BUSH, ANTONIO. These are My Keys to Success: The Experiences of African American Male HBCU Graduates in STEM Doctoral Programs at PWIs. (Under the direction of Joy G. Gayles and Audrey Jaeger).

While the plight of Black men in higher education is well documented, there is very little scholarship dedicated to their undergraduate academic achievements and even less on their success in graduate school. Thus, the purpose of this qualitative, narrative study was to explore the experiences of Black male HBCU graduates who were enrolled in STEM doctoral programs at PWIs and the actions they took to be successful. To better understand the experiences of this population, the study employed Harper’s (2012) anti-deficit achievement perspective, Weidman et al.’s (2001) conceptualization of the graduate student socialization process, and O’Meara et al.’s (2012) notions of agency. The following research questions were examined: (1) What are the experiences of African American male HBCU graduates in STEM doctoral programs at PWIs? (2) What hinders and facilitates the success of African American male HBCU graduates in STEM doctoral programs at PWIs? (3) How do African American male HBCU graduates take action to successfully navigate the college environment toward doctoral degree completion in a STEM discipline at PWIs?

The findings from this study reveal that the participants generally felt prepared by their HBCUs for graduate study at a PWI. The participants also expected graduate school to be challenging both socially and academically. Though the participants felt inhibited by the pressures of being Black male doctoral students at PWIs and felt like imposters, they often persevered and stayed focus on their goal of completing their doctoral degrees. Overall, the participants described the climate at their PWIs as “chilly.” They often mentioned being one of few Black graduate students within their environments and also felt isolated. Encounters
with racism and perceived notions of inadequacy by their faculty and colleagues also contributed to the chilly climate. However, the participants took several actions to be successful as Black male doctoral students. One of the actions the participants took was practicing self-care by making their physical, cognitive, and spiritual needs a priority in their lives. They exercised, sought therapy, and solicited spiritual guidance from family and church members. Another action the participants took was being observant and understanding the culture of their PWIs. The participants also formed supportive relationships with faculty, staff, and colleagues on campus. Though using commonalities to bond and form relationships with their White counterparts, the participants were intentional in forming relationships with other Black persons as a means to feel supported and have colleagues that they could relate to culturally.
These are My Keys to Success: The Experiences of African American Male HBCU Graduates in STEM Doctoral Programs at PWIs

by
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BIOGRAPHY

A native of Columbus, Georgia, Antonio Bush earned his bachelor’s degree in Early Childhood Education from Albany State University, an HBCU in Southwest Georgia. After completing his bachelor’s degree, Antonio taught fourth grade reading and language arts for one year. He then earned a master’s degree in Higher Education and Student Affairs at Indiana University. He then enrolled in the Educational Research and Policy Analysis program (Higher Education Administration concentration) at North Carolina State University where he held a graduate assistantship as a researcher for the National Initiative for Leadership and Institutional Effectiveness (NILIE).
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CHAPTER 1. INTRODUCTION

The Research Problem

The plight of African American males in higher education is well documented (Allen, 1992; Harper, 2006a; Harper, 2006b; Harper, 2008; Harper, 2009). However, there is very little scholarship dedicated to their undergraduate academic achievements of African American males in higher education (Bonner, 2010; Harper, 2012) and even less on their success in graduate school (Strayhorn, 2009). Strayhorn (2010) asserts:

Black men are often viewed as an at-risk population in education and tend to be described with words that have negative connotations such as uneducable, endangered, dysfunctional, dangerous, and lazy. The use of such terms to describe Black males exacerbates the problem since disparaging words can perpetuate negative stereotypes among educators which, in turn, can become self-fulfilling and “self-threatening” to Black men. (p. 6)

The struggle of African American males in higher education has conveniently become the focus of several newspaper and research topics. In fact, a search on the experiences of African American males in higher education yields some of the following titles” “Where are the Black Men on Campus?” (Roach, 2001); “The Missing Black Men” (Jaschik, 2005); “The Worsening Plight of Black Men” (McGlynn, 2006); and “Black Men: Left Out and Locked Up” (Nealy, 2008). Sadly, as opposed to highlighting some of their achievements, the majority of the national headlines and research related to the collegiate experiences of African American males offers, although statistically valid, an overly negative
portrayal of their experiences or the lack thereof. It is no secret that African American males have often lagged behind in terms of access, persistence, and completion rates when compared to their African American female and White peers (Cuyjet, 2012; Harper, 2012; Strayhorn, 2010). However, there are African American males who gain access to and successfully navigate the college environment at both the undergraduate and graduate level.

