table 21

Career Self-Efficacy Subdomain Scores by Career Field Decision Status

Career Field	n	Self Appraisal		Occupational Information		Goal Selection		Planning		Problem Solving	
		M	SD	M	SD	M	SD	M	SD	M	SD
Decided	112	3.518	0.703	3.468	0.764	3.459	0.757	3.348	0.799	3.264	0.729
Undecided	20	3.321	0.724	3.352	0.731	3.152	0.682	3.230	0.823	3.261	0.751
All Students	112	3.473	0.710	3.441	0.756	3.389	0.749	3.321	0.803	3.623	0.731

Descriptive statistics displaying career self-efficacy scores based on whether or not a student made a career decision reveal an interesting trend. For all cases, including overall career self-efficacy score seen in Table 20 and subdomain scores seen in Table 21, students who had decided on a career path had higher confidence scores than students who were undecided. The differences in means varied by career self-efficacy component. The difference in means for the Problem Solving domain was negligible, with a 0.003 difference in GPA points. Most differences were considerably larger than this amount. The largest difference in mean was present for the Goal Selection subdomain. For this component, there was a mean difference of 0.307 points between Decided and Undecided students. Next, an ANOVA test was run to see if any of these differences were statistically significant. The results are seen in Table 22.

Table 22

One-way ANOVA: CDSES Scores & Made a Career Decision

Variable	F	df_1	df_2	p	η^2
Total CDSES Score	1.221	1	143	.271	0.008
Self Appraisal	1.967	1	143	.163	0.014
Occupational Information	0.602	1	143	.439	0.004
Goal Selection	4.391	1	143	.038*	0.030
Planning	0.548	1	143	.460	0.004
Problem Solving	0.001	1	143	.980	0.000

Note: * $p < .05$

The ANOVA tests in Table 22 show that only one component or subdomain of career self-efficacy had statistically significant different averages based on whether or not a student made a career decision – the Goal Selection subdomain. The 0.307 point difference in mean scores was statistically significant (p=.038) and solidifies the finding that undecided students have lower confidence in the career self-efficacy sub domain of Goal Selection.

Conclusion

There are multiple connections between career self-efficacy and school performance. The two Career Charter staff members paint a picture of the challenges that are present when trying to secure the attention of students. There is rationale for career exploration programming as students from marginalized communities may need assistance in putting together a career or college plan. These students can also benefit from efforts to draw deeper connections with traditional school content. There is subtle but observable positive impact on students when they engage in career exploration or career identity programming.

When focusing on student data and input, there are small positive associations between career self-efficacy components and academic performance. This is led by the connection between the career self-efficacy subdomain of Occupational Information and GPA. Furthermore, the connections between career self-efficacy and academic performance are more evident with boys as compared to girls. In particular, there is a much stronger positive connection between the career-efficacy domain of Self Appraisal and academic performance for boys as there is for girls.

In addition, career aspirations do have some association with academic performance. Students planning to join the military tend to have lower GPAs than students pursuing other careers. Also, there is no connection between school performance and whether or not a student has made a career decision in high school. That being said, students who have made a career decision have higher levels of Goal Selection career self-efficacy.

CHAPTER FIVE

DISCUSSION

Access to a quality education should be available to all students from all walks of life. It is a fundamental right. Though the need for a competent education system is ubiquitous for all students in America, students do not come to school with the same set of circumstances, challenges, or obstacles. Education leaders should generate policies that consider the unique needs of a diverse set of students and pay close attention to the most marginalized and under resourced groups who are still experiencing a disparity in educational outcomes. It is understandable for the U.S. to be concerned with ensuring that all students are satisfying and meeting key academic benchmarks. This is essential for student development and also ensures that American workers stay competitive in a global economy. In the quest to achieve this, policy makers should never forget the systemic barriers that still exist and limit access to a quality education for particular groups in this country – namely, students from low-income communities of color. Leaders must continuously work at dismantling these barriers. While doing so, leaders should ensure that they have designed schools that foster a healthy level of motivation for learning and career goals. This component should be emphasized at the highest level as if it were proficiency standards for math, science or English. It should not be assumed that all students will connect these core subjects to a future life that is relevant or applicable to them. Schools may not only need to instruct, they must inspire. At times it may not be sufficient to simply guide, it may be necessary to galvanize. The real and persisting societal conditions of inequity, poverty, neighborhood violence, and racism, provide an obligation for school accountability systems to incorporate more holistic elements.

