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Black Men With Successful Information Technology Careers and Their Collegial Relationships: A Single Case Study

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Walden University
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Abstract

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MIS, DeVry University, 2009

MBA, Ashland University, 2000

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Management

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Abstract

A literature gap exists on how Black employees in science, technology, engineering, and math (STEM) professions find common ground in interracial collegial relationships to push back against social-professional exclusion, and scholars recommend that this gap be addressed in theoretical and empirical research. The purpose of this study was to explore how Black men with successful information technology (IT) careers push back against social-professional exclusion through their interracial collegial relationships. A single case study with an embedded units design addressed the literature gap, and qualitative data from seven semistructured interviews, reflective field notes, and archival data were collected and triangulated to answer the research question. This study was framed by Roberson et al.'s concept of Black men's motivation to persist against social-professional exclusion and Fries-Britt's concept of Black male success in STEM pathways. Thematic analysis of data from the interviews revealed 15 themes encased in the five coding categories: (a) entry and career development in the IT field, (b) racial identity and sense of belonging with peers, (c) social/professional exclusion challenges for Black men in the IT field, (d) Black men in IT do develop strong collegial relationships, and (e) succeeding as a Black man in the IT field. This study's results indicate that successful Black men in the IT field persist in finding common ground in interracial collegial relationships and pushing back against social-professional exclusion. This study may drive positive social change by altering perceptions on the value of Black men as STEM professionals and provide a counternarrative to the faulty reasoning behind the poor representation of Black men in the IT industry.

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Dedication

I dedicate my dissertation to my mom, who instilled in me the importance, value, and impact of education, and to my dad, who worked tirelessly throughout his life to take care of his family. They both were truly inspiring to me throughout their lives.

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A special thank you to my dissertation chair, Dr. Daphne Halkias; my committee member, Dr. Labrina Jones; and my University Research Reviewer, Dr. Nikunja Swain. Their guidance and contribution to me successfully completing this process are immeasurable. I am forever grateful to them.

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Chapter 1: Introduction to the Study

The high-tech sector is a significant resource for financial growth that fuels the U.S. economy and impacts how individuals access information, disperse products and services, and address societal problems (Cain, 2021). Diversity issues plague the current state of high tech. Black men are the smallest minority in the information technology (IT) field, are less represented than White and Asian males, and continue to leave in more significant numbers than other groups across the high-tech industry (Franklin, 2021; Parasurama et al., 2020). Because of a noted exclusionary bias in research on Black male employees' successful career experiences, managers assume that this group's high turnover in tech firms is due to Black men's aggression and conflicts with their peers on the job (Hudson et al., 2021; Muro et al., 2020).

Collegial relationships at work are crucial for career advancement and retention on the job, yet research has overlooked how Black men's collegial relationships in tech firms drive their career success (Creary, 2020; Franklin, 2021). Hence, successful Black men's collegial relationships in tech firms tend to be overlooked and undermined by managers and researchers (Franklin, 2021; Fries-Britt, 2018). Much has been written about Black men in high-tech firms facing alienation, isolation, stigma, bias, and stalled career trajectories (Anderson, 2004; Bloch et al., 2021; Burt et al., 2016). A literature gap exists on how Black employees in science, technology, engineering, and mathematics (STEM) professions find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021;

Ramasubramanian et al., 2020). Raising awareness of the successful experiences of Black men in the workplace through empirical research may drive positive social change by altering perceptions on the value of Black men as employees and provide a counternarrative to the faulty reasoning behind the poor representation of Black men in the IT industry (Burt et al., 2019; Gates, 2021).

Chapter 1 addresses the background, problem statement, purpose, research question, conceptual framework, and nature of the study and lists definitions of critical terms used in this specific research. Next, I explain the assumptions, scope and delimitations, and research limitations. Finally, the study's significance to theory, practice, and social change are presented to conclude the chapter.

Background of the Study

Using 2015 EEO-1 data collected by the U.S. Equal Opportunity Employment Commission (EEOC), Bloch et al. (2021) conducted an archival data study examining how a workplace's characteristics affect Black men's, Black women's, White men's, and White women's share of middle- and senior-level management positions. The study concluded that Black men remain strikingly underrepresented in middle and senior management in private-sector workplaces. Creary (2020) further examined the relationship between American Black employees and their employing organizations, highlighting inadequacies in fairness and opportunities for Blacks. There have been efforts and programs associated with systemic racism and corporate movements to fix them and support Black employees.

The need for positive change addressing the underrepresentation of Black men in the corporate world resulted in the development of the Learning Education Activities Program (LEAP) framework as a tool for corporate leaders to support the organizational efforts of the Black employee, reduce organizational racism, and support long-term collegial relationships (Boroş, 2020; Creary, 2020). Racial diversity in the IT workforce is strikingly apparent in the underrepresentation of Black men in the field and how Black men identify as IT professionals (Cain & Trauth, 2017).

Parasurama et al. (2020) examined the heterogeneous effects of race and gender on hiring outcomes of Silicon Valley's diversity efforts, discussing the demand for and value of diversity even though race and gender preferences still exist in high-tech firms' hiring decisions. The formation of interracial collegial relationships between Black and non-Black colleagues in Silicon Valley's high-tech workforce designates socially imposed large group divisions at the organizational level. Simultaneously, microboundaries individually assert social identities, and today, Black employees are pushing back against exclusion within collegial relationships in the high-tech industry (Franklin, 2021).

Despite numerous studies on Black men in the broader STEM sector facing alienation, isolation, stigma, bias, and blocked career advancement (Anderson, 2004; Bloch et al., 2021; Burt et al., 2016), there is a lack of empirical research about how Black IT employees' successful collegial relationships push back against social-professional exclusion (Burt et al., 2019; Ramasubramanian et al., 2020). More research

is needed on the social dynamics of exclusion and affiliation in the workplace for Black employees and their peer interactions with micro- and macrosocial and racial-ethnic boundaries (Franklin, 2021).

Problem Statement

Black employees are the smallest minority in the IT field, are less represented than White and Asian males, and continue to leave in more significant numbers than other groups across the high-tech industry (Franklin, 2021; Parasurama et al., 2020). Black male employees comprise only about 2% of Silicon Valley's top 75 firms, a number unchanged since the mid-1990s, making Black male workers the least represented minority group in high tech (Joint Venture Silicon Valley, 2021). Despite this enduring underrepresentation, scholars have primarily overlooked writing about Black men's workplace experiences with their colleagues in high-tech firms that favor women and Asians (Lee et al., 2020). Because of this exclusionary bias in research on Black male employees' collegial experiences, managers assume that this group's high turnover in tech firms is due to Black men's aggression and conflicts with their colleagues (Hudson et al., 2021; Muro et al., 2020). In contrast to other minority groups, the social problem is that successful Black men's collegial relationships in tech firms tend to be overlooked and thus undermined (Franklin, 2021; Fries-Britt, 2018).

Collegial relationships at work are pivotally crucial for career advancement and retention on the job (Creary, 2020). Scholars have documented that Black men in the broader STEM sector face alienation, isolation, stigma, bias, and blocked career

advancement (Anderson, 2004; Bloch et al., 2021; Burt et al., 2016). The literature has said little about how Black employees' successful collegial relationships strengthen their career advancement in the high-tech industry sector. There is a literature gap on how Black employees in STEM professions find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021; Ramasubramanian et al., 2020). The specific management problem is that the experiences of Black men with successful IT careers pushing back against social-professional exclusion through their interracial collegial relationships remain poorly understood (Burt et al., 2019; Franklin, 2021; Gates, 2021).

Purpose of the Study

The purpose of this qualitative, single case study with embedded units was to explore how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. This study utilized a single case study with an embedded unit design (Yin, 2017). I conducted 7 semistructured online interviews with Black men with successful IT careers to gather data to meet the study's purpose. Interview data themes were generated by using thematic analysis guided by Yin's (2017) pattern-matching logic sequence and triangulated with reflective journal notes and archival data on career trajectories and labor statistics of Black men in the U.S. IT industry to support the findings' trustworthiness and make recommendations for future research (Guion et al., 2011).

Research Question

How do Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships?

Conceptual Framework

The theories and concepts that grounded this study included two key concepts that focus on aligning with the purpose of the study to explore the experiences of Black men with successful IT careers with their interracial collegial relationships: (a) Burt, Roberson, et al.'s (2020) concept of Black men's motivation to persist against social-professional exclusion and (b) Fries-Britt's (2018) concept of Black male success in STEM pathways. This empirical investigation aimed to advance research and address a literature gap on how Black STEM professionals find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021).

Both concepts forming this study's conceptual framework (Burt, Roberson, et al., 2020; Fries-Britt, 2018) concerning Black men with successful IT careers and their interracial collegial relationships were grounded in Harper's (2010) antideficit achievement theory. Harper (2010) stated that those who engage in deficit thinking often forget to acknowledge institutional issues and generally will put the blame for any lack of student success on underrepresented minority students' social and cultural environment, while those who ascribe to the antideficit achievement theory contradict deficit thinking theory and look to identify factors associated with academic achievement and student

success. Answering the study's research question extends theoretical knowledge within the conceptual framework and existing antideficit research on marginalized groups (Burt et al., 2018; Fries-Britt, 1998; Fries-Britt & Griffin, 2007; Harper, 2009, 2015), with an emphasis on the experiences of Black men with successful IT careers. The conceptual framework development is discussed in greater detail in Chapter 2.

Nature of the Study

The nature of this study was qualitative. The specific research design utilized to meet the purpose of the study was a single case study with embedded units. This study's nature was qualitative and grounded in the constructivist paradigm, exploring a problem involved in a complex social process (Merriam & Tisdell, 2015). The quantitative method was inappropriate for this study because quantitative research designs examine relationships, test theories, standardize reporting, and collect quantifiable data. A mixed-methods approach was inappropriate because quantitative data do not answer a qualitative research question (Harkiolakis, 2017). The research problem and the nature of the study required a qualitative methodology. The study's purpose called for a deeper understanding of the experiences of Black men with successful IT careers and their interracial collegial relationships. Researchers conducting qualitative studies aim to explore people's experiences within a specific context, and constructivists look to challenge people to be more critical of social interactions in their daily lives (Denzin & Lincoln, 2005).

Qualitative research also presents opportunities to analyze business decisions and

explore the reasons behind various aspects of behavior within organizations, which in this study were the interracial collegial relationships of Black men with successful IT careers. A qualitative, single case study with embedded units allows a researcher to explore subunits within larger-sized cases (Yin, 2017). The advantage of using the qualitative research method is the researcher's ability to explore in depth a subject grounded in a conceptual framework (Cooper & White, 2012). Case studies allow for an in-depth exploration of a subject to achieve a holistic, real-world perspective. A single case study intensively emphasizes an investigation and analysis of a unit embedded in a case, leading a researcher to contribute to knowledge within the management field by confirming, challenging, or extending theoretical and practice-based knowledge (Halkias & Neubert, 2020). A single case study investigating a social phenomenon can involve individuals living within a particular social context as embedded units of study. The unit of analysis in a case study may be a person, event, entity, or other unit (Yin, 2017), and for this case, it was the Black man with a successful IT career.

Purposeful sampling is utilized in qualitative research to recruit information-rich cases related to the phenomenon of interest (Merriam & Tisdell, 2015). I recruited participants for my study using purposeful criterion and network sampling strategies and screened with the following inclusion criteria: adult Black men over the age of 18 years; 5 years minimum experience in the IT field; willingness to discuss interracial collegial relationships. The study sample's inclusion criteria replicated inclusion criteria from other similar studies (Coston, 2020; Franklin, 2021; Muhammad & Halkias, 2019). To

meet the Walden PhD dissertation standards for sample size, I conducted 7 online semistructured interviews with Black men reporting that they had successful IT careers. The final sample size was determined by data saturation within the interview data (Merriam & Grenier, 2019).

Triangulation is recommended as good practice in conducting case study research and supports trustworthiness through the convergence of findings, sources, or methods (Farquhar et al., 2020). Data from the interview transcripts were analyzed through thematic analysis guided by Yin's (2017) pattern-matching logic sequence to identify themes. I triangulated interview data themes with data from my reflective journal notes and archival data on labor statistics in the IT industry to support the study findings' trustworthiness (Guion et al., 2011).

Definitions

Antideficit achievement theory: This term refers to a framework to explore the enablers of student achievement in STEM. It includes a series of possible questions that researchers could explore to understand better how students of color persist and successfully navigate their ways to and through various junctures of the STEM pipeline (Harper, 2010).

Collegial relationships: This term refers to a lateral peer relation where two or more colleagues have the same work content or domain of activity, the same institutional affiliation or common purpose, and the same status or level of responsibility (Betzler & Löschke, 2021).

Exclusionary bias: This term refers to practices of different individuals to operationalize exclusion or marginalization based on class, gender, or race (Hudson et al., 2021).

High-tech industry: This term refers to industries having high concentrations of workers in STEM occupations (Wolf & Terrell, 2016).

Interracial collegial relationships: This term refers to collegial relationships that cross ethnic and racial boundaries (Franklin, 2021).

Silicon Valley Index: This term refers to a detailed report that measures the strength of the economy and the health of the community, highlighting challenges and providing an analytical foundation for leadership and decision making (Joint Venture Silicon Valley, 2021).

Social-professional exclusion: This term refers to exclusion of a profession that can arise through discrimination based on class, gender, age, race, ill health, geographical location, or cultural identification. Social exclusion is the process in which individuals are blocked from various rights, opportunities, and resources commonly available to members of a different group (Burt et al., 2019; Franklin, 2021).

Systemic racism: This term refers to the highly developed, well-institutionalized, structurally embedded, historically deep, White-defined racism that significantly shapes virtually every facet of many contemporary societies (Elias & Feagin, 2016).

Assumptions

Assumptions in research refer to the aspects of a study that are generally presumed and accepted to be accurate and plausible without proof and cannot necessarily be demonstrated (Merriam & Tisdell, 2015). This study's focus was exploring the experiences of Black men with successful IT careers. The intent was to review their interracial collegial relationships to determine how they push back against social-professional exclusion. The first assumption was that Black men are underrepresented in IT. The second assumption was that Black men have been negatively stereotyped as aggressive historically. The third assumption was that collegial relationships at work are crucial for career advancement and retention on the job. The fourth assumption was that the research participants provided in-depth and honest responses to all interview questions and that their responses were kept confidential. The fifth assumption was that the outcome of this study would enable managers to confront the challenges of underrepresentation. The sixth assumption was that individuals were willing to participate in the study based on the potential benefit of increasing Black men's representation in the IT industry. The final assumption was that the study's outcome would resolve the knowledge gap and promote positive social change for Black men in high tech.

Scope and Delimitations

The scope of this study encompassed how Black men with successful IT careers describe their experiences with interracial collegial relationships to push back against

social-professional exclusion. Purposeful sampling is utilized in qualitative research to recruit information-rich cases related to the phenomenon of interest (Merriam & Tisdell, 2015). Participants for this case study were recruited using purposeful sampling strategies and screened with the following inclusion criteria: (a) adult Black men over the age of 18 years, (b) 5 years of minimum experience in the IT field, and (c) willingness to discuss interracial collegial relationships. I conducted 7 semistructured online interviews with Black men with IT careers meeting the study's inclusion criteria (Yin, 2017). Interview data themes were triangulated with reflective field notes and archival data to support the findings' trustworthiness and recommend future research (Guion et al., 2011). The boundaries of the study included the high-tech industry in the United States. The study's findings are transferable to global high-tech industries.

Limitations

Limitations of a study include potential shortcomings or weaknesses beyond the researcher's control, which may be related to the chosen research design, statistical model constraints, funding constraints, or other factors that may affect the results and conclusions of the study (Merriam & Grenier, 2019). The first limitation was associated with the selection of participants. This study was limited to a small purposive sample of Black males over the age of 18 with at least 5 years of experience in the IT field and the willingness to discuss their interracial collegial relationships. Considering that the sample was not comprehensive, the qualitative nature of this study may limit the transferability of its findings.

The second limitation was the willingness of all the potential participants to participate in a study that might be considered sensitive given that the topic dealt with diversity in a predominantly White industry. Participants might have been afraid of what the outcomes would mean for their careers in the long run. To address these issues, each participant's identity remained anonymous. The third limitation was associated with possible biased views of the participant and researcher. Personal experiences, biases, and characteristics can influence results and undermine a study's findings (Fusch et al., 2018).

The fourth and final limitation was associated with the case study design. Case study research provides methodological flexibility by incorporating different study designs and methods, which critics have questioned based on the different interpretations that have resulted from using the methodology (Yin, 2017). Good, rigorous case studies require a robust methodological justification. A clear understanding and application of the principles and key elements of case study methodology will limit the risk of the approach and support the value and rigor that can be applied across disciplines (Halkias & Neubert, 2020).

Significance of the Study

Significance to Practice

Despite the numerous studies on Black men in the broader STEM sector facing alienation, isolation, stigma, bias, and blocked career advancement (Anderson, 2004; Bloch et al., 2021; Burt et al., 2016), there is a lack of empirical data about how Black IT

employees' successful collegial relationships strengthen their career advancement in the high-tech industry sector (Franklin, 202; Ramasubramanian et al., 2020). Exploring how successful Black men in STEM pathways push back against social-professional exclusion may help address the lack of racial inclusion, low diversity, and poor representation of Black men in the STEM sector (Burt et al., 2019; Fries-Britt & White-Lewis, 2020). The significance of my study's results to professional practice may inform leadership in the high-tech industry's perception of the value of Black employees through their positive collegial relationship impact (Franklin, 2021).

Significance to Theory

Although important implications for policy and practice have been generated from previous studies on underrepresentation, social isolation, cultural incongruence, and academic hurdles faced by Black men in STEM pathways, little is known about how Black male professionals excel and persist despite these challenges (Burt, 2020). As STEM industry leaders struggle with inclusion and diversity issues, this study may be significant to management theory by adding new knowledge to include original qualitative data on the experience of successful Black men in the IT industry (Burt, Roberson, et al., 2020). This study may be significant to theory extension by contributing scholarly knowledge to the extant literature on how Black employees in STEM professions find common ground in interracial collegial relationships. Such empirical results exploring successful Black men's motivation to persist and push back against social-professional exclusion in the IT industry may contribute to extending theory in the

management literature and within the study's conceptual framework (Franklin, 2021; Ramasubramanian et al., 2020; see also Burt, Roberson, et al., 2020).

Significance to Social Change

Most published evidence on Blacks in STEM pathways clarifies why so many fail but reveals far too little about what can be learned from those who craft productive responses to racism and other environmental forces that undermine success (Cain et al., 2019; Harper, 2015). The gap between these numerous streams of research and policy is founded on the lack of research on Black tech employees from the perspective of a Black man in IT (Cain & Trauth, 2017). Raising awareness of the successful experiences of Black men in the workplace may drive positive social change by altering perceptions on the value of Black men as employees, which in turn may help to address further the lack of racial inclusion, low diversity, and poor representation of Black men in the IT industry.

Summary and Transition

Lack of racial diversity in the IT workforce is strikingly apparent in the underrepresentation of Black men in the field and how Black men identify as IT professionals (Cain & Trauth, 2017). Understanding social factors plays a significant role in understanding Black male representation in IT. This qualitative single case study aimed to explore the experiences of Black men with successful IT careers with their interracial collegial relationships to push back against social-professional exclusion. This

chapter provided an overview of the research, in which I explored the specific problem of how Black men with successful career advancement in high-tech firms navigate long-term collegial relationships. The theories and concepts that grounded this study included two key concepts that focused on aligning with the purpose of the study exploring the experiences of Black men with successful IT careers with their interracial collegial relationships: (a) Burt et al.'s (2019) concept of Black men's motivation to persist against social-professional exclusion and (b) Fries-Britt's (2018) concept of Black male success in STEM pathways.

A qualitative, single case study with embedded units allows a researcher to explore the subunits within larger-sized cases (Yin, 2017). The study's data came from a semistructured interview, reflective field notes, archival data, and peer-reviewed scholarly papers and were triangulated to ensure the trustworthiness of the findings. This study's findings may show how Black employees find common ground in interracial collegial relationships with others, push back against social-professional exclusion, and strengthen their career advancement in IT. Chapter 2 of this study focuses on developing an appropriate literature search strategy for the study. I provide an expanded view of the current literature, relevant theories, and the study's conceptual framework and further support the case for researching successful Black men in the IT industry sector.

Chapter 2: Literature Review

The specific management problem is that the experiences of Black men with successful IT careers pushing back against social-professional exclusion through their interracial collegial relationships remain poorly understood (Burt et al., 2019; Franklin, 2021; Gates, 2021). Black employees are the smallest minority in the IT field and continue to leave this industry in higher numbers than other demographic groups (Franklin, 2021). Researchers in the technology career field have overlooked writing about Black men's workplace experiences with their colleagues in high-tech firms that favor women and Asians (Lee et al., 2020). In contrast to other minority groups, successful Black men's collegial relationships in tech firms tend to be overlooked and undermined (Franklin, 2021; Fries-Britt, 2018).

The purpose of this qualitative, single case study with embedded units was to explore how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. Collegial relationships at work are pivotally crucial for career advancement and retention on the job (Franklin, 2021). The literature has said little about how Black employees' successful collegial relationships strengthen their career advancement in the high-tech industry sector and help them to push back against social-professional exclusion. Hence, scholars have identified a literature gap regarding how Black employees in STEM professions find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Ramasubramanian et al., 2020).