Historically Black colleges and universities (HBCUs) have been found to serve as pivotal access points for African American males who decide to pursue an undergraduate degree (Gasman, Lundy-Wagner, & Commodore, 2012; Harper & Gasman, 2008; Palmer & Gasman, 2008; Palmer & Wood, 2012), and African American males who graduate from HBCUS are often competitive academically and enroll in prestigious advanced degree programs at PWIs (Palmer & Gasman, 2008; Pearson & Pearson, 1985; Solorzano, 1995). This is especially true for those African American males in Science, Technology, Engineering, and Mathematics (STEM) disciplines (Gasman, Lundy-Wagner, & Commodore, 2012). However, their experiences are often neglected and their stories are rarely told.

Although the increased anxiety about the compelling proportions of African American males accessing, persisting, and graduating college provides an urgent need for research (Allen, 1992), expanding the discussion to uncover their success is equally as pertinent to the literature (Harper, 2012). The current research study provides an understanding of how African American men in STEM doctoral programs make meaning of and take action to successfully navigate their doctoral experience. The study specifically
focuses on the experiences of African American males who attended HBCUs for their undergraduate study and are currently enrolled in a STEM doctoral program at predominantly White institutions (PWIs).

**African American Doctoral Degree Attainment**

In recent years, there has been a steady increase in the number of graduate degrees earned by students in the United States (NCES, 2011). More than 800,000 graduate degrees were conferred in 2008–2009, approximately a 45% increase from ten years prior. According to NCES (2011), African Americans accounted for only approximately 7% of the nearly 68,000 doctoral degrees awarded in 2008–2009, which resulted in a nearly 2% increase from the past decade.

These statistics show that African Americans have not advanced educationally at the same rate as their White peers (Pathways to College Network, 2003). Consequently, a gap in college attainment and social mobility remains (Carey, 2004; The Education Trust, 2003). These gaps continue to exist despite the nation’s diverse structural shift (Pitre, 2009) and increasingly significant focus on diversifying postsecondary institutions and the job market (Peterson, Dill, Mets, & Associates, 1997). When characterized by gender, doctoral degree attainment of African American women exceeds that of their male counterparts, which is also a consistent trend at all other levels of degree attainment (NCES, 2011) (see Table 1). African American men account for fewer than 35% of the 4,434 doctoral degrees conferred to African Americans (NCES, 2011). This means that of all doctoral degrees earned in 2008–2009, African American males accounted for merely 2% (NCES, 2011). Still, while
representing a noticeably small number of the recipients, African American males are completing doctoral degrees.

Table 1.

Degree Attainment of African American Students in 2008–2009

<table>
<thead>
<tr>
<th>Level of degree</th>
<th>Number</th>
<th>Percentage distribution of all race/ethnicities</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associates</td>
<td>101,487</td>
<td>12.9%</td>
<td>31.5%</td>
<td>68.5%</td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>156,615</td>
<td>9.8%</td>
<td>34.1%</td>
<td>65.9%</td>
</tr>
<tr>
<td>Master’s</td>
<td>70,010</td>
<td>10.7%</td>
<td>28.2%</td>
<td>71.8%</td>
</tr>
<tr>
<td>First Professional</td>
<td>6,571</td>
<td>7.1%</td>
<td>38.0%</td>
<td>62.0%</td>
</tr>
<tr>
<td>Doctoral</td>
<td>4,434</td>
<td>6.5%</td>
<td>33.5%</td>
<td>66.5%</td>
</tr>
</tbody>
</table>

NCES (2011)

As it relates to minority doctoral degree attainment in STEM fields, African American students are significantly underrepresented when compared to other racial/ethnic groups (National Science Board, 2010). In fact, although they represent approximately 25% of the United States population (U.S. Census Bureau, 2000), Hispanics, American Indians/Alaskan Natives, and African Americans earned fewer than 10% of the nearly 22,000 STEM doctoral degrees awarded in 2007 (Mwenda, 2010). However, between 1995 and 2007, African American students earning doctoral degrees in STEM fields increased approximately 163% from 297 to 781 recipients (Mwenda, 2010). Despite this increase,
African American students represent only about 4% of the 21,576 STEM doctoral degrees awarded in 2007 (Mwenda, 2010).

HBCUs have been very influential in graduating African American males and are a significant part of the STEM pipeline toward doctoral degree completion. Although data suggests that African American males may be lagging behind their peers in doctoral degree attainment, African American students in general have seen increases in STEM doctoral degree attainment. The understanding that African American males are completing doctoral degrees in STEM fields yet are still underrepresented coupled with the excessively negative portrayals of their academic experiences drives the proposed research.