This particular study centered around the element of career self-efficacy. Students perform better when they are intrinsically motivated (Deci & Ryan, 2000). In order to foster and spur this internal drive, schools can help students create connections between school content and their future careers. They can also help them develop the knowledge and skills required to matriculate through career obtainment stages. The existence of career academies shows that there are school leaders who believe in the efficacy of this approach. That being said, there is still much to learn about the benefits or associations attached to a healthy level of the psychological asset of career self-efficacy. Research has shown that it is connected to benefits starting in college such as college and major persistence, major satisfaction, and less career indecision (Komarraju et al., 2014; Peterson and Delmas, 2002; Taylor & Betz, 1983). However, there is less scholarship on the real time benefits of career self-efficacy in primary and secondary schooling. This study aimed to assess the relationships between career self-efficacy, career aspirations, and school performance. In doing so, it conducted interviews with two key staff members at a career academy high school and analyzed student data from a survey and a school learning management system.

In this chapter, I summarize the study's major findings and reflect on the implications of those findings. I also present the study's main limitation and offer any implications for future research that may be relevant as a result of the findings. Finally, I conclude with a personal reflection on the findings and overall study.

Summary of Findings

Ultimately, this study finds that there are indeed positive associations between career self-efficacy and school performance for high school students from low-income communities of color. It also finds that a student's career aspiration can be connected to academic performance in

certain cases. Staff perspectives on the matter were insightful. To them, there is a clear purpose and rationale for career exploration programming. Instruction in core academic content alone would not be sufficient to address all challenges presented to their student body. There is indeed a battle for attention for their adolescent students. Gaining their interest in a career pathway of their choosing may create a greater buy in and focus on materials. Also, students from low-income communities of color can benefit from extra support in mapping out a pathway from grade school to college and career. In fact, there can be consequential delays and setbacks when students are not properly prepared with a vision and a plan in addition to the necessary academic skills.

Also, staff perceive that there are several benefits to career exploration programming although some may take time to manifest or become apparent. Staff perceive that students can improve their career self-efficacy skills as they learn about the particulars of different career pathways and gain exposure into the steps needed to secure careers. There are also perceptions about students in certain career field pathways experiencing academic and social benefits depending on the skills emphasized in their given field theme.

Student data also revealed that there are real time connections between career self-efficacy components and academic performance. Particularly, the career self-efficacy subdomain of Occupational Information was positively associated with higher academic performance. Students who have higher confidence in their ability to "locate sources of information about college majors and occupations, including the ability to identify and talk with people employed in the occupations of interest" tend to have higher GPAs (Mind Garden, 2023). As a note, the methods used in this study do not necessarily prove that this correlation equates to causation. Meaning, the mere fact that one of these elements tends to go higher when the other one goes

higher, does not instantly prove that the first element is causing the other occurrence. However, the theoretical framework that was laid out in Chapter Two, allows us to infer that these factors could be related in a causal way. Students perform better when they are intrinsically motivated (Deci & Ryan, 2000). Increased career self-efficacy can presumably influence the conditions that lead to a healthy sense of intrinsic motivation as outlined by SDT. If a student is able to feel secure in a career path they have chosen for themselves, this could foster feelings of *autonomy*. If a student is given the opportunity to gain skills or knowledge related to a vocation, this could illicit feelings of *competence*. Finally, if a student is able to imagine themselves as part of a group interested in similar career fields, via a school SLC or perhaps just the greater community at large, this could potentially sponsor feelings of connectedness or *relatedness*. In any event, just as school administrators would not ignore an association between absences and grades, the positive connection between career self-efficacy and grades should also be paid attention to.