Chapter 2 presents the literature search strategy and the conceptual framework that guided this empirical study. The literature review in this chapter presents a synthesis of knowledge and critical analysis of peer-reviewed scholarly papers on the following topics*:* Black male stereotypes and microaggressions in White spaces, systemic racism issues in organizations for Black employees, Black employees in the corporate workplace: research on diversity practices, how technological elites spaces exclude marginalized demographic groups, diversity issues and employment of Black men in the high-tech industry, Black men and the motivation to persist in STEM, academic-industry partnerships to tackle tech's diversity challenges, and Black men and collegial relationships in the workplace.

Literature Search Strategy

A literature review search is unique as it enables a systemic search and analysis spanning diverse research methodologies to combine qualitative and quantitative studies to thoroughly comprehend a phenomenon under review (Tracy, 2019). Inherently related to a literature review's objectives, the search in databases for peer-reviewed scholarly papers must be comprehensive, wide-ranging, and varied. The search should include manual and electronic databases, a review of papers referenced in relevant studies, and recommendations from specialist researchers. Identification of the criteria and keywords and phrases used in the search should be performed according to the guiding research question (Torraco, 2016).

The purpose of this literature review was to study current research findings on the sociocultural and organizational issues related to Black men in STEM fields to understand their motivation to persist, resulting in unique information about the factors contributing to the success of Black men in STEM fields, including the role of collegial peer relationships. Numerous search engines and databases were used to retrieve exclusive literature from authorities in the field of study. Extraction was made using Google search. The databases that I used to conduct the literature review included the Walden University Library and Google Scholar. Literary searches were conducted through the collections of Emerald Insight, ABI/INFORM, ACM, Business Source Complete, IEEE Xplore, Science Direct, and Sage Premier. The literature review focused on studies published within the past 5 years to emphasize current research findings.

The review was conducted using search terms involving multiple combinations of the following keywords or phrases: *Black employees in technology, Black male success in IT, Black men in IT, Black men in STEM professions, Black employee career advancement in tech firms, collegial relationships, diversity goals in STEM professions, diversity goals in the tech firms, favorable intergroup relations, interracial collegial relationships, race/ethnicity,* and *advancement in information technology.*

The literature search strategy identified the need for research on how Black employees in STEM professions find common ground in interracial collegial relationships to push back against social-professional exclusion (Franklin, 2021; see also Burt et al., 2019). Literature was selected to examine various issues surrounding the lives

of Black employees in the STEM profession, inclusion issues of diversity, and socio-professional exclusion. A significant number of peer-reviewed papers reviewed in this literature review were published between 2017 and 2022; except for seminal works, 15% or less of the articles used were published before 2014.

Theoretical Literature Grounding the Conceptual Framework

The theories and concepts that grounded this study included two key concepts that aligned with the purpose of the study to explore the experiences of Black men with successful IT careers with their interracial collegial relationships: (a) Burt, Roberson, et al.'s (2020) concept of Black men's motivation to persist against social-professional exclusion and (b) Fries-Britt's (2018) concept of Black male success in STEM pathways. This empirical investigation aimed to advance research and address a literature gap on how Black STEM professionals find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021).

Both concepts forming this study's conceptual framework (Burt et al., 2019; Fries-Britt, 2018) concerning Black men with successful IT careers and their interracial collegial relationships were grounded in Harper's (2010) antideficit achievement theory. Harper (2010) stated that those who engage in deficit thinking often forget to acknowledge institutional issues and generally will put the blame for any lack of student success on underrepresented minority students' social and cultural environment. In contrast, the antideficit achievement theory contradicts deficit thinking theory and involves identifying factors associated with academic achievement and student success.

Harper (2010) developed the antideficit achievement theory as a counternarrative to outdated explanations of Black men's failure to succeed. Researchers have used the antideficit achievement theory to help them discover how minority samples manage to be successful and achieve based on their experiences instead of focusing only on deficits and potential barriers (Burt et al., 2018, 2019). In extending Harper's (2010) theory, Burt et al. (2019) emphasized the etic and emic multilevel strengths of Black men in STEM pathways, which promote their motivation to persist despite strains caused by negative racialized experiences.

Fries-Britt (2018) utilized Harper's (2010) antideficit achievement theory to analyze qualitative data spanning nearly 20 years to examine high-achieving Black males' experiences in STEM fields. These studies mentioned above resulted in three nonacademic themes consistently emerging from the analysis that supported success for Black males in STEM: (a) nuanced ways to be self-confident, (b) developing meaningful relationships, and (c) the ability to recognize and navigate stereotypes, bias, and racism. In subsequent research, scholars noted that successful Black men's collegial relationships in tech firms tend to be overlooked and undermined by managers and researchers (Franklin, 2021; Fries-Britt, 2018).

Burt, Roberson, et al. (2020) studied the sources of motivations of Black men in predominantly White institutions' engineering graduate programs to determine what factors motivate them to persist, despite the challenges associated with their race. Burt, Roberson, et al.'s (2020) work extended Fries-Britt's (2018) seminal study on high-

achieving Black males studying in STEM fields to understand their persistence and success, resulting in unique information about the factors contributing to the success of Black students and other underrepresented student populations in STEM fields. Answering this study's research question extended theoretical knowledge within my conceptual framework and existing antideficit research on marginalized groups (Burt et al., 2018; Fries-Britt, 1998; Fries-Britt & Griffin, 2007; Harper, 2009, 2015), with an emphasis on the experiences of Black men with successful IT careers.

Literature Review

Black Male Stereotypes and Microaggressions in White Spaces

The practices and ideologies used to justify slavery or a system of Jim Crow in the past are present in the continued subordination of people of African descent today. Scholars associated the Jim Crow era with when African Americans faced extreme racial segregation and oppression (Hswen et al., 2020). Higginbotham (2015) postulated that Jim Crow laws were cruel and affected every aspect of daily life while marginalizing African Americans. These laws endorsed racial segregation by making economic, educational, and social segregation between people of color and Whites legal (Rothstein, 2017).

Jim Crow laws lasted for almost 100 years, and their primary purpose was to mandate the separation of Blacks in every form of social activity (Higginbotham, 2015). The laws gave the false sense of separate yet equal, which was invalid. Today, racism and bias are less blatant and more subtle than under Jim Crow, yet it hinders efforts to create

racial equality (Higginbotham, 2015). Those who subscribe to modern forms of racism use colorblind race talk, customs, and protocols to not appear overtly racist in thoughts, words, or deeds (Smith et al., 2016). Systemic racism consists of White-racist dimensions and is a material, social, and ideological reality embedded in U.S. institutions (Bonilla-Silva, 2017).

Black racial misandry is an ideological pathology, similar to but distinct from Black racial misogyny (Collins, 2002). Black misandry is "reinforced in scholarly ontologies, axiologies, and epistemologies, as a result of which, Black men are held in suspicion, marginalized, hated, rendered invisible," treated with decreased empathy, and "put under increased surveillance, or placed in one or more socially acceptable stereotypical categories" (Smith et al., 2007, p. 558). Fairchild (2018) stated that contemporary racism is more subtle and espoused in human affairs and equity. Some argue that discrimination is no longer a significant issue.

Alexander (2011) suggests that most Americans do not believe that they racially discriminate. They consider themselves colorblind and reject racial inequality and White supremacist notions. According to Bonilla-Silva (2017), colorblindness is a means of justifying racial inequity because it removes racism from the picture and focuses on the liberal discourse of fairness and equal opportunity. Individuals use it to not appear overtly racist in their interactions (Smith et al., 2016). The core of colorblind racism, unlike Jim Crow racism, is explaining racial matters as the outcomes of nonracial dynamics (Ashe & Bonilla-Silva, 2014; Bonilla-Silva, 2017). Many individuals are not necessarily

colorblind but, in fact, aware of a racialized social system, regardless of their ideologies or politics (Burke, 2017).

Historically, White patriarchy has constructed Black males as phobic entities who threaten the order of American society and thereby deserve death (Harper, 2015). It is practically impossible to understand Black males as a group attempting to remedy their marginalization by embracing White norms and attitudes. Encounters and experiences with racial bias have enabled Black men to find effective ways to cope. Sisco (2020) notes that one way to achieve this is for Black men to micromanage expectations and conditions for success, which forces them to remain resilient and work harder than their White colleagues. Racial oppression in U.S. society has endured within elements and institutions over time, even as significant changes have occurred.

Racism today is prejudice and bigotry against Black men and social and ideological reality for Black men (Bonilla-Silva, 2017). Systematic racism is aligned with the White racial frame, a set of racialized ideas, stereotypes, emotions, and inclinations to discriminate (Feagin, 2020). Chronic racial micro- and macroaggressions in the workplace move Black men to perceive their environment as highly stressful, exhausting, and diminishing to their sense of control, comfort, and meaning while eliciting loss, ambiguity, strain, frustration, and injustice (Pitcan et al., 2018; Smith et al., 2016).

Coping with racial microaggressions in a work context may be difficult for Black men because they have to navigate different rules for emotional display based on racial and gender identity. At the same time, studying racialized feeling rules in the workplace

(Pitcan et al., 2018), Wingfield (2010) found that the mandate of an emotional display of congeniality and likability may be challenging to sustain in the face of racism. Furthermore, Black professionals in that study described a different set of rules governing their display of negative emotions. Although there were good situations in which White coworkers could show frustration and anger, Black professionals felt that there were no acceptable situations where they could display anger (Smith et al., 2020; Wingfield, 2010).

Sociologists have described the "impossible burdens" of Black people in White spaces in mainstream American society, including deciding whether or not to be a token or weighing whether it is worth being excluded by White colleagues, especially in environments where Whites do not perceive racist dynamics (Evans & Moore, 2015). Wingfield (2010) found that Black middle-class people choose whether to conform to the expectations of White middle-class colleagues. In a seminal study, Wingfield (2010) found that Black professionals noted that they felt pressure to present themselves as affable, agreeable, and friendly. In turn, respondents stated that they needed to regulate their emotions, separating their personal stresses and frustrations from their work environment (Creary, 2021).

Given the overall context and omnipresence of the White space, researchers have found that middle-class Black Americans have developed specific strategies to maneuver consistently with notions of cultural racism, particularly the application of crude stereotypes to Black Americans (Creary, 2021). Black people were highly visible in

workplace environments because they were often the only Black people. When they encountered racism, including racist comments, and being excluded from professional and social activities, respondents expressed that they needed to conceal their anger and frustration and project a friendly, congenial demeanor (Wingfield, 2010).

In another seminal study on race relations in America, Lacy (2007) argued that middle-class Black Americans assert public identities," which she defined as "purposeful, instrumental strategies that either reduce the probability of discrimination or curtail the extent of discrimination they face in public interactions with whites" (p. 73). Lacy described the process of "script switching" to signal their social class and the establishment of commonalities with White people in predominantly White spaces. Lacy argues that all segments of the Black middle class cultivate certain behaviors, including the manner of speaking and dressing, which are used strategically to reduce or avert potential discriminatory treatment. In another in-depth interview study with Black elites, respondents exerted a great deal of effort to signal intelligence and competence in various settings to combat potential racist events (Guzman, 2018).

Geronimus et al. (2016) describe cultural racism as dominant cultural beliefs, including stereotypes, cultural norms, institutions, practices, and policies that stratify society by race. Scholars have documented that Black Americans, particularly those who are middle class, exert a great deal of effort to resist hegemonic, negative stereotypes. Cultural racism is instrumental in racial socialization and reinforcing stereotypes at the

micro level while also justifying the racialized hierarchy and subsequent social patterning of power, privilege, and resources (Geronimus et al., 2016; Hudson et al., 2021).

Geronimus et al. (2016) described cultural racism as the breeding ground of mistaken social identity in which dominant stereotypes are imposed on marginalized individuals. Challenges associated with navigating predominantly White spaces could undermine the salubrious effects of more significant socioeconomic resources. Black middle-class men negotiate and maneuver through predominantly White spaces, including workplaces and neighborhoods. Furthermore, other areas where they encounter cultural racism or the dominant cultural beliefs, stereotypes, and informal rules undergird the United States' racial structure (Hudson et al., 2021).

Anderson (2015) noted that because American society remains deeply segregated, institutions of higher learning, restaurants, workplace settings, hospitals, and other public areas overwhelmingly reinforce a normative sensibility in settings in which Black people are typically absent, not expected, or marginalized when present. Anderson describes marginalization in White space:

> When present in the White space, Blacks reflexively note the proportion of Whites to Blacks, or may look around for other Blacks with whom to commune if not bond, and then may adjust their comfort level accordingly; when judging a setting as too white, they can feel uneasy and consider it to be informally "off-limits." For Whites, however, the same settings are generally regarded as

> unremarkable or as normal, taken-for-granted reflections of civil society. (Anderson, 2015, p. 12)

Hicken et al. (2018) argue that cultural racism results in a misrecognition of Black people due to stigmatizing stereotypes that undermine their humanity and obscure within-group variation. White people rely more on "cultural tropes" to explain racial inequality and minimize the role of intentional prejudice and discrimination in the overall social, economic, and health condition of Black Americans (Ashe & Bonilla-Silva, 2014). Bloch et al. (2021) note that Black men typically face stereotypes of aggression, being intellectually inferior to Whites, and being stereotyped as violent and criminal. Wingfield (2019) found that Black men face the stigma of being angry Black men, whereas similarly assertive behaviors may be viewed as evidence of leadership for White men. After further analysis, this stigma may come from the constant need for Black men to defend their culture while overcoming systemic obstacles (Miller et al., 2016).

Ramasubramanian et al. (2020) state that others evaluate Blacks who chose to speak up when confronted with a positive stereotype as the less favorable and further note that positive stereotypes can cause damage when they are used to categorize individuals, while stereotypical counter representations can help individuals develop a sense of social identity. Peers may undermine, ignore, or dismiss Black colleagues (Franklin, 2021). Black workers may find that companies tokenize and showcase them in marketing materials and diversity events to prove a commitment to diversity that does not exist (Creary, 2021). Ray (2019) believed that organizations filter individual attitudes and

change individual attitudes and that seeing race as a constitutive of the organization will help us better understand everyday functioning and the institutionalization of racial inequality. Racial minorities who choose to speak up when confronted with a positive stereotype are evaluated as less favorable (Ramasubramanian et al., 2020).

Ramasubramanian et al. (2020) reviewed historical and contemporary representations of these stereotypes and the adverse effects of tokenization within minority groups. The authors noted that positive stereotypes could cause damage when they are used to categorize individuals, whereas stereotypical counter representations can help individuals develop a sense of social identity. Muro et al. (2020) discussed merging research in this area that moved toward more practical solutions and action-oriented research that can provide insights into reducing the harmful effects of both positive and negative stereotypes. Two studies concluded that managers assume that the high minority turnover in tech firms is due to Black men's aggression and conflicts with their colleagues (Hudson et al., 2021; Muro et al., 2020).

Systemic Racism Issues in Organizations for Black Employees

For decades, the relationship between American Black employees and their employing organizations has been studied (Creary, 2020). Studies have focused on inadequacies associated with fairness and opportunities for Black employees, systemic racism, and the corporate movements to fix them and support Black employees. In setting the need for more change, Creary (2020) introduced her LEAP framework, which provided measures for becoming a better ally to Black employees. The research and

framework are based on the author's diversity and inclusion initiatives and Black employee experiences. The framework can be used as a tool for corporate leaders to support the organizational efforts of Black employees. More insight from Black employees and their organizational experiences is needed to reduce organizational racism (Sisco, 2020).

The COQUAL (2019) report, *Being Black in Corporate America*: *An Intersectional Explanation*, found some progress in addressing racism within corporate America. Black professionals may be more ambitious than their White counterparts to aspire to the top positions within their organizations even though they are denied access at a higher rate than White professionals (Creary, 2021). A *USA TODAY* analysis shows that African Americans have been added as employees and board positions but not to the executive suites, given that of the 279 top executives, only five, or 1.8%, were Black (Guynn & Schrotenboer, 2021).

Corporations have maintained a history of operating as racialized social systems that contribute to racial divisions and inequities in the workplace (Sisco, 2020). Despite this reality, high-achieving Black men and women have overcome limitations and unfavorable circumstances by finding the motivation to persist through the challenges of systemic racism after initiating difficult conversations with leadership about race. Black employees are often challenged by systemic racism in organizations, contributing to depression, anxiety, and professional and social exclusion at work (Burt et al., 2019). Systemic racism includes microaggressions or daily exchanges that undermine people of

color because they belong to a racial minority group. These may include referring to a Black team member as a "diversity hire," which invalidates their qualifications or implies amazement that the Black team member is intelligent (Creary, 2021).

Black employees are less likely to be granted leadership roles, and despite acquiring educational credentials and training equivalent to those of their White peers, Black employees receive fewer promotions than White colleagues (Creary, 2021). Black employees tend to be excluded from the support, mentoring, and advocacy needed to promote leadership positions. Black employees' leadership methods differ from White men, who dominate leadership roles and are threatening and aggressive (Roberts & Mayo, 2019). Black employees are often asked to live in two distinct worlds, keeping their daily and racialized experiences as Black people strictly separate from the White, Eurocentric cultural values and social norms that dominate the American workplace. To achieve this, Black employees often feel that they have to suppress their racial identity in any conversation about race in the workplace. Therefore, Black employees may need to deliberately create a workplace image that is both professional and inauthentic (Creary, 2021).

Black Employees in Corporate Workplace: Research on Diversity Practices

A gap in the literature exists on how racialized and gendered processes may intersect and work differently for racially, and gender marginalized workers when aiming to reach middle-level management and senior-level management positions in the American corporate workplace (Ramasubramanian et al., 2020). Using 2015 EEO-1 data

collected by the U.S. Equal Opportunity Employment Commission (EEOC), a recent archival data study examined how a workplace's characteristics affect Black men, Black women, White men, White women's share of middle- and senior-level management. In conclusion, Bloch et al. (2021) found that Black men are strikingly underrepresented in middle and senior management in private-sector workplaces, and these results reinforced that access to middle and senior management for Black men varies from other marginalized groups races and gender.

Research shows that the United States' inability to achieve STEM workforce goals is partly due to a leakage in the academic pipeline (Allen-Ramdial & Campbell, 2014). In recent years the completion rate of STEM majors has been less than 40% nationwide, and for Blacks, it was 22.1% which is a persistent gap resulting in fewer Blacks entering the STEM workforce (Toven-Lindsey et al., 2015). A study conducted by Estrada et al. (2018) evaluated how undergraduate research and mentorship experiences predict longer-term STEM career persistence. Estrada et al. (2018) found that when students experience quality mentorship, they subsequently experience social integration, increasing underrepresented minorities' persistence rates and retention. Researchers have also found that implementing high-quality active learning programs can reduce achievement gaps in STEM and promote equity (Theobald et al., 2020).

Estrada et al. (2016) analyzed what it takes to improve underrepresented minority student persistence in STEM. The scholars reviewed results and recommendations from the Joint Working Group members on Improving Underrepresented Minorities

Persistence in STEM advisory group. The group was tasked with understanding student barriers within STEM and determining interventions to improve the student's interest, commitments, and ability to persist in STEM fields. The group used the theoretical framework from Lewin's (1946) seminal work to evaluate the issues and proposed changes. Lewin (1946) suggested that organizational change does not occur by changing individual behaviors but requires a shift in the systems. The advisory group established five recommendations for accomplishing equity in STEM. The recommendations are to increase institutional accountability, create strategic partnerships with programs that create lift, unleash the power of the curriculum, address student resource disparities, and fire the students' creative juices. The advisory group concluded that if institutions, educators, and funders commit to their recommendations, progress may be made toward accomplishing increased equity for underrepresented groups in STEM (Estrada et al., 2016).

While STEM programs are challenging for all students, Black students are often subjected to biases, racism, and stereotypes about their presumed inferior cognitive and mathematical ability (Fries-Britt, 2017; Riegle-Crumb et al., 2019). For example, they are often confronted with assumptions about their academic ability and told that race is the only reason for their acceptance into STEM (Fries-Britt, 2017). Blacks who are successful in STEM can recognize and confront stereotypes, biases, and racism. They are more resourceful and direct in coping in White environments (Fries-Britt, 2017).

Unfortunately, research shows that Blacks have a higher probability of switching out of a STEM major and completing a degree in a non-STEM field (Riegle-Crumb et al., 2019).

Garcia (2015) examined diversity and inclusion in Silicon Valley. While analyzing racial and ethnic discrimination issues, Garcia (2015) determined that even though there are improvements, the trend for minorities in Silicon Valley consistently moved downward over the last decade. Black men are scarce in all occupations in the tech firms of Silicon Valley. Black workers are less represented than White and Asian males in all high-tech areas and face widespread anti-Black stigma in society (Bonilla-Silva, 2017). The technology companies find it challenging to recruit and keep Black employees who often feel oppressed and minded and unwelcome due to diversity and inclusion issues (Velinov, 2019).

Dutton (2018) evaluated the increasing diversity in organizations globally and provided insight into improving awareness of effective practices to integrate a diverse workplace. However, the need for commitment to inclusion and a supportive atmosphere in organizations still wanes in many organizations. The positive benefits of diversity noted in organizations include increased job satisfaction for underrepresented employees and increased commitment to the organizations. However, the complexity and resources for the low diversity disparities remain problematic for the STEM workforce. More research is needed to target solutions to improve diversity and inclusion in institutions and conduct more research on Black men's underrepresentation in technology (Cain &

Trauth, 2017). To this end, firms have recently begun focusing on creating social environments that support and leverage diversity in building inclusion (Roberson, 2019).

Shore et al. (2018) noted the challenges organizations face with diversity in the workplace and the increased focus on inclusion needed to support diverse members. They conducted an extensive literature review and developed a model for inclusion that provides clarity and direction for organizations to address diversity and inclusion concerns. Nevertheless, the underrepresentation of Black males in IT by analyzing factors that support and or undermine their achievement of completing IT degrees and entering the workforce raises obstacles associated with the lack of diversity and challenges needed to overcome (Cain & Trauth, 2015).

Inclusive organizational climates recognize individuals as valued and appreciated essential group members (Barak et al., 2016). The nonexclusive cultures, such as those in Silicon Valley, which are predominantly White, deny participation to underrepresented people of color (Roberts & Noble, 2019). Black males in those environments experience unfairness due to discrimination, stereotyping, harassment, and microaggressions (Scott et al., 2017). An inclusive workplace treats everyone with dignity and respect while valuing their talents and skills. Alegria (2020) notes that people of color are neither fully represented nor included in key decision-making roles. A significant problem facing organizations attempting to create diverse workplaces is that of Inclusion. Inclusion is the sense of being an integral part of the organization (Barak et al., 2016).

Brimhall and Mor Barak (2018) investigated if workplace inclusion fosters innovation and job satisfaction. The findings from their study prove that an inclusive workplace in diverse organizational settings leads to positive outcomes. They also found a significant relationship between inclusion and quality of care through increased innovation and job satisfaction (Brimhall & Mor Barak, 2018). Additional research by other scholars found that creating an inclusive workplace in a diverse setting increases job satisfaction, retention, organizational commitment, trust, well-being, creativity, and innovation (Brimhall et al., 2014; Dwertmann & Boehm, 2016; Mor Barak et al., 2016). Research shows that systematic problems exist in organizations lacking inclusive cultures, and individual interventions alone will not work (Garr & Jackson, 2019). The unfair treatment in the high-tech industry that has led to retention issues for people of color is a prime example of the systematic problems.

Scott et al. (2017) investigated who voluntarily leaves the tech industry and why. This research showed that underrepresented minorities are more likely than nonminority groups to leave their jobs voluntarily, and the number one reason was unfairness. Organizations have slowly increased the representation of diverse people of color in the workplace, but the lack of inclusive environments prevents them from contributing fully. Organizations must provide inclusion opportunities for members of nonmarginalized groups to operate effectively and not lose valuable people of color (Shore et al., 2018).

How Technological Elites Spaces Exclude Marginalized Demographic Groups

The technology firms in Silicon Valley have been subject to sustained criticism for the lack of diversity and accusations of hostile work environments for underrepresented people of color (Tomaskovic-Devey & Han, 2018). These accusations have been widespread for several years. The technology elites in Silicon Valley are overwhelmingly White males who facilitate technologically mediated discrimination which contributes to the systemic marginalization of underrepresented minorities (Gangadharan & Niklas, 2019). Chuang (2016-present) found that Black employees face daily discrimination, passive racism, and micro-aggressions in Silicon Valley. Alegria (2020) notes that people of color are neither fully represented nor included in key decision-making roles, which remain White racialized tasks.

Roberts and Noble (2019) conducted a study that analyzed the meritocracy post-racial myths in Silicon Valley. The scholars examined the culture of the high-tech companies and evaluated the extent to which technological elites support discrimination and racial inequality of underrepresented minorities. Roberts and Noble found that Silicon Valley is deepening discrimination subtly while appearing neutral. The technological elites reinforce White supremacy and exacerbate social inequity through emerging technologies (Roberts & Noble, 2019). The discriminatory designs of these systems encode inequity and amplify racial hierarchies, which is characteristic of the New Jim Code (Benjamin, 2019) and post-racialism (Cho, 2008).

Cho (2008) states that the ideology of post-racialism supports and perpetuates a lack of racial and gender representation in tech. Post-racialism reflects the belief that there is no longer a need to engage in race-based decision-making or adopt race-based remedies (Cho, 2008). Many scholars suggest that post-racialism levels the playing field for Whites to oppose civil-rights remedies and advocate for race-neutral policies (Franks et al., 2020; Meghji, 2017; Meghji & Saini, 2018; Sundstrom, 2017). The ideology of post-racialism supports the issues of underrepresentation in tech. It enables technology elites to design systems and products to discriminate against racial and ethnic minorities (Noble, 2018). The colorblind ideology in Silicon Valley is embedded within the internet, the culture, and the practices of digital technologies (Daniels, 2015). Barocas (2014) sees this as technologically mediated discrimination. Zuboff (2019) aligns this with the insufficiency of a techno-centric focus on data and discrimination by shifting the traditional debates on algorithmic bias and data injustices. There are many examples of how technology replicates the injustices and how high-tech companies create new inequities based on the lack of regulation and transparency.

Dickey (2021) researched the systemic racism in Silicon Valley from the perspective of Black founders and entrepreneurs looking for investors. The technological elites in Silicon Valley have supported colorblindness and cultures of exclusion which have denied the participation of marginalized groups in support of White supremacy and post-racialism (Roberts & Noble, 2019). Bias and discrimination through the journey of Wayne Sutton, a Black founder who has been working to improve diversity and inclusion

in the tech industry for more than 10 years. Sutton found it challenging to raise money as a Black entrepreneur and nearly impossible to secure funds to support other Black entrepreneurs. (Dickey, 2021). Sutton further notes that 87% of venture capital-backed founders were White, and less than 1% were Black; large tech firms had no budgets for diversity and inclusion programs, nor were they inclined to support the work of Black founders. Sutton emphasizes that the industry and Silicon Valley have a long way to go to reach parity in terms of diverse representation, but Black founders are starting to get more funding due to the evolving conversations about diversity and inclusion (Dickey, 2021).

Algorithmic discrimination has become one of the critical points in discussing discrimination and inequities in Silicon Valley. Benjamin (2019) highlighted the embedded codification of racism within algorithms, noting that they are created within a racist context and generate information that worsens inequities for marginalized people. She further says that technology replicates our biases, and it then reinforces them. O'Neil (2016) stated that the indiscriminate use of Big Data and algorithms could increase inequality and injustice. She further noted that algorithms include basic assumptions that may be full of bias and driven by organizations in Silicon Valley.

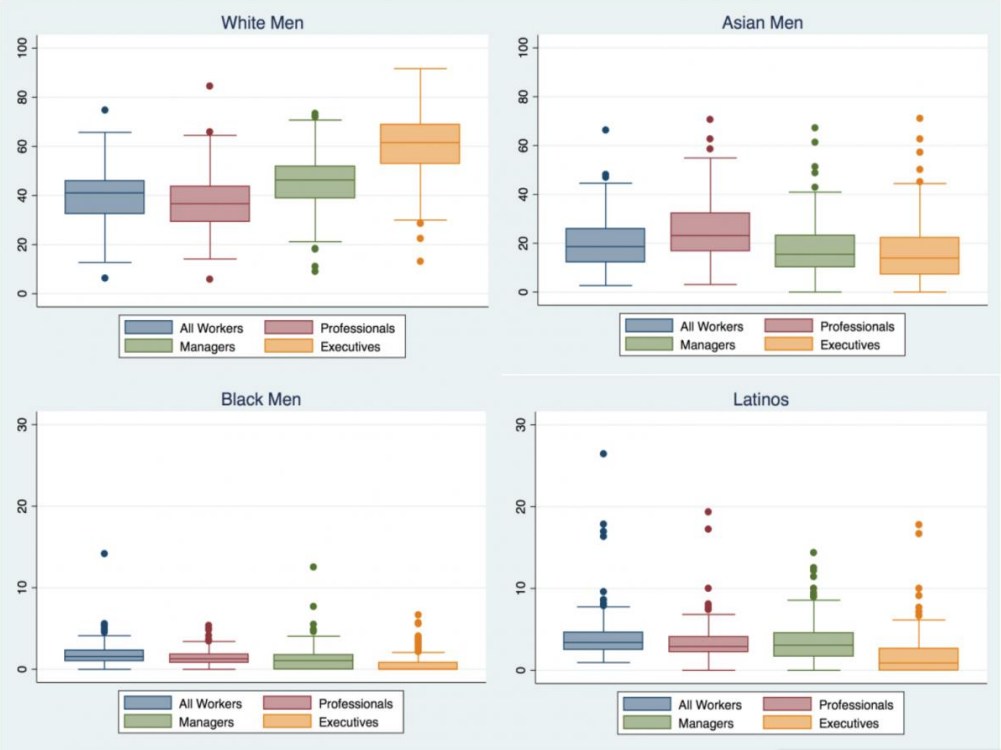
Diversity Issues and Employment of Black Men in the High-Tech Industry

In 2015 the United States' population was 30.6% White men and 7% Black men. White men accounted for 46.72% of middle-level management and 61.83% of senior management positions, and Black men accounted for just 3.64% of middle-level

management and less than 2% of all senior management positions (U.S. Census Bureau of Labor and Statistics, 2016). The research was conducted at 177 firms in Silicon Valley, and it was determined that the degree of diversity varied among the firms. The authors found that Black men are rare in all occupations across Silicon Valley firms. The median proportion of Black men in total employment, including professional and managerial jobs, is below 3%. Several firms have no Black executives, and a few have no Black men. Figure 1 below (Tomaskovic-Devey & Han, 2018, p. 10) highlights the diversity and disparities for Black men and offers some degree of hope in that Black men, in rare cases, were more than 3% of executives, managers, and professionals in some firms reinforcing the idea that diversity is possible in high tech. The firms attempting to embrace diversity may need to look at the success of these firms to figure out what they are doing right (Tomaskovic-Devey & Han, 2018).

Figure 1

Box Plots of Male Representation for Whites, Asians, Blacks, and Latinos in Total, Executive, Manager, and Professional Employment



Note. A box plot shows a central box banded at the 25th and 75th percentiles of firms. A line for the median is in the middle of the box, there are lines for the upper and lower bounds within a normal distribution, and dots represent outlier firms statistically. From *Is Silicon Valley Tech Diversity Possible Now?* by D. Tomaskovic-Devey and J. Han, 2018, Center for Employment Equity, University of Massachusetts Amherst

(https://www.umass.edu/employmentequity/silicon-valley-tech-diversity-possible-now-0). In the public domain.

Employment in the high-tech industry for STEM computer and engineering occupations is projected to result in more than half a million new jobs by 2024 (United States Census Bureau of Labor Statistics, 2016). Jobs in the industry are expanding at two times the national average (Richards & Terkanian, 2013). Given that individuals with diverse backgrounds often face workplace discrimination, it is crucial to understand the data better related to Black men (EEOC, 2016). Black men have been noted to leave the tech industry due to unfair treatment in the workplace. Scott et al. (2017) stated that more than 35% left tech because of unfairness and mistreatment, while 25% were dissatisfied with the work environment. Cain (2021) noted that the current societal climate is heavily characterized by diversity issues that have prevailed in the country and that the high attrition rates of Black employees in tech make it challenging to achieve substantial progress.

Black men face unique characteristics and barriers contributing to middle and senior management positions (Burt et al., 2019). There is minimal information to fully understand all the unique issues that Black men face in high-tech, but scholars have found that they are subject to systemic racism, microaggressions, stereotypes, isolation, and tokenism (Friedlaender, 2018; McGee & Bentley, 2017; Prieto et al., 2016; Ramasubramanian et al., 2020; Wingfield & Chavez, 2020; Wingfield & Wingfield, 2014;). Black men’s underrepresentation in high-tech is a persistent problem as racism is

systematically present with the work done and who gets promoted (Alegria, 2019; Banerjee & Rincón, 2019).

Persistent systematic racism is a psychological barrier for Black men (Fouad & Santana, 2017). They are confronted with racism daily while working in high-tech. Common types of racism that Black men face are negative stereotypes such as aggression and being intellectually inferior to Whites (Cain & Trauth, 2017). The process of disproving a true stereotype may be overwhelming if characteristics of the stereotype are manifested (Andemeskel et al., 2017). The consequences of being subject to negative stereotypes can add stressors to Black men's existence, performance, and social relevance (Cain & Trauth, 2013; Harper, 2015; Jamison, 2017; Spencer et al., 2016; Steele, 2010). Another common type of racism that Black men face is tokenization. Tokenism leads to feelings of isolation, performance pressures, and intense scrutiny in the workplace (Kanter, 1977; Wingfield & Wingfield, 2014).

Numerous studies have examined and documented systematic racism, racial divisions, and the inequities Black men face in high-tech (Barak et al., 2016; Bloch et al., 2021; Cain & Trauth, 2017; Joshi et al., 2016; Leung, 2018; Lum, 2017; Parasurama et al., 2020). Joshi et al. (2016) conducted a study that evaluated how Black men succeed in IT careers. The authors found that while job opportunities were increasing, the number of STEM graduates decreased, which resulted in a lack of qualified minorities in STEM. The results were analyzed using Bourdieu (1990), which helped explain how the underrepresentation of Black men in IT is related to historical systems of stratification

perpetuated by racial inequality. This research suggests that Black men succeed in IT careers by accumulating five forms of capital (cultural, social, symbolic, technical, and economic).

Lum (2017) partnered with Google in a study that suggests racial homogeneity is the absence of a diverse pipeline, the lack of information about career choices, and the lack of industry contacts for graduates during the high-tech recruitment process. The lack of career information can be a driving reason that prevents STEM and non-STEM majors from pursuing careers in the tech industry (Lum, 2017). The relationship between diversity, inclusion, and commitment determines the divisions and exclusions of women and minorities from positions of power. An inclusion-exclusion scale measured how workers feel a part of organizational processes. Results showed that the context of diversity differs across cultures, but there are similarities in the experience of exclusion (Barak et al., 2016).

Bloch et al. (2021) expanded research by examining middle and senior management within workplaces. These scholars examined how the workplace characteristics affect Black men, Black women, White men, and White women's share of middle- and senior-level management. They found that access to middle and senior management varies by the workplace characteristics and the race and gender of the individual and that Black women and Black men are significantly underrepresented in management. As diversity increases, so have cultural problems in high-tech firms. Workplace environments are not inclusive or unknowingly biased (Hunt et al., 2018).

The tech industry is almost exclusively White, and the people who work for them are also disproportionately White (Creary, 2020). Black tech workers are the smallest minority in the information and technology field, and they continue to leave in more significant numbers than other groups across the high-tech industry (Franklin, 2021). Increasing racial diversity in tech may improve the representation of marginalized populations, and it distributes power and resources equitably within the industry (Berube et al., 2018). There may also be significant benefits for tech firms to increase diversity. Thibodeaux (2017) notes that it could generate an additional $400 billion in revenue each year if its workforce's ethnic and gender makeup reflected the nation's talent pool. Thibodeaux further notes that a one percentage point move toward diversity financially leads to a three-point increase in revenue.

Leung (2018) evaluated how to increase the participation of underrepresented individuals in science and technology. The results found that underrepresented groups (women, ethnic and racial minorities) are an essential source of science and technology but are missing out on opportunities. Support systems have progressed, but significant gaps remain between potential underrepresented individuals and the science and technology workforce. Cain and Trauth (2017) researched the issues associated with diversity in the IT workforce and IT education. The scholars reviewed the underrepresentation of Black men in the field and the degree to which they identify as IT professionals and found common themes related to individual identity, individual influences, and environmental influences. They evaluated each theme and the coping

methods Black men use for success. IT education, inclusive of the pipeline, was also reviewed, and Black men were significantly underrepresented at the undergraduate, graduate, and faculty levels (Cain & Trauth, 2017).

Parasurama et al. (2020) analyzed the heterogeneous effects of race and gender on hiring outcomes of Silicon Valley's diversity efforts. The authors discussed the demand and value of diversity and evaluated whether race and gender preferences still exist in high-tech firms' hiring decisions. The authors used two large-scale databases containing historical hiring data of eight firms in Silicon Valley. The statistical analysis and results from the data showed that female and White applicants consistently preferred the callback stage of hiring. However, tech firms have a greater demand for gender diversity, and the underrepresentation of minorities remains a critical issue (Gates, 2021). Cain (2021) notes that many Black men who enter IT leave the profession due to hostility, mistreatment, pay discrepancies, and a lack of mentorship. Cain further states that additional research in this area should focus on a person or group and a meaningful career in IT as the outcome. This study focuses on Black men with successful IT careers as the artifact.

Black Men and the Motivation to Persist in Science, Technology, Engineering, and Math

Tamir (2021) studied the diversity of the Black population of the United States and found through reviewing 2020 census data and a PEW Research Center report that demographic changes in racial identity, economics, income, and education had occurred.

The study found that 10.6 million more people identified as Black, from 36.2 million reporting in 2000 to 46.8 million people in 2019. Tamir (2021) also found that the median age of Black people is 35, the South is home to 53% of the Black people living in the United States, and that 6.7 million (23%) of the Black population over 25 had acquired at a minimum a bachelor's degree in 2019. Tamir implied through this study that young Black individuals are motivated to persist and move within the American corporate world and while implications for policy and practice may be generated from this study, much remains to be known about how Black men manage to excel and persist despite systemic hurdles to their success (Burt, Stone, et al., 2020).

Harper (2010) developed the anti-deficit achievement theory as a counter-narrative to outdated explanations of Black men's failure to succeed. Researchers used the anti-deficit achievement theory to help them discover how minority samples manage to be successful and achieve based on their experiences instead of focusing only on the deficits and potential barriers (Burt et al., 2019). In extending Harper's (2010) theory, Burt et al. (2019) emphasized the etic and emic multilevel strengths of Black men in STEM pathways, which promote their motivation to persist despite strains caused by negative racialized experiences.

Fries-Britt (2018) utilized Harper's (2010) anti-deficit achievement theory to analyze qualitative data spanning nearly 20 years to examine high-achieving Black males' experiences in STEM fields. These studies mentioned above resulted in three nonacademic themes consistently emerging from the analysis that contributed to the

success of Black males in STEM: (a) developing a sense of confidence, (b) developing meaningful relationships, and (c) developing the ability to recognize and navigate stereotypes, bias, and racism. In subsequent research, scholars noted that successful Black men's collegial relationships in tech firms tend to be overlooked and undermined by managers and researchers (Franklin, 2021; Fries-Britt, 2018).

Burt, Roberson, et al. (2020) studied the sources of motivations of Black men in predominantly White institution engineering graduate programs to determine what influences them to persist, despite the challenges associated with their race. The authors studied 42 students using adapted grounded theory techniques and conducted multiple analysis iterations to explore the motivation factors. They categorized results into themes. Burt, Roberson, et al. (2020) worked on developing a new theory of Black men's graduate motivation. The theory explained the factors that influence Black men's experiences and motivations to persist regardless of circumstances. More research is needed on Black men's motivations to persist in navigating collegial relationships in an IT organization setting (Franklin, 2021).

Academic-Industry Partnerships to Tackle Tech's Diversity Challenges

The high technology sector still lags in diversity for its innovative ideas and technological progress (Franklin, 2021). According to the Brookings Institution, Blacks and Latinos are underrepresented in tech jobs by roughly 50%. In other words, while Latinos make up 16.7% of all workers, they only comprise 6.8% of computer and math workers. Furthermore, the gap grows even more comprehensive as Black and Latino's

workers get closer to the C-suite: according to the U.S. Equal Employment Opportunity Commission, Whites hold over 83% of executive-level positions in tech, while Blacks hold only 1.9% (Muro et al., 2020). Diversity challenges faced by the technology sector cannot be met without involving business and academia in a partnership to get Black adults into professional training from a young age (Harper, 2015). Whether through hackathons or mentoring, software development, or recruitment, there are many ways for companies to help people of color develop the skills they need to advance the future of technology (Burt, Stone, et al., 2020).

According to the Economic Policy Institute, people of color have become an ever-larger part of the workplace: they will comprise most U.S. workers by 2032. To help create spaces for Black college students to gain exposure to the technology industry, JPMorgan Chase has partnered with universities and organizations—including historically Black colleges and universities (HBCUs)—to sponsor hackathons and promote volunteerism. Part of *Tech for Social Good*, a JPMorgan Chase initiative, these hackathon events are an opportunity to expose students to how they can use technology to solve good social challenges. It is also a chance for employees to use their expertise to help the next generation of diverse workers develop their skills to join the technology workforce (Cain & Trauth, 2015).

An example of this program was the 5th Annual #BISONHACKS hackathons held in March 2020 at the Howard University School of Business. More than 80 university students participated (JPMorgan Chase, n.d.). They were tasked with

developing technological solutions to address challenges in educational achievement, justice, financial inclusion, and other issues facing members of the Washington D.C., Maryland, and Virginia communities. JPMorgan Chase presented the Best Hack for Empowering Entrepreneurs of Color challenge. Students developed technology projects that would help inspire entrepreneurs and small business owners of color and equip them with the resources to succeed (Muro et al., 2020). The judging criteria focused on how well the solution addressed the challenge if it was innovative, well-designed, and sustainable for the community it would serve. The winning project for the JPMorgan Chase challenge was Startup HU, a marketplace for student entrepreneurs. The team fashioned a website with resources to assist the Howard University community members in launching their startups. In addition to giving students a chance to put their tech skills to the test, the challenge also allowed them to connect with tech employees from throughout the D.C. area (JPMorgan Chase, n.d.).