School officials might also want to pay attention to other nuances shown in the study findings. There were several connections seen between career self-efficacy components and academic performance for boys. When directly compared to girls, boys also had a more positive association between the career self-efficacy subdomain of Self Appraisal and GPA. When boys have a higher confidence in their ability to accurately appraise their own abilities, interests, and values as they relate to educational and career decisions, there is a greater chance that this will be linked to higher academic performance than what would be expected for girls.

Another takeaway of note involved the relationship between a students indented career field and their academic performance. This study found that students intending to pursue the non-college associated career path of military, tend to have lower GPAs then students pursing other careers. In addition to all of these notable associations, there were also notable situations

where there were no associations found. There were no connections found between career self-efficacy and student absences, nor between career aspirations and absences. There were also no association found between academic performance and whether or not a student had decided on a career path regardless of what that path was.

Implications for Education Policy Makers & System Leaders

As indicated, it makes sense that educational policy makers have placed a heavy emphasis on students becoming proficient in core academic subjects. These subjects are tied to careers that are essential for a healthy economy and society overall. However, education decision makers ought to also hold other components in high regard; the creation of a motivational school culture could be one of these components. Now it is true that schools all over the country are undoubtedly implementing some form of enrichment, school culture or motivational components in their schools in addition to the core curriculum. However, accountability systems matter. It could be an expectation that all schools have a structure or set of practices designed to help students find a connection to the academic materials. In particular, this study touches upon the importance of career self-efficacy skills. The results showed that there was a small positive association between a students' confidence in their ability to secure occupational information and academic performance. Educational policy makers ought to continue expanding accountability measure to include non-academic metrics. In doing so, they can establish career self-efficacy development as a required standard for all schools and particularly all high schools of various formats and structures.

In establishing this requirement, policy and decision makers will be ensuring that schools send a more holistic message to students: If schools are going to request—or in many cases demand—that students be proficient in core academic subjects, then schools should be

simultaneously instilling confidence and providing support to help them connect academic material with future careers. Importantly, the results of this study found no significant differences in school performance between students who had identified a specific career to pursue and those who had not. Thus career self-efficacy development is not solely about specific career identification. This study found that the confidence in the ability to ascertain information and guidance related to majors and careers was positively associated with academic performance. Exposure and confidence appear to be the key. Imagine if policy leaders required, strongly suggested, or heavily supported the inclusion of a career self-efficacy related elective course for all schools. Importantly, this course would be available for schools of all formats including schools that are not organized as career academies. Over the span of a school year, this course could provide students exposure into a wide breadth of career fields and cover brief overviews on the steps required to secure different careers. The inclusion of this course—perhaps named Career Literacy, Career Exposure, Future Exploration, etc.—is just an example of what an education system can do to emphasize the importance of connecting the dots for students.

Making these connections may also be a matter of equity. Every student should be able to connect the work they are assigned in school to a meaningful outcome. For some communities, career self-efficacy development may take place more frequently outside of school hours. There are communities with more college graduates, more engineers, doctors, accountants, consultants or the like. These students may have access to more examples of people who have successfully navigated college and career pathways who could offer both guidance and knowledgeable encouragement. Furthermore, there are communities who are dealing with more challenges related to low socioeconomic status that may—understandably—at times deprioritize academic tutelage that may appear abstract. It is understood that students need academic rigor, as well as

academic support and remediation. It could also be understood that students need assistance understanding how proficiency in a wide variety of subjects could expand their career options and lead to future desired lifestyles. Emphasis on this notion at the highest level of educational systems would send a resounding message to all schools of its importance and potential impact.

In addition to this, the findings of this study reveal a case of interest alignment between K-12 and higher education practitioners. Career self-efficacy is known to be associated with positive post-secondary outcomes such as increased major satisfaction and college persistence (Peterson & Delmas, 2002; Komarraju et al., 2014). Results from this current study revealed a positive association between career self-efficacy components and academic performance for high school students. Perhaps more can be done by city, state, or federal policy makers to encourage local public universities to invest in supporting K-12 schools in implementing major and career exploration programming for students. These initiatives and programs can take place either during or after school hours. Policy makers could generate creative incentives to help encourage this support. A public university may be tempted to shy away from investing in wide spread support to K-12 schools because there would be no guarantee that a student receiving tutelage would in fact attend that specific university. However, if higher education support for this programming becomes more widespread and coordinated, then society at large may stand to benefit from these efforts. Importantly, greater support from higher education partners can alleviate some of the burden from K-12 schools already dealing with multiple priorities and pressures.

Implications for School Staff & School Leaders

There are also recommendations that can be drawn for staff at individual school sites. Similar to suggestions for policy makers and school system leaders, school leaders ought to

consider how they are developing student's career self-efficacy skills. In particular, staff can help students feel confident that they can "locate sources of information about college majors and occupations, including the ability to identify and talk with people employed in the occupations of interest" (Mind Garden, 2023). Schools of all formats, and particularly those serving students from low-income communities of color, can initiate or bring greater emphasis to their career exploration programming. It should be a staple programming that is worthy of multiple touchpoints for students as well as regular coordination and progress check-ins from school staff. In addition to receiving information on career paths, schools can look to give students an opportunity to speak with or receive mentorship from career professionals. This can be done via career fairs, speaker series, or experiential learning trips where can students can witness or perhaps participate in career related activities. The important concept is that schools consider creating a connection with curriculum materials a priority.

There are other concepts that are relevant after dissecting the study findings. Particularly, the study revealed some implications for working with male students; these findings were not anticipated or expected. Schools ought to assess how their male students are developing in terms of feeling connected to their futures. Specifically, it may be helpful to gauge how their male students are feeling about their capability to self-appraise their own abilities, interests, and values as they relate to educational and career decisions. When reflecting back on the staff interviews, the teacher revealed some relevant insights on the matter. Though I never specifically asked my interviewees about any differences in impact based on gender, the school teacher mentioned the following:

> Especially young men, they put sports first, then they're education. And even though they understand they have to be student athletes, by the time I see them, the media or the

> system has already put in their head that they're gonna play B ball, basketball, soccer player or football. And I will say it to one, why don't you think about buying the team instead of just playing for the team. But it's the, it is the media, it's the culture. Education is seen as optional here. It's seen as a chore here.

It may make sense for school officials to develop special programming or enrichment program for male students. The evidence suggest that there may be benefist from focused intervention designed to expand their mindsets on what their futures can hold. Perhaps all students, and particularly male students, could benefit from more interest/skill inventory tools where students can learn how to better understand their unique skills and the wide range of opportunities they can access with these skills. School should enter each year with a plan of programming for expanding the capability of their male students to visualize a future with abundant opportunities.

In addition, the findings suggest there may be rationale for developing programming designed to expand the mindsets for students pursuing the non-college associated pathway of military. Students pursuing this path were seen to have lower academic performance than students pursuing other pathways. Again, while this association alone does not prove causality, it is telling. Importantly, the study survey data only consisted of students in 9th and 10th grade. Presumably, these students would still have time in their high school careers to improve their overall GPA and remediate courses if need be. Assuming that schools would like their students to have high academic performance regardless of their post-secondary decision plans, it may make sense for staff to implement programming to expand intended career options. There could be intentional counseling sessions or workshops with students early on in their high school tenures, where it is ascertained what career field the student is considering pursuing. Students

intended to pursue the military—or perhaps another path that does not usually associate with college attendance —may be specifically encouraged to consider other options in addition to their plan and particularly ones that require college attendance. This is not to suggest that all school should dissuade students from military service. It is instead to suggest that schools should be preparing students to be academically prepared to have many options, including matriculating to college, after high school regardless of what choice they ultimately make.