Research has also found that when institutions implement diversity programs and strategic partnerships, progress can be made toward accomplishing increased equity for underrepresented groups in STEM (Estrada et al., 2016). Advancing Black Pathways is a diversity program that provides educational, career, business, and personal support for underrepresented groups. JPMorgan Chase states that the program aims to increase well-paying career paths for Black students and professionals and support Black executives. Addressing the skills gap in STEM jobs requires that employers strategically engage with

schools, colleges, and universities, to create a talent pipeline of future workers and job seekers (Ainslie & Huffman, 2018).

Under the Code for Good program, university students are bought into the JPMorgan Chase global technology centers, where they work side by side with employees for 24 hours straight to help nonprofits solve a challenge that they are facing. Business engagement early in the education of students is critical to providing career awareness, exploration, and readiness to all students (Ainslie & Huffman, 2018). JPMorgan Chase youth programs are an excellent example of engaging students early. Generation Tech is a unique annual event that addresses the tech skills gap of youth through education, coding, and mentorship. Students ages 14–18 work in teams to create a technical solution for a nonprofit partner. During this event, a JPMorgan Chase technologist mentors and guides the students to design their vision for their solution. Quality mentorship experiences for students predict longer-term STEM career persistence (Estrada et al., 2018).

The Early Insights program and initiative within Advancing Black Pathways engages undergraduate students enabling them to build teamwork, problem-solving and professional development skills through a tailored curriculum that translates into job opportunities (Estrada et al., 2018). The Fellowship program is committed to providing early professional development to students from communities underrepresented in the financial industry. It is a 6-week paid fellowship for Black undergraduate sophomores during the summer months, which helps them build early professional development

skills. JPMorgan Chase also works to support inclusive growth in the communities they serve through volunteerism. The Force for Good program connects employee volunteers with hundreds of nonprofits worldwide to build sustainable tech solutions to advance their missions (JPMorgan Chase, n.d.). Nonprofit organizations are aligned to a team of 10 highly skilled JPMorgan Chase technologists who spend four hours per week over eight months working to deliver a technical solution that will add value to one's organization and the social sector. This program helps recognize individual volunteers of underrepresented groups as valued and appreciated essential team members (Barak et al., 2016).

Black Men and Collegial Relationships in the Workplace

Psychological studies confirm that workplace relationships between colleagues can significantly impact our lives and contribute to job satisfaction, organizational performance, and individual and social well-being (Betzler & Löschke, 2021; Michaelson et al., 2014). Research shows that collegial relationships are meaningful across ethnic and racial boundaries, so it is essential to examine collegial relationships in the high-tech workplace. It is still unclear how interracial collegial relationships are formed or benefit underrepresented minorities (Franklin, 2021). Wingfield (2013) considers these relationships critical as they provide access to informal networks, mentorships, sponsorships, and help from colleagues. The seminal work of Kanter (1977) provides insight into the discriminatory treatment and structural barriers for Black workers in the

workplace. Still, it does not provide information on how exclusionary bias influences relationships between Blacks and non-Black colleagues.

Interracial relationship studies have focused on strategic assimilation and boundary work processes (Lacy, 2004; Meghji, 2017). In groundbreaking research, Lacy (2004) builds on concepts of strategic assimilation to explore processes associated with boundary work. She found that structural assimilation is a process that Blacks use to integrate into the White mainstream. Furthermore, Lacy (2004) finds that Blacks value their Black identity and culture, so they strategically decide how and when to move into the White world. In addition, she notes that moving between the White and Black worlds involves boundary work. She demonstrated that boundary work forms the basis for strategic assimilation as underrepresented minorities tend to socialize and assimilate to White standards when needed (Lacy, 2004).

Building on Lacy's (2004) work, Meghji (2017) explored the boundary-making processes as a resource for a positive social identity for Blacks. Meghji (2017) found that strategic assimilation is a mode of experience used by Blacks to partially assimilate with the White world as a strategy to maintain respectability. Assimilation is vital for Black men in high-tech as they face stereotypes and many issues daily. Bonilla-Silva (2021) characterizes organizations such as high-tech as a racialized social system where subtle processes are in play to maintain racial inequality.

Black men have overcome and navigated through the circumstances within racialized social systems. Sisco (2020) explored how Black men and women have

overcome racial bias using coping strategies. Her work provided insightful information about the professional experiences of Black men and women in the workplace. Sisco (2020) found that Black men and women practice resilience by using coping and self-preservation strategies to confront racial bias in the workplace. Applying boundary theory to collegial relationship formation in a high-tech workplace provides insight into the industry's dynamics of exclusion and affiliation (Franklin, 2021).

Collegial relationships at work are pivotally crucial for career advancement and retention on the job (Creary, 2020). Scholars have documented that Black men in the broader STEM sector face alienation, isolation, stigma, bias, and blocked career advancement (Bloch et al., 2021; Burt et al., 2016). However, the literature has said little about how Black employees' successful collegial relationships strengthen their career advancement in the high-tech industry sector. In addition, there is a literature gap on how Black employees in STEM professions find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021; Ramasubramanian et al., 2020).

A study on the formation of interracial collegial relationships between Black and non-Black counterparts in Silicon Valley's high-tech workforce used boundary theory to analyze macro and micro boundaries observed in Black high-tech workers at a prominent Silicon Valley firm. It was found that macro boundaries designate socially imposed large group divisions and micro boundaries individually asserted social identities. Franklin (2021) showed that macro boundaries designate socially imposed large group divisions.

At the same time, micro boundaries individually asserted social identities and results provided information on the social dynamics of exclusion and affiliation in the workplace for Black employees (Burt et al., 2019). Scholarly knowledge of Black employees' interactions in high-tech with micro and macro social and racial-ethnic boundaries provides strong support for further research on collegial relationships in the high-tech industry (Franklin, 2021; Ramasubramanian et al., 2020).

Despite the numerous studies on Black men in the broader STEM sector facing alienation, isolation, stigma, bias, and blocked career advancement (Anderson, 2004; Bloch et al., 2021; Burt et al., 2016), there is a lack of empirical evidence about how Black IT employees' successful collegial relationships push back against social-professional exclusion (Burt et al., 2019; Ramasubramanian et al., 2020). More research is needed on the social dynamics of exclusion and affiliation in the workplace for Black employees and their peer interactions with micro and macro social and racial-ethnic boundaries (Franklin, 2021). Successful Black men's collegial relationships in tech firms tend to be overlooked and thus undermined (Fries-Britt, 2018). Exploring how successful Black men in STEM pathways push back against social-professional exclusion may help address the lack of racial inclusion, low diversity, and poor representation of Black men in the IT industry (Franklin, 2021).

Fries-Britt's (2018) landmark study examined the experiences of high achieving Black males studying in STEM fields to understand their persistence and success. The author used an existing research database that outlined the experiences of high achieving

Black and underrepresented collegians majoring in STEM fields for several years. The database contained independent studies consisting of several small focus group interviews. This study and follow-up studies also found information that fortified and restored a Black man's confidence when he encountered barriers in organizations and built successful corporate IT workplace relationships (Burt et al., 2019). Scholars recommend that more empirical studies investigate the subtle dynamics that characterize the working and peer relationships between professionals and Black men, as interpreted by Black men (Franklin, 2021; Fries-Britt & White-Lewis, 2020).

Summary and Conclusions

In Chapter 2, I presented a synthesis of knowledge and critical analyses of the extant literature within the topic area of the underrepresentation of Black men in the IT field and the degree to which Black men identify as IT professionals. Both concepts forming this study's conceptual framework (Burt, Roberson, et al., 2020; Fries-Britt, 2018) concerning Black men with successful IT careers and interracial collegial relationships were grounded in Harper's (2010) anti-deficit achievement theory. Harper (2010) stated that deficit thinking often forgets to acknowledge institutional issues with systemic racism and generally will blame any lack of success on the underrepresented minority's social and cultural environment. Despite the numerous studies on Black men in the broader STEM sector facing alienation, isolation, stigma, bias, and blocked career advancement (Anderson, 2004; Bloch et al., 2021; Burt et al., 2016), research is lacking

on the social dynamics of exclusion and affiliation in the workplace for Black employees (Franklin, 2021).

Collegial relationships at work are crucial for career advancement and retention on the job, yet more studies are needed on the peer interactions of Black employees coming up against micro and macro social and racial-ethnic boundaries (Creary, 2020). In contrast to other minority groups, Black men's collegial relationships in tech firms tend to be overlooked and thus undermined (Franklin, 2021; Fries-Britt, 2018). There is a literature gap on how Black employees in STEM professions find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021; Ramasubramanian et al., 2020).

In Chapter 3, the research method for qualitative, multiple case study research. The recruitment, participation, and data collection procedures are presented and applied to the current research strategy. The data analysis plan is addressed, and issues of ethical procedures and trustworthiness of data within the study.

Chapter 3: Research Method

The purpose of this qualitative, single case study with embedded units was to explore how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. Meeting the purpose of this exploratory case study may address the literature gap on how Black employees in STEM professions find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021). This study utilized a single case study with an embedded unit design (Yin, 2017).

Understanding how successful Black men in STEM pathways push back against social-professional exclusion may inform organizational leaders and policymakers on racial inclusion, low diversity, and poor representation of Black men in the STEM sector (Burt et al., 2019; Fries-Britt & White-Lewis, 2020). Raising awareness of the successful experiences of Black men in the workplace may drive positive social change by altering perceptions on the value of Black men as employees, which in turn may help to address further the lack of racial inclusion, low diversity, and poor representation of Black men in the IT industry.

This chapter provides detailed information on the research method and rationale for conducting a qualitative single case study with embedded units. The central research question (CRQ) guiding this empirical investigation is presented along with the participant selection strategy, data collection strategies and data analysis, the researcher's role, ethical considerations, and a summary of the main points of Chapter 3.

Research Design and Rationale

The research question drives the research strategy (Browne & Keeley, 2014). A researcher must identify the right question for a study. Consistent with the purpose of this study, the CRQ was as follows: How do Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships?

Black employees are the smallest minority in the IT field and continue to leave in more significant numbers than other groups across the high-tech industry (Franklin, 2021; Parasurama et al., 2020). Despite the numerous studies on Black men in the broader STEM sector facing alienation, isolation, stigma, bias, and blocked career advancement (Anderson, 2004; Bloch et al., 2021; Burt et al., 2016), there is a lack of empirical research about how Black IT employees' successful collegial relationships push back against social-professional exclusion (Burt et al., 2019; Ramasubramanian et al., 2020). Successful Black men's collegial relationships in tech firms tend to be overlooked and thus undermined (Fries-Britt, 2018).

Black employees are the smallest minority in the IT field and exit the high-tech sector in higher numbers than other demographic groups across the high-tech industry (Franklin, 2021; Parasurama et al., 2020). Black male employees comprise only about 2% of Silicon Valley's top 75 firms, a number unchanged since the mid-1990s, making Black male workers the least represented minority group in high tech (Joint Venture Silicon Valley, 2021). Given this sizable underrepresentation of Black employees in the

information and communications technology (ICT) field, scholars continue to overlook writing about Black men's workplace experiences with their colleagues in high-tech firms that favor women and Asians (Lee et al., 2020). Because of this exclusionary bias in research on Black male employees' collegial experiences, managers assume that this group's high turnover in tech firms is due to Black men's aggression and conflicts with their colleagues (Hudson et al., 2021; Muro et al., 2020). Hence, successful Black men's collegial relationships in tech firms tend to be overlooked and thus undermined (Franklin, 2021; Fries-Britt, 2018).

Black men in the broader STEM industry sector face alienation, isolation, stigma, bias, and blocked career advancement (Anderson, 2004; Bloch et al., 2021; Burt et al., 2016). The literature has said little about how Black employees' successful collegial relationships strengthen their career advancement in the high-tech industry sector. The qualitative method was appropriate for this study because it aligns with my purpose: to understand Black men's experiences within successful IT careers and how they pushed back against social-professional exclusion through their interracial collegial relationships. A mixed-methods approach was inappropriate because quantitative data do not answer a qualitative research question (Harkiolakis, 2017). The qualitative method allows the researcher to generate data about a human interaction's natural setting, analyze data inductively, extract qualitative data from participants, and interpret their findings (Stake, 2010).

The research for this study was a qualitative single case study with embedded units. The single case study design was chosen over other qualitative designs such as ethnography, grounded theory, phenomenology, and narratives because it allows the researcher to accurately understand the case in a real-world environment (Yin, 2017). A case study approach is broad enough to provide the flexibility needed to extend a theoretical model (Norlyk & Harder, 2010). The need for structure and flexibility in extending a theoretical model may be ineffective through a design like narrative inquiry and its storytelling approach or phenomenology's focus on the meaning of lived experiences. Grounded theory is used when the theories resulting from a study are grounded and are a unique outcome of the data from the study (Merriam & Grenier, 2019).

To meet the research design needs of this investigation, Yin (2017) recommended that "the case study method is pertinent when your research addresses either a descriptive question (what happened?) or an explanatory question (how or why did something happen?)" (p. 112). Instead of using the hypotheses, the case study researcher may develop "theoretical propositions," which are used to drive the data analysis of the case (Yin, 2017) and are derived from the academic literature, theories, and analysis of empirical data. New knowledge emerges from a single case study through recognition of patterns in the collected data, its analysis, and the logical arguments that underpin them (Eisenhardt & Graebner, 2007).

Role of the Researcher

The researcher's role in qualitative research is critical. A researcher is considered an instrument engaged in collecting, analyzing, and presenting the results (Denzin & Lincoln, 2011; Maxwell, 2013). As an instrument, the researcher can be the greatest threat to trustworthiness in qualitative research if time is not spent preparing the field and engaging in reflexivity (Chenail, 2009). I was not a participant in this research but rather a researcher investigating the study's questions.

My role was serving as an active player from the planning stage to collecting data, analyzing data, and reporting the findings (Sanjari et al., 2014). I do not have any personal relationships with the participants and do not have power or control. The only connection is that I am a Black man working in a high-tech division of a large corporate organization for over 20 years. I ensured that the data collection method was reliable and verifiable and that the data gathering instrument yielded accurate results during the study to ensure validity (Kumar, 2019; Ledford & Gast, 2014).

Instrumentation rigor and bias management are significant challenges for qualitative researchers employing interviewing as a data generation method in their studies (Chenail, 2009; Mehra, 2002). The researcher's position as the study instrument can lead to research bias (Jafar, 2018). Poggenpoel and Myburgh (2003) suggest the potential reasons for bias can include the following: (a) the researcher's mental state and other discomforts could pose a threat to the truth value of data obtained and information obtained from data analyses; (b) the researcher may not be sufficiently prepared to

conduct the field research, and (c) the researcher conducted inappropriate interviews (pp. 419–420).

I recognized my personal biases and that I was an integral part of the process and final product. I was transparent, reflexive, and critically self-reflective about any preconceptions and focused on how data were collected, analyzed, and presented (Polit & Beck, 2014). I logged all research activities and tracked personal bias to control the accuracy of the research process and findings (Berger, 2015). My role and influence in providing meaning and interpretation of the data were consciously applied not to interfere with that of the participants (Saldaña, 2016). I kept in mind that my research position was as an observer, recorder, and qualitative data analyst throughout the process (Chesebro & Borisoff, 2007).

Methodology

Through this research, I aimed to gain a deeper understanding of the experiences of Black men with successful IT careers and their inte-racial collegial relationships. I used an exploratory qualitative single case study with embedded units (Yin, 2017) for this study. A quantitative method was inappropriate because quantitative research designs examine relationships, test theories, standardize reporting, and collect quantifiable data. A mixed-methods approach was inappropriate because quantitative data do not answer a qualitative research question (Harkiolakis, 2017).

A single case study focuses on and explores a case to gain a holistic, real-world view and emphasizes intensive investigation and analysis of a unit embedded in a case to

realize a meaningful contribution to knowledge by confirming, challenging, or extending a theory (Yin, 2017). Data from multiple sources, such as participants' experiences, generate a whole picture of the phenomenon (Merriam, 1989; Yin, 2017). Noor (2008) points out that a case study may be a person, event, entity, or another unit of analysis. The case in this research was Black men working in high tech within the IT industry. A single case study intensively emphasizes an investigation and analysis of a unit embedded in a case (Hancock & Algozzine, 2016; Yazan, 2015), enabling a researcher to contribute significantly to the existing knowledge by extending the theory (Yin, 2017). Adolphus (2016) further notes that case studies offer a chance to get a snapshot of real-life situations and are most appropriate for dealing with complex subjects with some ambiguity. The subject of this study was complex in that it examined the real-life relationship between Black men and their employing high-tech organizations regarding fairness and opportunities while highlighting systemic racism.

Exploratory case studies also investigate problems that have not been studied clearly and lack a detailed preliminary investigation (Maslach, 2017). This type of research was ideal for this study because collegial relationships at work are crucial for career advancement and retention on the job, yet research is lacking and has been overlooked on how Black men's collegial relationships in tech firms drive their career success (Creary, 2020; Franklin, 2021). Qualitative research uses varied purposeful sampling strategies to identify and select information-rich cases related to the phenomenon of interest (Palinkas et al., 2013).

To meet Walden PhD dissertation standards for sample size, I conducted five to 10 online semistructured interviews with Black men reporting that they had successful IT careers. The final sample size was determined by data saturation within the interview data (Merriam & Grenier, 2019). I conducted 7 in-depth online interviews using the Zoom platform with knowledge workers (Gray et al., 2020). It is recommended to select a range of five to 10 participants for a qualitative study, as a larger sample size may weaken an in-depth investigation of the phenomena under study (Schram, 2006).

In order to address the gap in the literature and the research problem, qualitative data were collected from multiple sources, including interviews, reflective journaling notes, and archival data, to support the trustworthiness of the findings and make suggestions for further research (Guion et al., 2011). Stake (1995) notes that while using a qualitative approach, a case can be assessed from various perspectives by reviewing more evidence and outlining the research findings with the available data. An appropriate participant selection logic was developed so that the data collection process met the case study criteria (Yin, 2017).

Participant Selection Logic

The target population for this case study was Black men in the IT industry. Black employees are the smallest minority in the IT field, are less represented than White and Asian males, and continue to leave in more significant numbers than other groups across the high-tech industry (Franklin, 2021; Parasurama et al., 2020). Black male employees comprise only about 2% of Silicon Valley's top 75 firms, a number unchanged since the

mid-1990s, making Black male workers the least represented minority group in high tech (Joint Venture Silicon Valley, 2021).

Purposeful sampling and snowball techniques were used to choose participants who could provide rich information relevant to the research questions (Maxwell, 2013; Palinkas et al., 2013). Purposeful sampling is utilized in qualitative research to recruit information-rich cases related to the phenomenon of interest (Merriam & Tisdell, 2015). Purposeful sampling resides on the proposition that information-rich samples are selected to gain an in-depth view of phenomena (Shaheen et al., 2016). Purposeful samples are generally small, so their utility and credibility are questioned based on their logic and purpose (Shaheen et al., 2019). Snowball sampling helps identify other participants who meet the selection criteria by asking key participants to refer other potential participants to the study (Merriam & Tisdell, 2015). It creates a succession of participants from the referrer who would be good sources, enabling the researcher to access quality participants who might be challenging to identify using other sampling strategies (Noor, 2008).

The participants for this case study were recruited and screened with the following inclusion criteria: adult Black men over 18 years old, 5 years minimum experience in the IT field, and willingness to discuss interracial collegial relationships. The study sample's inclusion criteria replicated inclusion criteria from other similar studies (Coston, 2020; Franklin, 2021; Muhammad & Halkias, 2019). Potential participants who did meet the inclusion criteria were excluded from the sample list. I conducted 5 to 10 online, semistructured interviews with Black men reporting that they

had successful IT careers using the Zoom video application (Gray et al., 2020). Schram (2006) recommends a range of 5 to 10 participants for a qualitative study, as a larger sample size may weaken an in-depth investigation of the phenomena under study.

Procedures to identify, contact, and recruit participants were achieved through a purposeful selection of Black men working in high tech through my professional network and professional groups on LinkedIn. The LinkedIn social network is a platform that is useful for recruiting professionals to participate in research. It enables researchers to receive responses and feedback from many professional practitioners (Stokes et al., 2019). LinkedIn also enables researchers to target specific participants in a particular field through professional groups. Because individuals' profiles are checked thoroughly before they are granted access to a group, a researcher may be assured that they meet the inclusion criteria based on their experience and current position (Unkelos-Shpigel et al., 2015).

I conducted network sampling of my professional network active on LinkedIn and prescreened the Black male professionals who met the inclusion criteria. I emailed the pre-screened participants and sought their interest in participating in the study. I sent a consent form via email to the participants who finally met the inclusion criteria to participate in the research voluntarily. The final sample size was determined by data saturation within the interview data (Merriam & Grenier, 2019). Guest et al. (2006) notes that data saturation may be attained by as little as six interviews depending on the sample size of the population. According to Burmeister and Aitken (2012), data saturation is not

about the numbers but the depth of the data. Large sample sizes do not guarantee that one will reach data saturation (Burmeister & Aitken, 2012).