Limitations

There are several limitations that can be mentioned for this study. First, it would have been helpful to have utilized data from all four grades of high school. Due to the low participation rates for 11th and 12th grade students, these grade levels were omitted from the analysis. It may have been insightful to view how the relationships between career self-efficacy and school performance differed for say a 12th grader who is a lot closer to graduation compared to a 9th grader just starting high school. Along those lines, it may also have been helpful to have more diversity in the student sample in terms of ethnicity. The intended demographic for the study was students from low-income communities of color. The data set did indeed meet this criterion. However, the large majority of these students were Latinx (76%). The percentage of Black students in the study was much lower (7.6%) and the ethnicity for the remaining students were unknown. Had the study been able to achieve greater diversity, in particular more Black students, it might have been more appropriate to analyze differences by ethnicity. It could have been interesting to view how the relationship between career self-efficacy and school performance might have differed between different subgroups of communities of color. Another limitation can be centered around the particular campus. The study was conducted at one high school which classifies as a career academy high school. It might have been helpful to compare

the results from this study with results taken at another school, particularly a school that doesn't incorporate a career academy structure. Finally, although the theories presented in the literature review may provide a justification to infer causality, and the associations revealed in this study may in fact align with a causal relationship between the study variables, the correlation analyses used in this study are not sufficient to prove causation.

Implications for Future Research

The findings for this study can fuel the commencement of other studies related to this topic. This study centered around the impact that career self-efficacy and career aspiration have on school performance for students from low-income communities of color. The site used for this research was a high school. However, it could be interesting to see how the relationships between these variables manifests in other K-12 segments such as middle school or even elementary school. Career confidence is presumably something that can be measured in students of variety of ages, although survey instruments ought to be modified for the intended age group.

Another potential segue from this research centers on other psychological assets or soft skills that can have direct associations to school performance in real time. For instance, self-advocacy, resilience, and social-emotional intelligence are generally viewed to be favorable skills and attributes for students and people to have. However, K-12 school leaders may benefit from a deeper dive into how gains in these areas manifest themselves in important primary and secondary school metrics. Taken together, results from this study can continue to influence the creation of more holistic accountability systems for schools.

In addition, the study results presented a need to gauge how outside forces can potentially dampen a school's efforts to impact student motivation and engagement. The interview participants revealed that efforts to affect student motivation and engagement can be

counteracted by other elements that draw students' attention and other realities that student' may be facing out of the school realm. A critical look into this phenomenon can help surface potential solutions for maximizing a school's impact given known distractions or obstacles.

Finally, it can be insightful to further explore how male students create and pursue their career identity. Perhaps a study that utilizes more qualitative methods such as focus groups and interviews can bring insights into not only the type of aspirations that male students typically pursue, but the reasoning behind it and the way in which it impacts how they approach schooling. These responses can be compared to how female students typically navigate these processes. Such research can help inform educators about differentiated approaches to counseling and career advising giving the potential effects of socialization.

Personal Reflection

Having been involved in the educational realm for about a decade and a half, I understand that there are a lot of priorities and moving parts at a school. Having been a college counselor, charter school central office administrator, and nonprofit leader, I have seen how often the most well intentioned plans can get pushed aside to deal with current emergencies. At the school site, at times it can feel like the task is just to "put out fires" rather than to create any long-term fire prevention strategy. Thus, I understand how tempting it is to place focus solely on the most obvious and glaring factors of a school such as grade performance, attendance and school discipline. However, this study topic was chosen to bring focus about a feature that is typically treated as a few steps below these factors in importance but may be influencing these outcomes. Career self-efficacy development, and perhaps other noncognitive or soft skill programming, may be an antecedent for these outcomes. I liken it to an iceberg diagram.

An iceberg diagram refers to the image of an iceberg tip being visible out of a body of water. Underneath that iceberg tip, and submerged under the water out of view, is of course the larger and wider base of the iceberg. The diagram makes a poignant point; there may be many underlying causes for a visible incident or occurrence. When it comes to school outcomes for students from low-income communities of color, there could be a lot of conditions beneath the surface contributing to school outcomes. Some of the factors are not in the jurisdiction of school. These factors include poverty, parent education level, and access to safe communities, and historical racism. Thus, some of the contributors to performance are certainly not the fault of the student. These students may have to overcome obstacles that are not present for students in other communities. It may be helpful for schools to assist students in drawing a connection between school materials and a beneficial future career and lifestyle.

Most importantly, I hope schools will be designed to be intentionally nurturing and motivational. The mere fact that students are required to go to K-12 schooling should not be an excuse to neglect the obligation to help every student see the value and power of learning. For students who may have many real word obstacles that occupy the mind, schools must constantly prove their worth to the child, instead of incessantly requiring that the burden is the other way around.