Methodologists support that no more than 15 participants may be used to reach thematic saturation for a qualitative study (Mason, 2010). Extended interviews with up to seven people are sufficient for a qualitative study if data saturation is reached (Halkias et al., 2022). Bernard (2013) argued that no more than 10 knowledgeable participants could sufficiently reveal necessary themes and achieve data saturation. I continued past five participants until I reached data saturation, with similar data noted from participants P5, P6, and P7 (Schram, 2006). Data saturation is achieved when the relative frequency of codes is stabilized, and further data points will not change the results of a study (Guest et al., 2006). No new themes emerged after interviewing eight participants, and data saturation was achieved after Participant 5.

Instrumentation

Instrumentation in a case study collects qualitative data from multiple sources and provides appropriate data collection instruments to answer the research question (Yin, 2017). Instrumentation protocols that align with the study's purpose may contribute original data to its conceptual framework. By carefully choosing appropriate data collection processes, themes to support insights emerged from studying how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. Three sources of data were utilized throughout this study: (a) a semistructured interview protocol (see Appendix B) whose items have been

designed and standardized by previous researchers, (b) archival data in the form of government and popular media reports (Yin, 2017), and (c) reflective field notes (Merriam & Tisdell, 2015), which were kept by the researcher throughout the entire data collection process.

The Interview Protocol

The interview guide for this study (Appendix B) consisted of semistructured questions adapted from an interview guide developed by Burt, Roberson, et al. (2020). It was used to collect the experiences of Black men with successful IT careers in pushing back against social-professional exclusion through their interracial collegial relationships. Burt, Roberson, et al. (2020) designed and validated the interview questions in research conducted at the University of Wisconsin-Madison in a study that advances a new theoretical model to describe the overlaying factors and sources of motivation—and their interrelations—that influence Black men to persist and stay in the engineering sector. The interview protocol was an open-access document, and the interview protocol questions have been piloted and validated (Burt, Roberson, et al., 2020). Validation is necessary but not critical to qualitative research, given that concepts invariably reflect the realities of the study's context (Merriam & Tisdell, 2015).

This present study utilizes a similar conceptual lens used by Burt, Roberson, et al. (2020), thus supporting using their interview items to replicate that portion of the study. The interview questions used in this study were grounded in the theoretical literature and Burt, Roberson, et al. (2020) insights into the study topic. This study's interview protocol

was consistently grounded with this study's conceptual framework: (a) Burt, Roberson, et al.'s (2020) concept of Black men's motivation to persist against social-professional exclusion, and (b) Fries-Britt's (2018) concept of Black male success in STEM pathways. In the study, Burt, Roberson, et al. (2020) conducted 42 semistructured interviews, followed by a member checking process.

The semistructured interview strategy facilitates a subjective understanding of a phenomenon or phenomena (Kvale, 1995; Tracy, 2019). Hence, using piloted, semistructured interview questions in a case study of this kind was valuable in gaining insight into each participant's experiences to transfer study results to other contexts. Transferability presents a challenge for qualitative researchers in that it limits findings to given sample groups and their contexts (Klenke, 2016). Establishing a rigorous case study design can strengthen the transferability and trustworthiness of study results to extend theory using said data's transferability (Stake, 2010). Finally, the interview protocol included prompts to facilitate conversations regarding the facts, such as "Can you give me an example of that?" and "Please tell me more about that." Probing questions can encourage detailed responses from participants. When asking about specific details, probing questions can be customized to the participants' specific narratives (Merriam & Tisdell, 2015).

Archival Data

Archival data can be any information previously collected by others and is available for systematic study and a source of data collected within the case study design

(Yin, 2017). I reviewed and annotated peer-reviewed scholarly papers from at least 150 scientific journals during this process. I gathered these archival data and created a database containing information from the popular press and professional IT reports such as the Association of Computing Machinery Digital Library (ACM DL), McKinsey & Company, Deloitte, and social media sites regarding diversity and inclusion in the IT sector. Archival data evidence from government labor and health statistics focused on diversity issues in the IT industry and Black men's presence in corporate America. These reports were not substantive for the literature review and served as a data triangulation source to complement the semistructured interview data and reflective field notes.

Reflective Field Notes

The third instrument used to gather data from the research participants was the assembly of netnographic field notes derived from semistructured interviews conducted via the Zoom platform (Kozinets, 2017). Zoom enables the interview interaction to avoid contextual information influencing the researcher to avoid personal reflexivity and maintain a significantly unbiased atmosphere (Gray et al., 2020). Reflective field notes may reveal more than observational field notes because online data interactions are usually not recorded while occurring and, as such, reflect a written database of researcher observations concerning subtexts, pretexts, contingencies, conditions, and personal emotions occurring during the semistructured interview (Morgan et al., 2017).

This netnographic field note process may reveal critical details concerning online social interactions' functioning to decode the explanations underlying cultural actions

relative to providing a more detailed description (Kozinets, 2017). Compositing netnographic field notes require a more in-depth detail of the human experience and can be achieved through field note inscription. Developing netnographic field notes prompts the beginning of the data analysis process in a study driven by a qualitative study purpose and research methods (Kozinets, 2017). This method has been used in similar studies such as Muhammad and Halkias (2019), where a multiple case study design uses case study observational research methods to explore the research questions within real-world settings (Yin, 2017).

Procedures for Recruitment, Participation, and Data Collection

I initiated the recruitment process after obtaining formal approval from the Walden University Institutional Review Board (IRB), advising me to move forward with conducting the research. I sent an introductory email invitation to potential participants identified and pre-screened from the LinkedIn platform on social media. Compared to traditional recruitment methods such as flyers, newspaper adverts, letters, emails, and word-of-mouth, social media provided greater visibility and was a cheaper and faster recruitment method (Whitaker et al., 2017). I solicited their involvement by providing information about the study. The participants were made aware of the aim of the study, the duties of participation, and all other information that ensured they participated based on an informed decision (Robinson, 2014). Additionally, I noted the criteria for inclusion and information regarding the interviewing process, which took approximately 45 minutes.

I attached the informed consent and demographic forms to the email. The demographic forms provided the participants' age range and did not include the exact age to protect their privacy. The informed consent explains the nature and purpose of the study, the risk and benefits of being a participant in the study, and the potential positive social change resulting from the study. The informed consent also states that participation was voluntary and that participants could withdraw their participation from the study, and I noted how their privacy was protected by ensuring confidentiality and anonymity throughout the research process.

For those who choose to participate, I requested that the participants express their consent by responding to the email with the words "I consent" and their availability to participate in an interview, thus commencing the interview process and engagement in the study. I then prepared an interview timeline based on their agreement and availability to participate. I developed a set of semistructured interview questions based on the conceptual framework noted in the literature review to understand how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. Semistructured interviews offer an opportunity to address the primary research question and gain additional insights from participants (Manhas & Oberle, 2015).

Each semistructured interview on Zoom was scheduled for 30–40 minutes, in which 5 minutes were used to verbally review the purpose of the study and the informed consent. The interview was conducted in a safe, quiet, and relaxed setting, free from

distraction. During the interview, I asked open-ended and probing questions. These questions allowed the participants to provide depth and detail and clarify ambiguities (Rubin & Rubin, 2011). I took notes of participants' responses and observational cues during the interview to gain a more in-depth insight into the participant's views (Seitz, 2016).

The interview was recorded. Once the interview was completed, I saved the audio recording and secured the file with encryption and password protection on my laptop's hard drive. The audio recordings were professionally transcribed verbatim to ensure the precision of the interviewee's responses, allowing for thematic analysis (Yin, 2017). After the file was professionally transcribed, I downloaded it to an encrypted password-protected USB drive, sent it to each participant, and provided them with a timeframe to review their transcript for correction and clarification. This process increased the dependability of the study through participant checking. The transcribed data will be kept confidential and destroyed after five years.

Data Analysis Plan

Qualitative data analysis turns written data such as interviews, field notes, and archival documents into findings and conclusions. Case study data analysis is examining, categorizing, tabulating, testing, and converging case study evidence to produce empirically based findings (Yin, 2017). A common problem in qualitative studies is that the data collection process results in a significant amount of unanalyzed piled-up data that needs to be analyzed by researchers (Maxwell, 2013). The research rigor is increased

by interweaving the data collection and analysis processes (Miles et al., 2014). That noted, I conducted data collection and analysis concurrently in this study. Before data analysis began, I prepared a detailed description of the research setting (Yin, 2017).

I began the process of data analysis by reviewing and examining the data to determine what was worth investigating by reading through the interview transcribed data and other documents that were analyzed (Maxwell, 2013), determining and following a specific analytical technique appropriate for the data, coding the interview data, and interpreting the findings (Miles et al., 2014). The data analysis allowed me to identify emerging themes and patterns that helped explain the central research question of how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships.

When the emerging themes were categorized, findings provided a more profound understanding of how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. According to Halkias and Neubert (2020), the research setting is a physical, social, and cultural site where a researcher conducts a study and studies the participants' natural settings. Given (2008) notes that the focus is mainly on meaning-making in qualitative research, and the researcher studies the participants in their natural settings. I documented a detailed description of the research setting before data analysis began. This assisted me in making sense of meaning during the interpretation of the findings (Merriam & Tisdell, 2016). Documentation and understanding of the conditions under which a study occurs boost the

study's repeatability or reproducibility if another researcher is conducted in a similar setting. I developed the codes that are grounded in the conceptual framework. I connected the result of the data analysis with the central research question and concluded so that anyone could comprehend the entire research process that led to the conclusion (Tracy, 2019).

Data analysis requires a rigorous approach for case study research when applying the five analytical techniques of pattern matching, explanation building, time-series analysis, logic models, and cross-case synthesis (Yin, 2017). This study applied rigor and adopted pattern-matching logic that addressed my case study's "how." Pattern matching occurred when the predicted pattern was compared with the empirical pattern. I predicted the study's findings by critical propositions from the literature review and my personal and professional knowledge of Black men's experiences in the IT industry. Pattern matching examines whether the empirically-based pattern matches or deviates from the predicted pattern (Yin, 2017). In this study and according to Yin's procedure for pattern matching, I compared the empirically based pattern with the predicted pattern, examined the extent of the matching, offered rival explanations where necessary, interpreted the result, and concluded.

In qualitative inquiry, a code is a researcher's generated construct symbolically assigned to capture the summative or the essence of every statement in the transcript of data (Saldaña, 2016). A code could be a word or summative short phrase assigned to individual data to initiate the qualitative analysis. Coding is a crucial aspect of qualitative

data analysis (Miles et al., 2014; Saldaña, 2016). After each participant completed the transcript review process, I began the initial review and coding of the data. I carried out two coding cycles, the pre-codes and the actual code. The pre-coding provided the basis for coding. Once pre-coding was compared with the coding, I put the codes into categories for thematic analysis. Saldaña (2016) mentioned that coding is a cyclical act, and it is rarely possible to arrive at perfect codes during the first cycle.

To validate the finding of this study, I compared them with the findings of similar studies (Stake, 2008). Discrepant cases are data out of congruence with the pattern or explanation emerging from the data analysis (Stake, 2010). According to Maxwell (2004), analyzing, interpreting, and reporting discrepant cases is necessary as it may help the researcher broaden, revise, or confirm the patterns emerging from the data analysis and further enhance the study's credibility. Researchers should search for theories, data, or discrepant information that runs counter to themes or analyses because presenting these data and evidence supporting and contradicting the research's perspectives increases the study's validity (Maxwell, 2013). Reporting the case study results is the final step of case study research (Yin, 2017). I reported the outcome of the case study by using thick descriptive narratives and presented to my research audience a holistic picture of the experiences of Black men with successful IT careers with interracial collegial relationships.

Issues of Trustworthiness

In qualitative research, trustworthiness is how a researcher demonstrates confidence in their findings. The researcher's sources and methods to produce trustworthy findings are determined using four criteria: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). Elo et al. (2014) wrote that the trustworthiness of results must be evaluated throughout the main qualitative content analysis phases, from data collection to the preparation, organization, and reporting of results.

Credibility

Credibility in a study is considered the most crucial criterion to establish confidence in the study's findings (Lincoln & Guba, 1985). The researcher must demonstrate that the presented findings represent the phenomenon's accurate picture (Shenton, 2004). Data triangulation is achieved through consistent findings by converging data from multiple sources (Yin, 2017*).* I used methodological triangulation to reach the consistency of findings by using different data collection methods and data triangulation to reach the same goal by using different data sources within the same method (Lincoln & Guba, 1985). The conceptual models with which I grounded this study are Burt, Roberson, et al.'s (2020) concept of Black men's motivation to persist against social-professional exclusion and Fries-Britt's (2018) concept of Black male success in STEM pathways.

With methodological triangulation, I triangulated data obtained through the Zoom interview method. Reflective field note data and archival data supported the trustworthiness of findings and enabled suggestions for further research (Guion et al., 2011). Lincoln and Guba (1985) state that prolonged engagement enhances creditability in a study. They note that as the researcher becomes immersed in the study, the context and settings generate more precise and focused findings. During the interview process, I developed an in-depth understanding of the experiences of Black men with successful IT careers and their interracial collegial relationships through prolonged engagement.

Transferability

Transferability refers to a study's findings transferable to other contexts, settings, and participants (Stake, 2010). To achieve transferability, a researcher must acquire thick, rich data (Morse, 2015). Thick, rich data occurs when the emerging themes are plentiful and overlap, leading to recurring meaning (Morse, 2015). The researcher needs to provide enough details of the context and the setting encountered during the fieldwork so that another researcher can assess whether the current environment is similar to other settings (Yin, 2017). Transferability was critical to my study, so my study's findings on Black men's experiences with successful IT careers and their interracial collegial relationships may allow stakeholders and leadership throughout the high-tech industry to work towards hiring and retaining more Black men in high-tech. I strengthened my study results' transferability by developing rich, thick descriptions of the entire research

process, method, participants, contexts, settings, data samples, and the sampling method (Houghton et al., 2013).

Dependability

Dependability in qualitative research ensures that the study's findings are consistent and can be repeated and measured by the standard with which the study is administered, scrutinized, and presented (Yin, 2017). The dependability of qualitative research findings is essential to the study's trustworthiness because it ensures that if other researchers review the data, they will arrive at the same conclusion. Stenfors et al. (2020) noted that if another researcher follows the same procedural steps, they may replicate the initial research if sufficient information is provided under similar conditions.

Dependability is ensured by the audit trail, which provides complete notes on decisions made during the research process (Korstjens & Moser, 2018). Member checking also secures dependability through reviewing and discussing the interview transcripts with participants (Morse, 2015). Lincoln and Guba (1985) argued that member checks are the most crucial tactic for assessing trustworthiness. I used the audit inquiry technique and member checking to establish dependability in this study.

Through member checking and transcript review, the researcher can genuinely understand the participant's actual perception and truth during the interview to further enhance the credibility of the study results (Merriam & Tisdell, 2015). The audit inquiry technique involves the researcher's detailed account, from data collection to the research findings. I created a detailed account of how the data were collected, categorized,

themed, and interpreted, including my decisions to arrive at the findings (Lincoln & Guba, 1985).

Confirmability

The confirmability criterion verifies that the research findings are derived from the participants' narratives and other data sources for the study rather than the researcher's biases, motivation, or interests (Lincoln & Guba, 1985). This study used reflexivity and transcript review to achieve confirmability (Lincoln & Guba, 1985). Reflexivity involves self-awareness and analytic attention to the researcher's role while conducting a qualitative research study (Lambert et al., 2010; Palaganas et al., 2017). Throughout this study, I practiced reflexivity by being aware of my contribution to constructing meanings from the participants' experiences. Attitude is usually passed across using signs conveyed verbally, with body language, and so on (Stake, 2010). I recorded these signs in my reflective journaling notes to support context-based verbal tones reports, allowing for a more comprehensive memory. I shared records of electronically transcribed research participants' responses individually with the respective participants to examine and verify the accuracy of interpretation with transcript review, a technique within the member checking process (Merriam & Tisdell, 2015).

Ethical Procedures

Walden University requires all doctoral students to obtain approval from Walden University's IRB before data collection may begin. I complied with the IRB requirements necessary to recruit the participants and the data for this study ethically. The IRB ensures

that participants involved in the study of human subjects are protected from being harmed or injured during a study (Jacob & Ferguson, 2012). I applied to IRB and kept a record of my application approval number issued by the IRB. I accessed the research site, reached out to participants, and collected data with IRB approval.

Participation in any research involving human subjects is voluntary, and as a researcher, I was obligated to achieve this through informed consent. Informed consent is a procedure where the participant in a study, having understood the research information, process, and risk, can voluntarily indicate a willingness to participate. Informed consent procedures require that researchers explain any risks of harm associated with participation in a study to those involved. After informing them of the risks, a researcher obtains consent from the study participants before proceeding with research activities (Josephson & Smale, 2020).

I developed an Informed Consent Form and sent it to each participant to sign and return to me electronically via an email address designated for the study. The consent form served as an opportunity for the participants to ask me questions and clarify any issues about the study and its process. The conduct of a study must follow the highest ethical standard, and the researcher must take full responsibility for the scholarship, professionalism, and appropriateness of the methodology adopted for the research (Yin, 2017). Ciuk and Latusek (2018) stated that research ethics are an inherent element of research and that researchers need to foresee, address, and reflect upon ethical issues during the research process. Ethical questions surface throughout the research process

requiring researchers to make their own choices depending on the research context and according to their conscience (Guillemin & Gillam, 2004).

The study's research ethics involve research design, ranging from research goals, research questions, validity, and methods (Maxwell, 2013). Additionally, originality and referencing others' scholarly works appropriately to avoid plagiarism is part of the ethical obligation that a researcher must observe and comply with. I worked hard to establish a trust relationship with the participants and addressed the participants' privacy and confidentiality of the views and perceptions that they expressed in the study (Palys & Lowman, 2012).

The following is a list of the highlighted ethical actions I took to comply with the ethics of conducting human subject research:

1. I did not engage in pressure, undue influence, or motivation, such as offering value to involve the research participants.
2. Participation was voluntary, and the participants were informed of their rights to withdraw unconditionally and at any time from the study.
3. I addressed anonymity by randomly allocating pseudo names in place of participants' actual names during data collection and analysis.
4. In case of an audit inquiry, I provided a pseudonymous copy of the report to the external researcher to secure the participants' identities.
5. I addressed confidentiality by signing off on consent letters with a promissory guarantee to individual participants that their personal information and

identities are protected from the public. The demographic form did not ask for participants' exact age but a range of age to ensure the participants' critical demographic information privacy. I addressed the ethics of respect for participants by involving the participants while scheduling the interview. The participants had the right to dictate the interview date and times most convenient for them to address the ethical process of causing no psychological harm by being psychologically meticulous while asking probing questions.

6. I did not probe participants' personal life experiences but probed participants' professional life experiences to bring depth to the study.
7. I informed the interview protocol participants about the data collection devices such as Zoom and voice recorder and asked them to express their concerns.
8. I obtained approval from the IRB before data collection began.
9. I asked the participants to validate their responses as recorded in the transcript before data processing.
10. I provided the participants access to a copy of the research paper before publication to confirm that their privacy was genuinely covered in the report.
11. I dealt less with hard files of data and more with electronic files. Where hard files were involved, such as interview notes, print photographs, audio, or video files, I securely locked them away in a cabinet that I could only access. All electronic files were password protected and encrypted.

12. I will erase, incinerate, and destroy all hard and soft data collected after five years and inform the participants accordingly.

Summary

In Chapter 3 of this study, I elected to use a qualitative single case design over other qualitative designs such as ethnography, grounded theory, phenomenology, and narratives and substantiated the rationale for adopting the research design. As a qualitative researcher, I discussed my function as a research instrument, observer, recorder, and qualitative data analyst rather than as a participant in the study. I identified the potential for research biases that may arise from the study and discussed how such biases would be moderated through reflexivity. The single-case design was grounded in an appropriate methodology for selecting and recruiting the participants using the criterion-based snowball strategy and collecting research data from multiple sources (interview, archival data, and reflective field notes). The interview protocol was grounded in the conceptual model framing the study by Burt, Roberson, et al. (2020) concept of Black men's motivation to persist against social-professional exclusion and Fries-Britt's (2018) concept of Black male success in STEM pathways.

The thematic analysis of the study's data to produce empirically based findings and interpret them using pattern matching is presented. The credibility, transferability, dependability, and confirmability of data results were addressed to support the study's overall trustworthiness of findings. I described actions necessary to achieve ethical researcher conduct research on human subjects, mandated by the IRB. Chapter 4 will

provide a detailed description of the research setting, demographics, data collection, data analysis, evidence of trustworthiness, and the study results.

Chapter 4: Results

The purpose of this qualitative, single case study with embedded units was to explore how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. This topic remains poorly understood; therefore, this exploratory study addressed a literature gap concerning how Black employees in STEM professions find common ground in interracial collegial relationships to push back against social-professional exclusion (see Burt et al., 2019; Franklin, 2021; Ramasubramanian et al., 2020). I used seven semistructured interview questions adapted from an interview guide developed by Burt, Roberson, et al. (2020) to collect the experiences of Black men with successful IT careers in pushing back against social-professional exclusion through their interracial collegial relationships. Burt, Roberson, et al. (2020) designed and validated the interview questions in research that advanced a new theoretical model to describe the overlaying factors and sources of motivation—and their interrelations—that influence Black men to persist and stay in the engineering sector.

When triangulated with archival data and reflective field notes, the semistructured interview data findings provided in-depth insight into participants' experiences with the central phenomenon. Exploring how successful Black men in STEM pathways push back against social-professional exclusion may help address the lack of racial inclusion, low diversity, and poor representation of Black men in the STEM sector (see Burt et al., 2019;

Fries-Britt & White-Lewis, 2020) and inform ICT industry leadership on the value of Black employees through their positive collegial relationship impact (Franklin, 2021).

This chapter describes the research setting, participant demographics, data collection procedures, data analysis procedures, and evidence of trustworthiness and presents the study results. The chapter concludes with a summary and a transition to Chapter 5.

Research Setting

Data for this single-case study was collected by conducting semi-structured interviews with seven Black men in the IT industry. Interviews were conducted using the Zoom meeting platform and recorded on the Otter.ai application and a Sony UX series digital voice recorder. The interviews ranged in time from 45 to 60 minutes. The inclusion criteria for participation were (a) adult Black man over the age of 18, 5 years minimum experience in the IT field, and (c) willingness to discuss their interracial collegial relationships.

Participants were recruited using the LinkedIn professional social media platform, using snowball sampling, and drawing from two premier Black network organizations for African Americans in the technology field: Black Data Processing Associates (BDPA) and Blacks in Technology. Recruitment occurred by sending potential participants requests to participate in the study via direct messaging on LinkedIn and direct email communication within the network organizations. Once connections were made, potential participants were sent the introductory letter and consent form via email. After

participants responded “I consent” to my email, we coordinated a mutually agreed day and time for the interview at the candidate’s convenience.

The semistructured interview protocol (Appendix B) was created as a guideline to ensure that the interviewee was comfortable with the topic, understood the background of the research, and had some critical definitions in the context of the study area. During the interview, participants were reminded of their right to end the interview and cease participation in the study. I also reminded participants that the interview would be recorded, and I indicated to them when I started and stopped the recording. Participants appeared to be very comfortable during the interviews and expressed themselves freely while sharing their interracial collegial relationship experiences.

Demographics

Participants for this study were selected using purposeful sampling via the network and snowball technique. Purposeful sampling and snowball techniques were used to choose participants who could provide rich information relevant to the research questions (Maxwell, 2013; Palinkas et al., 2013). This required identifying two potential participants and asking them to recommend additional potential participants who met the criteria. All seven participants met the criteria to participate in this study. The collected demographic characteristics were data points relevant to this study’s conceptual framework.

The characteristics included age, education level, years of experience in IT, title, organizational role, and organizational sector. Most participants were highly educated

and between the ages of 51 and 60 with over 20 years of experience. Participants had experience as DevOps engineers, software developers, system architecture professionals, and other IT professionals. All were very accomplished, with varying degrees of responsibility. Those in the majority group had worked their way up to leadership positions. Table 1 provides the demographic details of all participants in this study. Participants are identified with pseudonyms.

Table 1

Participants' Demographics and Characteristics

Participant	Age	Years of experience in IT	Education level	Title	Role	Organization Sector
Participant 1	31–40	15	Bachelor's	Vice President, Technology	Engineering lead, DevOps	Private
Participant 2	51–60	30	Master's	Vice President, Software Development	Software portfolio manager	Private
Participant 3	31–40	20	Bachelor's	Executive Director, Technology	Chief information officer	Private
Participant 4	51–60	21	Master's	Vice President, Product	Technology product owner	Private
Participant 5	51–60	29	Bachelor's	Director, Architecture	Architect	Private
Participant 6	41–50	12	Bachelor's	Manager, DevOps	DevOps engineer	Private
Participant 7	21–30	8	Bachelor's	Associate, DevOps Engineer	DevOps engineer	Private

Data Collection

The data collection for this single case study with embedded units began on January 31, 2022, after receiving IRB approval from Walden University. Walden University's IRB approval number for this research is 01-28-22-0543616. The seven participants were recruited using purposeful and snowball sampling. I used the search tool within the business social networking site LinkedIn to search for potential participants for this study. I used search terms related to the inclusion criteria to identify two to three potential participants, aligning with the network and snowball sampling strategy (see Merriam & Tisdell, 2015). LinkedIn search terms included *Black employees in technology*, *Black male success in IT*, *Black men in IT*, *Black men in STEM professions*, *Black employee career advancement in tech firms, collegial relationships, diversity goals in STEM professions*, *diversity goals in the tech firms, favorable intergroup relations*, *interracial collegial relationships*, *race/ethnicity*, and *advancement in information technology.*

I was then able to go through the search results and visually identify African American/Black men in IT via their LinkedIn profile picture and contact them regarding participation in this study. Additional participants were identified by their email addresses on the two premier Black network organization websites for African Americans in the technology field: BDPA and Blacks in Technology. LinkedIn is set up so that one can only send an in-platform email message to people with whom one is connected. To identify potential participants for this study, I had first to send a

connection request to potential participants to be connected on LinkedIn and to send an email message via the platform's sharing channels. Not all potential participants to whom I sent a connection request accepted my request to connect on LinkedIn.

Once connected, I sent the introductory email and attached the consent form to prospective participants using the LinkedIn email messaging system. I sent direct emails to those potential participants in the Black network organizations. In terms of responses, several scenarios happened: The potential participant responded with questions about the study, the potential participant indicated that they could not participate at that time, or the potential participant responded and indicated that they were interested and provided consent to participate in the study.

After identifying two to three participants who provided consent to participate in this study, I requested a recommendation from them of other potential participants who met the inclusion criteria and might be interested in participating in this study. Those participants who knew other Black men in IT provided me with recommendations that included names and contact information. I sent an email and a direct message to the recommended potential participants via traditional email and LinkedIn. I sent 22 invitations to participate in this study via traditional email. Overall, the feedback was positive, with 12 acceptances, six individuals who could not participate, and four who did not respond. Once the potential participants who accepted the invite provided consent to participate in this study, communications continued via email and phone to establish a date and time.

Semistructured Interviews

The next phase of data collection consisted of scheduling participants for interviews. Participants were scheduled for interviews at their convenience. Interviews took place over 3 weeks, from February 19, 2022 to March 9, 2022. I used the Zoom platform to create the meeting invitation for all seven interviews, including the dial-in information, which I copied and pasted into a Microsoft Outlook meeting invite. All interviews via Zoom were audio-only and recorded via Zoom's integrated recording feature, the Otter.ai app on my iPhone, and a Sony digital voice recorder. I experienced no issues connecting with the experts via the Zoom platform or recording tools. The Otter.ai app automatically provided an initial transcript that was later cleaned up and corrected as needed. During the data collection process of conducting interviews, I engaged with the participants and dismissed all biases, preconceived ideas, judgments, and concepts that I had regarding Black men in IT.

I also disclosed to each participant that I was a Black IT professional. I followed the semistructured interview protocol (see Appendix B) and bracketed my knowledge and experience. I listened to each participant intently and allowed participants to express themselves without interruption. I maintained a handwritten journal to complement the audit trail and balance the information across the documents. The combination of journaling and reflective notes increased the study's information and strengthened the study validity. Participants were comfortable and expressive in their responses, and there were no signs of distress in their communication. I continued past five participants until I

reached data saturation, with similar data noted from participants P5, P6, and P7 (see Schram, 2006).

Data saturation is achieved when the relative frequency of codes is stabilized and further data points will not change the results of a study (Guest et al., 2006). No new themes emerged after interviewing eight participants, and data saturation was achieved after Participant 5. Guest et al. (2006) notes that data saturation may be attained by as little as six interviews depending on the sample size of the population. According to Burmeister and Aitken (2012), data saturation is not about the numbers but the depth of the data. All interviews were completed and yielded rich, in-depth data from the Black men in IT.

Member Checking

After completing each interview, I uploaded the audio file of the recorded interview to the transcription service Otter.ai for transcribing. Each transcription took between 1 and 4 hours to complete, including minor edits. Each participant was emailed a copy of the transcript for member checking to ensure the accuracy of their statements and to ensure that I had accurately captured each participant's responses. This type of transcript review is part of the member-checking process to ensure rigorous qualitative study results (Moser & Korstjens, 2018).

Participants were asked to respond to me within 48 hours if any edits were needed. Most participants responded beyond the 48 hours. I believe that this was attributable to the busy schedules of these IT professionals. There were very few changes

made. Two participants requested minor changes. I made the requested edits to the corresponding transcripts. Data collection concluded on March 17, 2022, after completing the member-checking process. All data collected for this study were electronically stored in an electronic reflective journal in Microsoft Word and on a computer hard drive in mp3 format. I managed participant data confidentiality as outlined in Chapter 3.

Data Analysis

After completing the member-checking process for transcribed data with all the participants, I started data analysis. Following Saldaña's (2016) recommendation, I adopted a descriptive coding strategy to assign meaning to segments of raw data collected for this study. I used emerging words from the descriptive coding for categorization and thematic analysis. The raw data transcribed and confirmed through the member-checking process presented a detailed account of the perceptions of the experiences of Black men with successful IT careers in pushing back against social-professional exclusion through their interracial collegial relationships.

Design coding drives data analysis (Saldaña, 2016). Case study research involves an in-depth, futuristic, and holistic investigation into all aspects of the case and provides industry-related data not anticipated by literature (Yin, 2017). This study provided detailed information on the unexplored area of the experiences of Black men with successful IT careers and provided a comprehensive understanding of the phenomenon under study in this single case study design, with the participants being the embedded

units within the case. Because the inductive approach is used in qualitative research to generate or broaden theory and allow themes to emerge from data (Saunders et al., 2018), I used the inductive approach as part of my analysis strategy for this study, allowing for themes to emerge.

Thematic analysis is the primary data analysis technique used in Yin's pattern matching process and offers an effective and reliable data approach in a qualitative study (Tracy, 2019). For the thematic analysis of the study, I used manual coding through a systematic process framed in the descriptive coding method. The descriptive coding method enabled me to assign meanings to raw data segments, which led to the emergence of lists of words, phrases, or both for indexing and data categorization (Saldaña, 2016). I applied content analysis techniques for primary data. I first identified codes in the main content through in-depth interviews and then created categories from the identified codes.

The next step was interpreting the data analysis, which involved comparing various themes from the data analysis generated through multiple sources (interviews, field notes, and archival data) and comparing the findings with the theoretical propositions from the literature review. Yin (2017) noted that the strength of the case study researcher lies in generalizing the theoretical propositions established in the literature. To this end, this study was framed by two key concepts that focused on aligning with the purpose of the study to explore the experiences of Black men with successful IT careers with their interracial collegial relationships: (a) Burt, Roberson, et al.'s (2020) concept of Black men's motivation to persist against social-professional

exclusion and (b) Fries-Britt's (2018) concept of Black male success in STEM pathways. The alignment of this conceptual framework to the overall findings from this case study research and as a lens through which to explain the results was a critical process in interpreting qualitative analysis results.

Using a pattern-matching technique, I continued with the content and thematic analysis from primary and secondary data (Yin, 2017). The identified themes represent recognized patterns of reasonable and practicable agendas addressing the research question (Yin, 2017). I classified several themes using coding analysis, recognizing similar relationships within several cases, and combined themes with journals, interviews, and discussions (Saldaña, 2016). Using the inductive analysis approach, I used the ground-up data analysis strategy (Yin, 2017) to generate codes from the transcribed data (Boyatzis, 1998). Inductive analysis entails coding the data without manipulating the data to fit into a preexisting coding frame or the researcher's analytic preconceptions. A thematic analysis is considered data driven when the codes are generated inductively (Braun et al., 2019). Using thematic analysis, I thoughtfully searched for themes important to depicting the phenomenon, which involved a meticulous process of identifying themes through readings and a sound understanding of the data (Yin, 2017).

The next step involved interpreting data by comparing various themes from the data analysis generated through multiple sources (interviews, field notes, and archival data) and comparing the findings with the literature review's theoretical proposition. The

ability to be generalized the theoretical propositions established from the literature lies in the strength of case study findings (Yin, 2017). The alignment of the study's conceptual framework to the overall findings from the case study research was essential in interpreting the result to arrive at a deeper understanding of how Black employees find common ground in interracial collegial relationships with others, push back against social-professional exclusion, and strengthen their career advancement in IT.

The five coding categories are based on the conceptual framework, and the 13 themes gleaned from the thematic analysis using Yin's pattern-matching logic and areas are listed below:

- Coding: Entry and career development in the IT field
    - Themes: (a) family influences and role models from youth, (b) persistence to complete higher education, (c) persistence to succeed in career trajectory
- Coding: Racial identity and sense of belonging with peers
    - Themes: (a) developing positive collegial relationships, (b) low racial identity affiliation
- Coding: Social/professional exclusion challenges for Black men in the IT field
    - Themes: (a) ambiguous sense of belonging due to racial identity, (b) identifying and challenging systemic racism, (c) Black relational labor to be accepted by White colleagues
- Coding: Black men in IT do develop strong collegial relationships

    - Themes: (a) collegial relationships built on work performance, (b) building successful cross-group relationships, (c) maintaining a peer support network

- Coding: Succeeding as a Black man in the IT field
    - Themes: (a) confidence and resilience, (b) staying current with IT advances, (c) support mentoring and advancing Black men in IT, (d) commitment to the IT profession

The five conceptual coding categories are grounded in the study's conceptual framework that includes two key concepts that focus on aligning with the purpose of the study to explore the experiences of Black men with successful IT careers with their interracial collegial relationships: (a) Burt, Roberson, et al. (2020) concept of *Black men's motivation to persist against social-professional exclusion*; and (b) Fries-Britt's (2018) concept of *Black male success in STEM pathways*. This empirical investigation aimed to advance research and address a literature gap on how Black STEM professionals find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021). Both concepts forming this study's conceptual framework (Burt, Roberson, et al., 2020; Fries-Britt, 2018) concerning Black men with successful IT careers and interracial collegial relationships were grounded in Harper's (2010) anti-deficit achievement theory. Harper (2010) stated that deficit thinking often forgets to acknowledge institutional issues and generally will put the blame for any lack of student success on the underrepresented

minority students' social and cultural environment, while the anti-deficit achievement theory contradicts deficit thinking theory and looks to identify factors associated with academic achievement and student success.

Answering the study's research question extends theoretical knowledge within the conceptual framework and existing anti-deficit research on marginalized groups (Burt et al., 2018; Fries-Britt, 1998; Fries-Britt & Griffin, 2007; Harper, 2009, 2015), with an emphasis on the experiences of Black men with successful IT careers.

Table 2

Coding and Theme Examples

Participant	Interview excerpt	Coding category	Theme
Participant 1	"My grandfather got into technology with Ohio Bell. He was the reason my mother got involved with CompuServe. He was the reason I started programming in the fourth grade, and I probably was deciphering code even earlier than that."	Entry and career development in the IT field	1. Family influences and role models from youth 2. Persistence to complete higher education 3. Persistence to succeed in career trajectory
Participant 2	"Okay, well, my academic undergraduate background is mathematics, actually math and computer science, dual major. So that's the foundation. That's how I got in and that's why I continue I just love the process."	Racial identity and sense of belonging with peers	1. Developing positive collegial relationships 2. Low racial identity affiliation
Participant 3	"Pretty good relationships with some of the peers they really like me because I started on desktop technology and I was working with them and going to school, both at the same time."		
Participant 6	"Race played a big role, because I often entered the room as the only black person in the room. And so, I had no collaborations with anybody."		

Participant	Interview excerpt	Coding category	Theme
Participant 7	"They were so rude to us like they would cuss us out on morning calls and the stand-up calls would last for hours."	Social/professional exclusion challenges for Black men in the IT field	1. Ambiguous sense of belonging due to racial identity 2. Identifying and challenging systemic racism 3. Black relational labor to be accepted by White colleagues
Participant 6	"I did have one particular boss that did take an interest in me. And I think he saw my worth and my value and gave me more responsibility."	Black men in IT do develop strong collegial relationships	1. Collegial relationships built on work performance 2. Building successful cross-group relationships 3. Maintaining a peer support network
Participant 5	"When folks trust me to get the work done and trust my decisions, I feel welcomed and enjoy the work. There were times when my white peers trusted me because of my abilities and did not question my decisions because I was the team lead and most experienced."		
Participant 2	"My spiritual faith, I'll say that is number one, because I had to pray on some of these situations, they're stressful."	Succeeding as a Black man in the IT field	1. Confidence and resilience 2. Staying current with IT advances 3. Support mentoring and advancing Black men in IT 4. Commitment to the IT profession
Participant 5	"I stay on top of my education and training. Even like now, I am learning the cloud technologies."		

Evidence of Trustworthiness

Credibility

Credibility in a study is considered the most crucial criterion to establish confidence in the study's findings (Lincoln & Guba, 1985). The researcher must demonstrate that the presented findings represent the phenomenon's accurate picture (Shenton, 2004). To establish credibility, I used methodological triangulation to reach the consistency of findings by using different data collection methods and data triangulation to reach the same goal by using different data sources within the same method (Lincoln & Guba, 1985). I triangulated data obtained through the Zoom interview method. Reflective field note data and archival data supported the trustworthiness of findings and enabled suggestions for further research (Guion et al., 2011).

Lincoln and Guba (1985) state that prolonged engagement enhances creditability in a study. They note that as the researcher becomes immersed in the study, the context and settings generate more precise and focused findings. During the interview process, I developed an in-depth understanding of the experiences of Black men with successful IT careers and their interracial collegial relationships through prolonged engagement. Additional credibility was attained using the member checking technique (Merriam & Tisdell, 2015). I completed member checking with each participant involved in this study. Each participant was emailed a copy of the transcript for member checking to ensure the accuracy of their statements and that I had accurately captured their interview

responses. Participants were asked to respond to me within 48 hours if any edits were needed.

Transferability

Transferability refers to a study's findings being transferable to other contexts, settings, and participants (Stake, 2010). To achieve transferability, a researcher must acquire thick, rich data (Morse, 2015). Thick, rich data occurs when the emerging themes are plentiful and overlap, leading to recurring meaning (Morse, 2015). The researcher needs to provide enough details of the context and the setting encountered during the fieldwork so that another researcher can assess whether the current environment is similar to other settings (Yin, 2017).

I strengthened my study results' transferability by developing rich, thick descriptions of the entire research process, method, participants, contexts, settings, data samples, and the sampling method (Houghton et al., 2013).

During the interviews, I used follow-up questions and encouraged participants to elaborate to extract rich data from them. I created thick descriptions of the collected data and data analysis to increase the transferability of the study to another context (see Carminati, 2018).

Dependability

Dependability in qualitative research ensures that the study's findings are consistent and can be repeated and measured by the standard with which the study is administered, scrutinized, and presented (Yin, 2017). The dependability of qualitative

research findings is essential to the study's trustworthiness because it ensures that if other researchers review the data, they will arrive at the same conclusion. Stenfors et al. (2020) noted that if another researcher follows the same procedural steps, they may replicate the initial research if sufficient information is provided under similar conditions.

Dependability is ensured by the audit trail, which provides complete notes on decisions made during the research process (Korstjens & Moser, 2018). Member checking also secures dependability through reviewing and discussing the interview transcripts with participants (Morse, 2015). I used the audit inquiry technique and member checking to establish dependability in this study. I created a detailed account of how the data were collected, categorized, themed, and interpreted, including my decisions to arrive at the findings (Lincoln & Guba, 1985). My audit trail included the raw data, a documented process of data reduction, analysis, synthesis, and reflexive journaling.

Confirmability

The confirmability criterion verifies that the research findings are derived from the participants' narratives and other data sources for the study, rather than the researcher's biases, motivation, or interests (Lincoln & Guba, 1985). This study used reflexivity and transcript review to achieve confirmability (Lincoln & Guba, 1985). Reflexivity involves self-awareness and analytic attention to the researcher's role while conducting a qualitative research study (Lambert et al., 2010; Palaganas et al., 2017).

Throughout this study, I practiced reflexivity by being aware of my contribution to constructing meanings from the participants' experiences. Attitude is usually passed across using signs conveyed verbally, with their body language, and so on (Stake, 2010). I recorded these signs in my reflective journaling notes to support context-based verbal tones reports, allowing for a more comprehensive memory. I shared records of electronically transcribed research participants' responses individually with the respective participants to examine and verify the accuracy of interpretation with transcript review, a technique within the member checking process (Merriam & Tisdell, 2015).

Study Results

I developed the research question for this study based on the purpose of the study, the research problem, and the qualitative research design. The purpose of this qualitative, single case study with embedded units was to explore how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. The central research question for this single case study with embedded units was: *How do Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships?*

The interview questions were grounded in the conceptual framework and extant literature focusing on various challenges and obstacles faced by successful Black men in STEM pathways and how the participants pushed back against social-professional exclusion to counter the lack of racial inclusion, low diversity, and poor representation of Black men in the STEM sector (Burt et al., 2019; Fries-Britt & White-Lewis, 2020). My

study's results reflect the participants' experiences and inform leaders in the high-tech industry's perception of the value of Black employees through their positive collegial relationship impact see (Franklin, 2021).