APPENDIX A

INTERVIEW PROTOCOL

Thank you for joining me on this interview today and participating in my study. My overall study aims to gauge the relationship between career aspirations, career self-efficacy and student performance. Your interview is one part of this process. You will not be identified by name in this study and your school will be referenced via a pseudonym. Your feedback is greatly appreciated.

This interview will last approximately 40 minutes. I would like to record this interview so that I can transcribe it later. This audio file has no other use. If there is a moment at any point throughout this interview where you wish to pause or stop, then please alert me. Do you have any questions before we get started?

1. What is your current role with your school?

2. What brought you into the world of education and into your current role?

3. What do you enjoy about the work you do for students?

4. Can you describe some of the challenges or barriers to learning that are faced by students you serve in a typical year?

5. Can you describe how your school's career pathway program works?

    a. How do students choose a pathway?
    b. What are the goals of the program?

6. Career self-efficacy is an umbrella term to describe one's self belief in their ability to acquire a wide set of behaviors related to career identity, obtainment and performance. What else has your school done to expose students to career exploration activities or increase their career-self efficacy?

    a. Has there been any large career exploration events in recent years?
    b. Are career exploration events typically well attended or mandatory?
    c. Have students had opportunities to witness different careers being performed whether at school or off site? If so, can you describe?
    d. Have students had opportunities to practice performing different careers? If so, can you describe?
    e. Are there opportunities for students to speak to an adult about different careers and receive encouragement?
    f. Have there been opportunities for students to explore college majors? If so, can you describe?
    g. Have there been opportunities for students to learn the steps it takes to secure a career or a set of careers? If so, can you describe?

7. Why do you think it's important to expose high school students to career exploration activities or to programming that impacts their career-self efficacy?

8. How do you feel that career exploration activities have impacted students at your school?
    a. Have these activities impacted their career self-efficacy? If so, can you describe?
    b. Have these activities impacted them academically, motivationally or with their connection to school? If so, can you describe?

9. Is there anything else you like to share about career exploration or the students at your school?

APPENDIX B

SURVEY INSTRUMENT

CDSES–Short Form + Additional Questions

Hi scholar! This survey is meant to gather input on career decision confidence for students at [Career Charter]. There are no right and wrong answers, so we ask that you be as honest as possible on the survey. This will provide valuable input! Thank you for your time.

(SAMPLE)

CDSES

INSTRUCTIONS: For each statement below, please read carefully and indicate how much confidence you have that you could accomplish each of these tasks by selecting the appropriate answer choice.

NO CONFIDENCE AT ALL	VERY LITTLE CONFIDENCE	MODERATE CONFIDENCE	MUCH CONFIDENCE	COMPLETE CONFIDENCE
1	2	3	4	5

HOW MUCH CONFIDENCE DO YOU HAVE THAT YOU COULD:

1. Select one major from a list of potential majors you are considering studying in college.
2. Make a plan of your goals for the next five years.

(END SAMPLE)

Additional Questions:

26. Which Career Pathway are you participated in at (School name)?
a. Engineering
b. Finance
c. Information Technology
d. Law & Diplomacy
e. Medical Sciences
f. None/Not Sure

27. Have you participated in a work internship?
A) Yes
B) No

28. Do you know what career you would like to have in the future?

C) Yes
D) No

Skip Logic: If yes is selected

28. In the future, which career field would you like to be in?

a. Architecture/ Engineering
b. Art/Design
c. Business/Financial
d. Communication/Journalism
e. Community/Social Services
f. Computer/Information Technology
g. Education
h. Entertainment/Sports
i. Health/Medicine/Science
j. Law
k. Military
l. Other

29. What is the exact career you would like to have in the future?

30. How have each of these people influenced your choice of career field?

a. Parents
b. Siblings
c. Other Family
d. Friends
e. School Staff/School Activity
f. Another Adult (not school related and not family)
g. Celebrities/Tv/Media/Internet personalities
h. Not Sure/ I Don't Know

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