The participant's responses were categorized into the following 15 themes based on the coding and analysis results.

Family Influences and Role Models From Youth

This theme refers to the influence of family and other role models for Black men to enter and stay in IT. Research shows that early engagement in STEM-related activities and practices promoted students' educational desires and confidence (Fries-Britt, 1998). Family members serve as sources of external and internal motivation for these activities. External instances such as a family member encouraging, offering navigational recommendations, and consistent communication strengthen a participant's motivation to persist (Burt, Roberson, et al., 2020). Students in their formative years who had exposure to family members with STEM education tend to pursue a college or advanced degree in a STEM-related field (Burt, Roberson, et al., 2020). Having a role model, mentor, or meaningful relationship also contributes to success for Black men (Fries-Britt's, 2018). Participants discuss the influences of family and role models on their decision to enter and stay in IT.

Participant 4: "So, in order to enter it was basically a class in high school and my neighbor, you know, he was into computers, and I went to a couple of, you know, sessions with him. And that's what got me interested, you know, the fact that I was

working on them, and they told me, you know, potential earning puts, you know, the earning potential".

Participant 5: "Well, when I really started out. My mom was in IT and when she was coming in, she would study all the time. And that kind of pushed me in that direction".

Participant 7: "So this is a long answer. It kind of happen when I was in 10th grade I kind of woke up one day and wanted to become an engineer. My sister brought a computer home and I kind of plugged the two together, applied for a school, didn't even know if they had a computer engineering program".

Persistence to Complete Higher Education

This theme refers to the factors contributing to Black men successfully navigating and completing their education in STEM. Personal factors may prompt the desire to pursue a college or advanced degree in STEM. Burt, Roberson, et al. (2020) concept of Black men's motivation to persist against social-professional exclusion notes that particular structures influenced their educational pathways (e.g., affirmative action policies and practices in graduate recruiting and admission, K–12 schooling experiences, sociopolitical environment for foreign-born Black students), which influenced their agentic motivational responses to those structures (e.g., enjoyment of math and science, passion toward education, commitment to degree completion, long-term interest in science and engineering). The center of what contributes to the success of Black males in our studies is a sense of confidence, meaningful relationships, and the ability to recognize

and navigate stereotypes, bias, and racism. Participants discuss their experiences with higher education and course work.

Participant 3: Okay, so I'll break that into two parts, one to enter one to stay. So initially, I thought I was going to be an engineer, I say, initially, that was when I was trying to choose a college major. My story was, I got into Virginia Tech, through a summer STEM program, which allowed me to get an early start. I ended up getting a degree in technology education, and realized that my strengths were, you know, not necessarily the technical stuff, though, I was really fascinated and curious, by the technical side of computing, my stream was more on communications and people side business.

Participant 2: My academic undergraduate background is mathematics, actually math and computer science, dual major. I uncovered in some of my first classes you know, tightly tied to the very positive correlation, and tightly tied to mathematics. And so that was my entry into computer sciences. It was reinforced as I was doing my work in a computer lab while I was in college. And directly from the very first course that I took, that correlation between the mathematics, or love of mathematics that nags me from the very beginning.

Participant 7: It kind of happen when I was in 10th grade. I kind of woke up one day and wanted to become an engineer. My sister brought a computer home and I kind of plugged the two together, applied for a school, didn't even know if they had a computer

engineering program, got accepted and worked through the hardships of college. I worked too hard for this degree.

Persistence to Succeed in Career Trajectory

This theme refers to the persistence and perseverance needed to succeed in STEM on a forward-moving career path. We have diversity, equity, and inclusion issues in IT, and many Black men who enter IT leave the profession due to hostility and mistreatment at the workplace (Cain, 2021). Black men with successful careers are motivated to persist against social-profession exclusion (Burt, Roberson, et al., 2020). Participants discussed the progression made by Black men throughout their careers in STEM and the value of confidence, determination, and opportunity.

Participant 6: “I can say on average, in my 15-year career in IT…It was my ability to show determination, have confidence within myself to move up and stay in the field”.

Participant 4: “Don't quit, don't let anybody make you quit something that you want. So that's what kept driving me… but there's like days, years where I will just get up and just keep telling myself, I'm gonna get to the next level…quitting is not an option”.

Participant 3: The fact that even though there have been ups and downs in my career with respect companies downsizing and how much money I've made, there's always been opportunity. I felt as though Tech was more or less a meritocracy with respect to…you'll have a job.

Developing Positive Collegial Relationships

Psychological studies confirm that workplace relationships between colleagues can significantly impact our lives and contribute to job satisfaction, organizational performance, and individual and social well-being (Betzler & Löschke, 2021; Michaelson et al., 2014). Collegial relationships at work are crucial for career advancement and retention on the job (Creary, 2020). Participants discuss their positive peer relationships and interactions in the workplace.

Participant 6: “So my peer relationship was pretty good…in entry-level, but as I started to climb, and become more proficient in my skills and my abilities, getting promotions, it became a little bit more difficult. And I think that's because of my race. So my race became a big factor in the fact that 95% of the people that I'm working with, were not of color.

Participant 3: There was never any friction, even in sales environments… most of my team members were supportive. So, I'd have to say that, overall…looking back on my 20 plus years, it's been more positive than negative.

Participant 5: “We had good relationships and when a new job came up I got it due to these relationships. I was already pretty much doing the job. And that's what I find throughout my career”.

Participant1: So, when it came to my peer connections at work, race always play a factor just because it's something that I always pay attention to. It just is what it is. But we can find common ground or another connecting point to talk about.

Low Racial Identity Affiliation

This theme refers to the level of racial identity and its impact on establishing collegial peer relationships. Tamir (2021) studied the diversity of the Black population of the United States and found that demographic changes in racial identity had occurred based on 2020 census data. Black employees often feel that they have to suppress their racial identity in any conversation about race in the workplace. Therefore, Black employees may need to deliberately create a workplace image that is both professional and inauthentic (Creary, 2021). Furthermore, Lacy (2004) finds that Blacks value their Black identity and culture, so they strategically decide how and when to move into the White world. Participants describe their experiences.

Participant 1: “Quite literally, I was kind of a black swan writer, Black Duck. It's difficult because you have a skill with that knowledge. You have a skill and ability and a belief. But you also have this fear of condemnation. You know that you can't quite measure up to and that somehow, somebody else…had better schooling more knowledge, you know, better families, you know, surroundings or scenarios, whatever that might be”.

Participant 3: So, I was, you know, one of very few people of color, and definitely the only black person on my teams. I've run into situations, and I hope that these were isolated situations where people kind of give you a vibe. I guess, is the best way to put it…they may make comments that they think may have flown under the radar, but I pick up on.

Collegial Relationships Built on Work Performance

This theme refers to collegial relationships and interactions based on performance in the work environment. Psychological studies confirm that workplace relationships between colleagues can significantly impact our lives and contribute to job satisfaction, organizational performance, and individual and social well-being (Betzler & Löschke, 2021; Michaelson et al., 2014). Participants describe their experiences in these situations.

Participant 1: I realize the value that I brought to the table when a few leaders came to me, and they didn't know how to really do well in public speaking. Or a few leaders came to me, and they wanted a better presentation. Or they wanted some tips and advice on how I could take something very complex and make it simple. I realized that all those individuals were in leadership positions were all the people that I had invested in and gave two, so here was no reason why I couldn't be there as well and excel.

Participant 5: “When folks trust me to get the work done and trust my decisions, I feel welcomed and enjoy the work. There were times when my white peers trusted me because of my abilities and did not question my decisions because I was the team lead and most experienced”.

Building Successful Cross-Group Relationships

This theme refers to cross-group relationship interactions. Wingfield (2013) considers these relationships critical as they provide access to informal networks, mentorships, sponsorships, and help from colleagues. Research also shows that collegial relationships are meaningful across ethnic and racial boundaries (Franklin, 2021).

Participants discussed the years of working on developing, trying, and supporting cross-group and interracial collegiate relationships

Participant 7: I got to a predominantly white firm. My first two jobs were predominantly Indian. The predominantly white firm did pretty good because we were all different. We talked differently and we would do things together, we used to play basketball on Fridays, like a bunch of us. So, they try to include us and things like that. I think that helped because we even played fantasy football together, so they try to make it an area where everyone could feel included and connected.

Maintaining a Peer Support Network

This term refers to the importance of peer support and having a good network while working in STEM. Wingfield (2013) considers these relationships critical as they provide access to informal networks, mentorships, sponsorships, and help from colleagues. Because of a noted exclusionary bias in research on Black male employees' successful career experiences, managers assume that this group's high turnover in tech firms is due to Black men's aggression and conflicts with their peers on the job (Hudson et al., 2021; Muro et al., 2020). Participants shared experiences of maintaining peer support networks at work and lifelong support groups within their communities outside of work.

Participant 4: Um, I just got a call from a guy that I worked with over 20 years ago, he initially hired me my previous job. He and I were peers at this little, small company for a year. And we had a good working relationship on and off throughout the

years. And he just called me the other day because his job was in jeopardy, he's now looking for a job. He was one that I can say that's been on and off for a long time.

Participant 2: I like to stay in touch as we share what's going on in technology, share what's going on their family, we share what's going on in the world, we share what's going on in training, and I asked them for career advice. So, I do that very intentionally

Participant 3: So, we have over 7000 members in our Slack community who interface every day, somebody needs help with a project or, you know, they're just having a rough day at one event, you know, there's that community for them. And ideally, we would have each chapter doing regular meetups, actual in person events where you can get together, you know, either, you know, have a cocktail together, you know, attend a workshop together, or some type of Tech Talk. Or there's opportunities for people to increase their, their brand and their personal, you know, influence and visibility. I had a friend of mine who started up her own business. She was a white woman. And she had a small consulting firm, she had a couple of big clients. She knew me from work as a peer and she knew that I was unemployed at the time. She brought me on, I worked with her for about six months. That was enough to kind of tie me over until I got another corporate job.

Ambiguous Sense of Belonging Due to Racial Identity

This theme refers to how comfortable Black men feel in these STEM environments based on their racial identity. Across the board, studies find that Black

employees' experience of inclusion and belonging depends not only on changes in workplace structures and culture but also on changes in peer inter-collegial relationships (Franklin, 2021). Black employees in science, technology, engineering, and mathematics (STEM) professions find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021; Ramasubramanian et al., 2020). Participants candidly discuss their experiences of feeling ambiguous about belonging to work networks at work and finding themselves as the only Black man in a workgroup or IT profession venue.

Participant 1: "I'm a black man in technology with a business degree who you know likes everything from hip hop to Portuguese jazz because of my grandfather and with experiences that other people don't have, it's a unique mix, I never will just blend in". It's a positive attribute, though. We stick out and we have the opportunity to stand out we just have to own the opportunity…and that there will always be a magnifying glass on me.

Participant 2: "I intentionally helped develop that sense of belonging".

Participant 4: I have never experienced a sense of belonging. No matter where I've been. It's just, there's always that competitive edge that you need to have. You know they are watching you. One of the things that I kind of learned over the years and it came from a situation early in my career is that they only fear you if you are a threat. If you're not producing, you're an idiot, you're no threat, so they don't give a crap. There's always going to be that competitive nature

Identifying and Challenging Systemic Racism

This theme refers to how Black men challenge the racism embedded within systems and organizations in IT professional life. Scholars have documented that Black men in the broader STEM sector face alienation, isolation, stigma, bias, and blocked career advancement (Anderson, 2004; Bloch et al., 2021; Burt et al., 2016). Persistent systematic racism is a psychological barrier for Black men (Fouad & Santana, 2017) who encounter racism daily while working in high-tech. Common types of racism that Black men face are negative stereotypes such as aggression and being intellectually inferior to Whites (Cain & Trauth, 2017). Burt et al. (2019) emphasized the etic and emic multilevel strengths of Black men in STEM pathways, which promote their motivation to persist despite strains caused by negative racialized experiences. Participants describe their experiences with challenging systemic racism in IT organizations.

Participant 1: I literally had an executive cussed me out, he told me that something was a waste of time, and I didn't know what I was talking about. That was hard. It wasn't until a few days later that another executive who had witnessed that same thing of this person standing up smacking a table and literally cursing at me and telling me it was a waste of time. He said I believe in you; I believe in your ideas.

Participant 2: This situation was about a year and a half ago, and you know, probably a small group of us was impacted. Folks were laid off. Now I know at this company we have less than 2% Black men. So I look around and like 30% of the room of those laid off are Black men. I've just seen it so many times. I know, it's probably likely

structural, likely built in, it's likely even tapping into some folk's biases, known and unknown biases.

Black Relational Labor to be Accepted by White Colleagues

This theme refers to the acceptance of Black men working in STEM by their white colleagues. Systematic racism is aligned with the White racial frame, a set of racialized ideas, stereotypes, emotions, and inclinations to discriminate (Feagin, 2020). White people rely more on "cultural tropes" to explain racial inequality and minimize the role of intentional prejudice and discrimination in the overall social, economic, and health condition of Black Americans (Ashe & Bonilla-Silva, 2014). Sisco (2020) found that Black men and women practice resilience by using coping and self-preservation strategies to confront racial bias in the workplace. Participants describe their experiences and the social labor they must invest in work relationships to gain social acceptance and professional respect from White colleagues

Participant 3: My self-assurance leveled the playing field a little bit. The fact that there were situations where I felt that they didn't think I belonged have come up. There have been two or three situations throughout my career where if I was a white male, I would have been treated differently. My personality would eventually win them over. I basically just am genuine.

Participant 4: I came in as what they call a management intern, full time position, but you come in and you rotate around to different positions. I was the first African American male to come in there and do it. Accounting and engineering is where they had

this rotation. They were constantly trying to shoot at me for different things anytime I would bring something up. It was so bad, and I learned a lot. You just learn how to deal with it, it becomes competitive. I just contributed my competitive nature to my dad. He's always said, it's okay to stop but don't quit, don't let anybody make you quit something that you want. So that's what keeps driving me.

Confidence and Resilience

This theme refers to the confidence and resilience required for Black men to succeed in STEM careers. Fries-Britt (2018) utilized Harper's (2010) anti-deficit achievement theory to analyze qualitative data spanning nearly 20 years to examine high-achieving Black males' experiences in STEM fields. They note that several factors fortify and restore Black males' confidence when encountering barriers. Firstly, they turn to forms of social capital in their family. Secondly, their confidence in science, technology, engineering, and mathematics is undergirded by their early exposure to STEM activities, and the most important factor that restore their confidence is past successes. The participants describe their experiences.

Participant 2: My spiritual faith, I'll say that is number one, because I had to pray on some of these situations, they're stressful. Yeah, spiritual faith, my network I have a tremendous network. I keep my education and skills current each year. I usually pick up a certification like each year or the most every 18 months or two years. I diversify my skills across IT application development, project management, database network security, etc.

Staying Current With Information Technology Advances

This theme refers to staying current in IT. Black employees are less likely to be granted leadership roles, and despite acquiring educational credentials and training equivalent to those of their White peers, Black employees receive fewer promotions than White colleagues (Creary, 2021). Through hackathons or mentoring, software development, or recruitment, there are many ways for companies to support people of color develop the skills they need to advance the future of technology (Burt, Stone, et al., 2020). Two participants shared their thoughts and practices on staying current with professional development trends.

Participant 5: I stay on top of my education and training. Even like now, I am learning the cloud technologies. I went out and learned all I could and tried to be the first one to learn it in our department.

Participant 1: Try not to think about it. If we try to measure the moon all the time, I think it'd be a daunting task, right? Yeah. But I think if we just kind of keep that Northstar and just kind of stick to our, you know, the integrity of our values. Then it just becomes a lot easier, right?

Support Mentoring and Advancing Black Men in Information Technology

This theme refers to advancing other Black men in IT through mentorship. Estrada et al. (2018) found that when students experience quality mentorship, they subsequently experience social integration, increasing underrepresented minorities' persistence rates and retention. Researchers have also found that implementing high-

quality active learning programs can reduce achievement gaps in STEM and promote equity (Theobald et al., 2020). Participants were eager to share the importance of their mentoring of young Black professionals in IT field and the significance of mentoring in their own lives.

Participant 4: When I mentor, I young Black IT professionals to build their network and make sure you have a good mix. I also tell people read as much as you can in terms of power and influence.

Participant 1: I tell young Black IT professions to stay focused. We can get distracted by the things that we think are important. The things that we think can either raise or lower confidence, the things that might impress or unimpressive the people the things that might raise you up…any of those things that we think we must do to get a leg up or advance, when really it is to focus on the main thing. We focus because those are the things that brought us to the party. If you can come to conclusion and finish each bit that you chew off each time with complete focus, and always seeing the opportunity but complete focus. Those are the things that lead and weave through your career.

Participant 2: "I do meet with young black IT professionals. I have shared with them that working on building their network each week and doing it intentionally. If you're thinking about doing database stuff, then talk to the folks in a database group. Whatever you're interested in, you know, doing it intentionally and building a network is important".

Commitment to the Information Technology Profession

This theme refers to Black men's commitment to the IT profession. The positive benefits of diversity noted in organizations include increased job satisfaction for underrepresented employees and increased commitment to the organizations. Complexity and resources for the low diversity disparities remain problematic for the STEM workforce. Firms have recently begun focusing on creating social environments that support and leverage diversity in building inclusion (Roberson, 2019). Participant discusses how their commitment to the IT profession gives them the momentum and strength to persist and succeed in their career trajectory.

Participant 6: I think that the love that I have, for my job and for the industry outweighs all of the negativity. And I'm able to know that I do have a support system, I now have a mentor that I meet with once a week that's able to talk me through difficult situations. Emotional intelligence is what I would really drive home with people and say that you really got to have emotional intelligence to stay around in it.

Participant 4: Don't quit, don't let anybody make you quit something that you want. So that's this was kept driving me. I mean, you're by like, one of the few people I ever tell us to, but there's like days, years where I will just get up and just keep telling myself, I'm gonna get to the next level, I won't get to the next level. It's just, that's what I just had to do. Um, and just keep grinding and driving. Quitting is not an option. Um, so, you know, it's like, no one's gonna be, you know, driving and grinding. Because you always know that there's more than what you've done instead of sitting back and saying,

I've made it, and then, you know, my, my wife reminds me this, and, you know, she's like a big motivator. Um, you know, I know, even at my level, and I'm not even in the C suite, that, you know, I'm flying in rare air. And, I mean, she reminded me the other day, just, our family alone is in rare air, because I have, you know, my son's architectural engineer. So he's in this very small percent tab, you know, my daughter, you know, within the next two months, she's going to be a doctor. So, you know, is this rare air, but you just don't know.

Summary

In this chapter, I presented the result of the thematic analysis of 7 participants, followed by synthesizing the results to this study's central research question: *How do Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships?* Five conceptual categories with 15 themes emerged from the findings of this single case study with embedded units. The five conceptual coding categories are grounded in the study's conceptual framework that includes two key concepts that focus on aligning with the purpose of the study to explore the experiences of Black men with successful IT careers with their interracial collegial relationships: (a) Burt, Roberson, et al. (2020) concept of *Black men's motivation to persist against social-professional exclusion*; and (b) Fries-Britt's (2018) concept of *Black male success in STEM pathways*. This empirical investigation aimed to advance research and address a literature gap on how Black STEM professionals find common ground in interracial collegial relationships to push back against social-professional

exclusion (Burt et al., 2019; Franklin, 2021). The thematic analysis provided rich data on the experiences of participants. The five codes that emerged are as follows: (a) entry and career development in the IT field, (b) racial identity and sense of belonging with peers, (c) social/professional exclusion challenges for Black men in the IT field, d) Black men in IT do develop strong collegial relationships, and (e) succeeding as a Black man in the IT field.

The 15 themes that emerged from the data analysis process include the following: (a) family influences and role models from youth, (b) persistence to complete higher education, (c) persistence to succeed in career trajectory, (d) developing positive collegial relationships, (e) low racial identity affiliation, (f) ambiguous sense of belonging due to racial identity, (g) identifying and challenging systemic racism, (h) Black relational labor to be accepted by White colleagues, (i) collegial relationships built on work performance, (j) building successful cross-group relationships, (k) maintaining a peer support network, (l) confidence and resilience, (m) staying current with IT advances, (n) support mentoring and advancing Black men in IT, (o) commitment to the IT profession.

I demonstrated the study's trustworthiness using methods established by seminal methodology scholars (Stake, 2013; Yin, 2017). The results of the single case study were comprehensively analyzed and interpreted within the context of Burt, Roberson et al. (2020) and Fries-Britt's (2018) conceptual and theoretical works framing the experiences of Black men with successful IT careers with their interracial collegial relationships Chapter 5 will present the findings' interpretations, describe the study's limitations, and

recommend further research. Finally, I will present the implications of the findings to social change, theory, policy, and practice and provide a conclusion to the study.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative, single case study with embedded units was to explore how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. Fulfilling this exploratory study's purpose may address the literature gap on how Black employees in STEM professions find common ground in interracial collegial relationships to push back against social-professional exclusion (see Burt et al., 2019; Franklin, 2021; Ramasubramanian et al., 2020). I used a single case study with an embedded unit design (see Yin, 2017) to provide answers to the central research question of the study. Information from seven semistructured interviews, reflective field notes, and archival data were collected through multiple sources (see Stake, 2010; Yin, 2017). Bernard (2013) argued that no more than 10 knowledgeable participants could sufficiently reveal necessary themes and achieve data saturation. I continued past five participants until I reached data saturation, with similar data noted from participants P5, P6, and P7 (see Schram, 2006). I used data triangulation to establish the trustworthiness of the analysis and findings (Farquhar et al., 2020).

The theories and concepts that grounded this study included two key concepts that aligned with the purpose of the study to explore the experiences of Black men with successful IT careers with their interracial collegial relationships: (a) Burt, Roberson, et al.'s (2020) concept of Black men's motivation to persist against social-professional exclusion and (b) Fries-Britt's (2018) concept of Black male success in STEM pathways.

This empirical investigation aimed to advance research and address a literature gap on how Black STEM professionals find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021).

Thematic analysis of data from face-to-face interviews with seven participants revealed 15 themes: (a) family influences and role models from youth, (b) persistence to complete higher education, (c) persistence to succeed in career trajectory, (d) developing positive collegial relationships, (e) low racial identity affiliation, (f) ambiguous sense of belonging due to racial identity, (g) identifying and challenging systemic racism, (h) Black relational labor to be accepted by White colleagues, (i) collegial relationships built on work performance, (j) building successful cross-group relationships, (k) maintaining a peer support network, (l) confidence and resilience, (m) staying current with IT advances, (n) support mentoring and advancing Black men in IT, and (o) commitment to the IT profession.

Interpretation of Findings

With the findings of this single case study with embedded units, I provided original, qualitative data within the management discipline, with each case presenting examples of issues discussed in the literature review in Chapter 2. In this section, I present and review the study's findings in the context of the coding categories that emerged from the data analysis: (a) entry and career development in the IT field, (b) racial identity and sense of belonging with peers, (c) social/professional exclusion challenges for Black men in the IT field, (d) Black men in IT do develop strong collegial

relationships, and (e) succeeding as a Black man in the IT field. Next, I compare these five categories with relevant concepts from the conceptual framework and the extant literature presented in Chapter 2. Finally, I provide evidence from the seven semistructured interviews to support how the study's findings either confirm or disconfirm existing knowledge or extend it. Extension studies, such as this study, provide replicable evidence and extend prior study results to new and significant theoretical directions (Bonett, 2012).

Entry and Career Development in the Information Technology Field

Scholars have described the difficulties that Black men face in technology companies from the point of entry through recruitment, career development, and career success. (Barak et al., 2016; Bloch et al., 2021; Cain & Trauth, 2017; Joshi et al., 2016). My study results confirmed that although Black men face these difficulties, they continue to excel and persist in IT initially and throughout their careers. Study participants confirmed that early exposure to IT, family support, role models, and having career mentors in their lives contributed to their success and helped them overcome systematic hurdles. This study aligns with research (Franklin, 2021; Fries-Britt, 2018; Harper, 2010) that concluded that the following contribute to the success of Black males in STEM: (a) developing a sense of confidence, (b) developing meaningful relationships, and (c) developing the ability to recognize and navigate stereotypes, bias, and racism. The study results extend knowledge based on the works of Cain and Trauth (2017), which indicated

that IT skills and methods of increasing social capital and self-efficacy are key factors in excelling in the IT field.

Racial Identity and Sense of Belonging With Peers

Scholars indicate that Black employees are often asked to live in two distinct worlds, keeping their daily and racialized experiences as Black people strictly separate from the White, Eurocentric cultural values and social norms that dominate the American workplace (Creary, 2021). To achieve this, Black employees often feel that they have to suppress their racial identity in any conversation about race in the workplace. Inclusion is the sense of being an integral part of the organization (Barak et al., 2016). My study results confirm the need for commitment to inclusion and a supportive atmosphere in IT organizations for Black men. Study participants confirm that Black men value their identity and culture and often struggle with their actions and alignment in these IT environments.

This study aligns with the research results of Creary (2021), noting that Black employees may need to deliberately create a workplace image that is both professional and inauthentic. It also aligns with the work of Lacy (2004), who found that Blacks value their Black identity and culture, so they strategically decide how and when to move into the White world. The study results extend knowledge based on the work of Franklin (2021), which determined that Black employees' experience of inclusion and belonging depends not only on changes in workplace structures and culture, but also on changes in peer inter-collegial relationships (Franklin, 2021).

Social/Professional Exclusion Challenges for Black Men in the Information Technology Field

Scholars have indicated that challenges that threaten Black men's persistence also serve as motivators to persevere (Burt et al., 2019). Black employees in STEM professions find common ground in interracial collegial relationships to push back against social-professional exclusion (Burt et al., 2019; Franklin, 2021; Ramasubramanian et al., 2020). My study results confirmed that issues of exclusion in the workplace are real for Black men and that getting along with others is key to organizational success as it can lead to professional career advancement. Study participants confirmed that pushing back against social-professional exclusion through their interracial collegial relationships at work can lead to successful IT careers.

This study aligns with Burt, Roberson, et al.'s (2020) concept of Black men's motivation to persist against social and professional exclusion and (b) Fries-Britt's (2018) concept of Black male success in STEM pathways. The study results extend knowledge of Franklin's (2021) research on cross-group relationships, which noted that these types of relationships are the foundation of inclusion in the workplace, and a clearer picture of the processes and labor involved in their formation will enrich organizational approaches to diversity, inclusion, and equity.

Black Men in Information Technology Do Develop Strong Collegial Relationships

Scholars indicate that collegial relationships at work are crucial for career advancement and retention on the job, yet research has overlooked how Black men's

collegial relationships in tech firms drive their career success (Creary, 2020; Franklin, 2021). Research also shows that collegial relationships are meaningful across ethnic and racial boundaries (Franklin, 2021). These relationships are critical as they provide access to informal networks, mentorships, sponsorships, and help from colleagues (Wingfield, 2013).

My study results confirmed that Black men's peer inter-collegial relationships and interactions strengthen their career advancement in IT and contribute to job satisfaction. Study participants confirmed that they could build strong collegial relationships and find common ground with others, contributing to pushing back against social-professional exclusion and building successful IT careers. This study aligns with Betzler and Löschke's (2021) research, which noted that workplace relationships between colleagues could significantly impact individuals' lives and contribute to job satisfaction, organizational performance, and individual and social well-being. The study results extend knowledge of research completed by Creary (2020) and Franklin (2021), which showed that Black men's collegial relationships strengthen their career advancement in tech firms and drive their career success.

Succeeding as a Black Man in the Information Technology Field

Scholars indicate that Black men succeed in IT careers by accumulating five forms of capital (cultural, social, symbolic, technical, and economic; Joshi et al., 2016). My study results confirmed that although Black men face significant barriers to overcome, they can gain momentum and strength to persist and succeed in their IT

careers. Study participants confirm that Black men with successful IT careers push back against social-profession exclusion through their interracial relationships and confidence, commitment, and resilience to the IT profession. This study aligns with two key concepts that provide insight on Black men with successful IT careers and their interracial collegial relationships: (a) Burt, Roberson, et al.'s (2020) concept of Black men's motivation to persist against social-professional exclusion and (b) Fries-Britt's (2018) concept of Black male success in STEM pathways. The study results extend knowledge concerning Black men with successful IT careers and interracial collegial relationships based on research by Creary (2020), Cain (2021), Franklin (2021), Burt, Roberson, et al. (2020), and Fries-Britt (2018).

Limitations of the Study

When conducting qualitative research, scholars need to familiarize themselves with the limitations of their study design, data collection, and analysis methods to strengthen the trustworthiness of the results (Tracy, 2019). This study was limited to a small purposive sample of Black males over the age of 18 with at least 5 years of experience in the IT field and a willingness to discuss their interracial collegial relationships. The small sample size in this study may not represent the larger population of Black men in the IT sector in the United States. This limitation was mitigated by using criterion-based sampling to gather a heterogeneous group of participants to support maximum variation sampling and incorporate as much diversity as possible into the research design (Gentles et al., 2015). In qualitative case study research, maximum

variation sampling relies on the researcher's judgment to select participants with diverse characteristics to maximize variability within the primary data (Poulis et al., 2013).

Another limitation is the willingness of all the potential participants to participate in a study that may be considered sensitive given that the topic deals with diversity in a predominantly White industry. Participants overall were willing and open to discuss their experiences with interracial collegial relationships in response to the interview questions. A clear understanding and application of the case study methodology's principles and key elements can enhance the approach and support a rigorously designed case study (Halkias & Neubert, 2020).

Personal biases related to the circumstances and the environment are also embedded limitations of qualitative research. I used the interview method approved by Walden University's IRB, which enabled the interview interactions to avoid contextual information and helped me avoid personal reflexivity and maintain a highly unbiased atmosphere (Kraus, 2018). The audio-only communication in interviews was found to have higher empathic accuracy rates than vision-only and multisensory communication while engaging in and perceiving emotions in strangers' recorded interactions (Kraus et al., 2021). I conducted interviews for the current study using an audio-only format, which helped mitigate any bias that might have been present if the interviews had been face-to-face or in a video format on Zoom. Methodological triangulation and different data collection methods were also used to reduce possible bias (Anney, 2014).

Recommendations

Recommendations for Practice and Policy

I took notes and documented data to provide productive and meaningful recommendations during data collection. Exploring how successful Black men in STEM pathways push back against social-professional exclusion may help address the lack of racial inclusion, low diversity, and poor representation of Black men in the STEM sector (Burt et al., 2019; Fries-Britt & White-Lewis, 2020). During the interviews for this study, almost all the participants indicated that challenges that threaten Black men's persistence also serve as motivators to persevere (see Burt et al., 2019).

Achieving workforce diversity in STEM requires more significant efforts to retain underrepresented groups in the pipeline. Scholars have conducted many recent studies to address the poor representation of underrepresented groups in the STEM workforce (Allen-Ramdial & Campbell, 2014; Estrada et al., 2016, 2018; Theobald et al., 2020; Toven-Lindsey et al., 2015). Black workers are the smallest minority in the high-tech field, with rare representation in Silicon Valley (Tomaskovic-Devey & Han, 2018). Representation has increased within the last few years, but the overall disparity for Blacks and other underrepresented groups continues upward (Allen-Ramdial & Campbell, 2014; Estrada et al., 2016).

Organizations must consider restructuring hiring and development practices to eliminate the obstacles that Black employees have, until now, been made to overcome in order to earn rewards equivalent to those enjoyed by their White colleagues (Gates,

2021). These steps are vital for companies that wish to create an environment that welcomes and supports Black employees and their social identities. Research has shown that career advancement opportunities were established from successful collegial relationships (Fries-Britt, 2018). More studies are needed to provide meaningful insight into the superior-subordinate interactions within organizations, which are essential to building successful collegial relationships (Gates, 2021).

Many studies conducted about Black women in the IT field, such as McGee's (2018) study, examined the experiences of underrepresented women who advanced from technical/operational IT roles to senior executive IT roles. Nevertheless, rare studies have been conducted with Black male samples (Franklin, 2021). Research has also shown that diversity intervention programs that include support networks for students can improve the retention of underrepresented groups (Toven-Lindsey et al., 2015). Achieving greater success with diversity and inclusion in the American tech workplace requires more efforts by both academic institutions and IT-driven companies to retain Blacks and underrepresented groups in the STEM pipeline.

Recommendations for Future Research

A literature gap exists on how Black employees in STEM professions find common ground in interracial collegial relationships to push back against social-professional exclusion. This research study contributes to practice by improving understanding of the dynamics and identifying ways in which successful Black men in the IT field persist in finding common ground in interracial collegial relationships and

pushing back against social-professional exclusion. The study used qualitative data from seven semistructured interviews, reflective field notes, and archival data to address the literature gap.

The study has provided empirical information to support that Black men in IT within the United States are unique individuals who experience significant barriers. This topic has been of interest, a high priority of national interest in diversification in the information technology sector. This study has provided insight into the obstacles that successful Black men in IT face and how they overcome those barriers. It has also been challenging for Black men to make substantial progress in the tech industry as many factors have contributed greatly to their underrepresentation in the broader STEM sector. Black men continue to face alienation, isolation, stigma, bias, and blocked career advancement (Anderson, 2004; Bloch et al., 2021; Burt et al., 2016). While most of the literature on Black men in general and in IT prescribes a deficit model that focuses on academic and career failures and poverty, this study focused on the positives, specifically the impact of successful collegial relationships. More research is needed to provide additional insight into Black men's career success, the superior–subordinate interactions within organizations, sponsorship, effective mentoring, and hiring processes.

Based on the strengths of this study, I encourage future researchers to validate these research findings using an appropriate quantitative research method for inquiry or to replicate this study implementing qualitative research paradigms which address the subject in various contexts with a more significant number of participants, enhances the

generalizability of findings, and allows for greater objectivity and improved accuracy (see Harkiolakis, 2017).

Implications

Implications for Positive Social Change

Most published evidence on Blacks in STEM pathways clarifies why so many fail but reveals far too little about what can be learned from those who craft productive responses to systemic racism and raise barriers to career success (Cain et al., 2019; Harper, 2015). Raising awareness of the successful experiences of Black men in the workplace may drive positive social change by altering perceptions on the value of Black men as employees, which in turn may help to address further the lack of racial inclusion, low diversity, and poor representation of Black men in the IT industry.

This study gave voice to Black men in the IT industry to share their experiences developing interracial collegial relationships and pushing back against professional and social exclusion in the IT workplace. The results of this study provide a counter-narrative to the faulty reasoning behind the poor representation of Black men in the information technology (IT) industry (Burt et al., 2019; Gates, 2021). Raising awareness of the successful experiences of Black men in the workplace through empirical research may drive positive social change by altering perceptions of the value of Black men as employees in the IT workplace.

Implications for Professional Practice

The significance of my study's results to professional practice may inform leadership in the high-tech industry's perception of the value of Black employees through their positive collegial relationship impact (Franklin, 2021). Successful Black men's collegial relationships in tech firms tend to be overlooked and thus undermined (Fries-Britt, 2018). Exploring how successful Black men in STEM pathways push back against social-professional exclusion may help address the lack of racial inclusion, low diversity, and poor representation of Black men in the IT industry (Franklin, 2021).

Scholarly studies on race in management and organizations have long been marginalized (Creary, 2021). Across the board, studies find that Black employees' experience of inclusion and belonging depends not only on changes in workplace structures and culture but also on changes in peer inter-collegial relationships (Franklin, 2021). Leaders and colleagues must actively strive to understand the experiences of Black employees, including their experience of coping with adverse societal events which affect their communities while simultaneously trying to fulfill their workplace responsibilities.

Implications for Theory

The concepts that framed this study were (a) Burt, Roberson, et al. (2020) concept of *Black men's motivation to persist against social-professional exclusion*; and (b) Fries-Britt's (2018) concept of *Black male success in STEM pathways*. Both concepts forming this study's conceptual framework (Burt, Roberson, et al., 2020; Fries-Britt, 2018)

concerning Black men with successful IT careers and their interracial collegial relationships were grounded in Harper's (2010) anti-deficit achievement theory. Harper (2010) stated that deficit thinking often forgets to acknowledge institutional issues on issues regarding the underrepresented minorities, contradicts deficit thinking theory, and looks to identify factors associated with minority groups' achievement and student success.

Research on systemic racism in the IT industry is founded on the lack of research on Black tech employees from the perspective of a Black man in IT (Cain & Trauth, 2017). Answering the study's research question extends theoretical knowledge within the conceptual framework and existing anti-deficit research on marginalized groups (Burt et al., 2018; Fries-Britt, 1998; Fries-Britt & Griffin, 2007; Harper, 2009, 2015), with an emphasis on the experiences of Black men with successful IT careers. Empirical results exploring successful Black men's motivation to persist and push back against social-professional exclusion in the IT industry provide original, scholarly knowledge to the management and organizational literature (Ramasubramanian et al., 2020; see also Burt, Roberson, et al., 2020).

This single case study with an embedded units design provided a holistic picture of how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. The findings in this study indicate that successful Black men in the IT field persist in finding common ground in interracial collegial relationships and pushing back against social-professional exclusion.

This study is significant to theory because it provided insights and new knowledge on the social dynamics of exclusion and affiliation in the workplace for Black employees and their peer interactions and raises awareness of their successful experiences in the workplace with micro and macro social and racial-ethnic boundaries (Franklin, 2021)

Conclusions

The purpose of this qualitative, single case study with embedded units was to explore how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. The percentage of Black males in IT remains low. Black males comprise around 9% of the total workforce but only represent 2.2% of those working in IT occupations (U.S. Census Bureau of Labor and Statistics, 2016). Expanding the range of Black men's career options within an increasingly technology-oriented work world will help increase the much-needed skill supply and help alleviate the high unemployment and poverty often experienced by Black men (Cain, 2021). While most of the literature on Black men prescribes a deficit model that focuses on failures and poverty, this study focused on the positive by profiling Black males who have successfully entered IT careers.

This study contributes to the understanding of how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships. Semistructured interviews with open-ended questions were the primary research tool to gain deep insights from the study participants (Yin, 2017). The interviews provided perceptions of various challenges and obstacles faced by successful

Black men in STEM pathways and how they pushed back against social-professional exclusion.

The participants pushed back against social-professional exclusion to counter the lack of racial inclusion, low diversity, and poor representation of Black men in the STEM sector. The participants provided their perspectives and how they pushed back against social-profession exclusion through their interracial relationships. Confidence, commitment, and resilience to the IT profession came up multiple times. Scholars indicate that Black men succeed in IT careers by accumulating five forms of capital (cultural, social, symbolic, technical, and economic (Joshi et al., 2016). My study's results reflect the participants' experiences and inform leaders in the high-tech industry's perception of the value of Black employees through their positive collegial relationship impact (Franklin, 2021).

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Appendix A: Recruitment Letter

Hello,

I am a doctoral student at Walden University, inviting you to participate in my research study.

The purpose of this study is to gain a deeper understanding of how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships.

The study is important as the findings may help address the lack of racial inclusion, low diversity, and poor representation of Black men in high-tech and inform leadership of the value of Black men through their positive collegial relationships. Finally, this study's social change impact may raise awareness of successful experiences of Black men in the workplace and drive positive social change by altering perceptions on the value of Black men as employees, which in turn may help to address further the lack of racial inclusion, low diversity, and poor representation of Black men in the IT industry. I believe your experience would be a significant contribution to the study.

If you would be interested in being a part of this study, please review and return the signed consent form attached to this letter. If you would like to request additional information, you may reply to this email. Thank you in advance for your consideration.

Respectfully,

Alan Hammond (Researcher)

Ph.D. Candidate – Walden University

Appendix B: Interview Protocol

Participant No: _____

Gender: _____

Age: _____

Race: _____

Highest Academic Degree: _____

Years' experience as IT Professional: _____

Remote, On-ground or hybrid work setting: _____

Preliminary Actions:

Interviewer to participants: Thank you for accepting my invitation to be interviewed in your capacity as a professional in the IT industry. The purpose of this qualitative, single case study with embedded units is to explore how Black men with successful IT careers push back against social-professional exclusion through their interracial collegial relationships.

Before we get started and ensure consistency among participants' interview responses, I would like to share the definitions of terms we may use within the interview process as they are defined within this study.

Collegial relationships: This term refers to a lateral peer relation where two or more colleagues have the same work content or domain of activity, the same institutional affiliation or common purpose, and the same status or level of responsibility.

Interracial collegial relationships*:* This term refers to collegial relationships that cross ethnic and racial boundaries.

Social-professional exclusion*:* This term refers to excluding a professional that can arise through discrimination based on class, gender, age, race, ill-health, geographical location, or cultural identification. Social exclusion is the process in which individuals are blocked from various rights, opportunities, and resources commonly available to members of a different group.

If you should need clarification on any question's content, please feel free to ask me to explain responding. Periodically I may ask clarifying questions or encourage you to describe in more detail. You are invited to elaborate where you feel comfortable and decline when you do not have information to add.

Before we begin the interview, you must be comfortable in your location, and you feel free to participate without interruptions. Do you feel this description describes your setting at this moment?

May I begin the interview?

1. What experiences influenced your decision to enter and stay in the IT industry sector?
2. What was your relationship with your peers throughout your career development?
3. In what ways—if at all—did race play a role in establishing collegial peer relationships within the IT field?

4. To what extent did you experience a sense of belonging between you and peers at your jobs within the IT field?
5. Can you provide an example or story about collegial peer relationships at work that influenced your persistence to stay and succeed in the IT field.?
6. Can you provide an example or story about any social/professional exclusion instigated by collegial peers that challenged your persistence as a Black man to stay and succeed in the IT field?
7. As a Black man with a successful career in the IT field for over 5 years, you are defying the odds. How are you doing it?
8. If you had an opportunity to meet with a group of young Black male IT professionals, what do you believe would be your most beneficial advice about collegial peer relationships on the job?

Thank you for assisting me with this research study. I will contact you via email once the transcription from our interview is finalized. I will provide a summary of the interview, and I would like you to review the summary to confirm that I have captured the essence of what you have shared with me. If any discrepancies are found, I will correct the interpretations. Do you have any questions? Please contact me if you have any questions.