**Studies Addressing African American Males in Higher Education**

There has been a significant amount of research focused on the postsecondary experiences of students of color and, being one of the largest groups of racial minorities in the country, African American students have been the center of a sizable share of those studies (Cuyjet, 1997). Most of the research on African American students treats the group as monolithic (Allen, 1992; Palmer and Gasman, 2008), and those that address within-group experiences such as gender are often about African American women (Joseph, 2007; Schwartz, Bower, Rice & Washington, 2003). Thus, less attention is focused on gender differences within the race. Recently, however, there has been increased attention given to the experiences of African American males in college (Cuyjet, 2006; Harper, 2006, 2012; Palmer &Wood, 2012; Strayhorn, 2008, 2009).
In 2006, Cuyjet et al. provided one of the most frequently-cited collections of research addressing the issues of African American males in college environments. This research addresses the importance of enhancing the academic climate for African American males (Bonner & Bailey, 2006); the impact and outcomes of campus involvement and leadership (Brown, 2006; Harper, 2006); the importance of mentoring (Sutton, 2006); the experiences and challenges of African American males at HBCUs (Kimbrough & Harper, 2006) and community colleges (Pope, 2006); and glimpses into successful programs focused on the success of African American males (Bledsoe & Rome, 2006; Bailey, 2006; Catching, 2006). These studies reveal that African American males have consistently enrolled and persisted at lower rates than their peers. However, through male support initiatives on college campuses, involvement in student organizations, and because of the climate at HBCUs, African American males have been able to enroll in and graduate from college.

Palmer and Wood (2012) provide one of the most recent collections of research about African American males: *Black Men in College: Implications for HBCUs and Beyond*. Palmer and Wood’s (2012) research focused primarily on the experiences of African American males at HBCUs. They found that HBCUs provide a positive campus climate that often stood out through participants’ accounts. Specifically, the perceived climate at HBCUs was found to allow students to have a sense of connectedness, also allowing them to develop meaningful relationships with administrators, faculty, staff, and peers, especially within their particular department (Fries-Britt, Burt, & Franklin, 2012; Flowers, 2012). Although this collection of research provides a significant contribution to the literature on African
American male college students, it does not address African American male students in graduate school (Strayhorn, 2009). Actually, there is very little known about the experiences of African American graduate students (Strayhorn, 2009; Schwartz, Bower, Rice, & Washington, 2003), and, as a leading researcher on African American male students in higher education, Strayhorn (2009), asserts, “There has been virtually nothing written about Black men in graduate school” (p. 127).

Recognizing this gap in the literature, Strayhorn (2009) used data from the Baccalaureate and Beyond Longitudinal Study (1993, 2003) to examine African American male graduate students. The study concluded that human and sociocultural capital were significant factors in educational aspirations and degree attainment. Strayhorn also found that African American males were more likely to enroll in and complete graduate school if they had high educational aspirations when receiving their bachelor’s degree and highly educated parents along with other forms of social capital. However, after ten years, only 40% of those males who obtained a bachelor’s degree enrolled in a graduate program. Of the 40% who enrolled in a graduate program, 21% completed their degree while 6% dropped out, perhaps because of burnout or the need to earn more money. Strayhorn’s research provides a much-needed look into the experiences of African American male graduate students, and the current study explores these experiences in more depth through the use of qualitative research from an anti-deficit lens.

As expressed by Harper (2007), “Getting inside the lived experiences of black men who experienced college more positively [seems] like a worthwhile endeavor given all of the
negative trends amplified about them in the literature and popular press” (p. 55). Accordingly, Harper (2005) poses the following questions, “[W]hat about those among this population who beat the odds, make the most of college, and achieve in multiple ways inside and outside of the classroom? Who are they, and what can they teach us?” (p. 8). In recent years, research has been dedicated to providing an alternative, more encouraging perspective of the experiences of African American males in college (Cuyjet, 2006; Harper, 2006, 2012; Palmer & Wood, 2012; Strayhorn, 2008, 2009).

Though research about African American students in higher education has been more expansive, there are gaps in the literature about the experiences of African American males. An even larger gap exists about the graduate experiences of African American males, specifically those on the doctoral level. Further, current research about African American males tends to focus on, and sometimes exaggerate, the negative experiences and outcomes as opposed to exploring those that are encouraging.

**Purpose of the Study**

The purpose of this study is to discover and understand the experiences of African American males who completed their undergraduate study at an HBCU and are pursuing a doctoral degree in a STEM discipline at a PWI. This study examines the following research questions:

1) What are the experiences of African American male HBCU graduates in STEM doctoral programs at PWIs?
2) What hinders and facilitates the success of African American male HBCU graduates in STEM doctoral programs at PWIs?

3) How do African American male HBCU graduates take action to successfully navigate the college environment toward doctoral degree completion in a STEM discipline at PWIs?

To better understand these students’ overall experiences, the study draws from Harper’s (2010, 2012) anti-deficit achievement framework; Weidman, Twale, and Stein’s (2001) conceptualization of the graduate student socialization process; and O’Meara, Campbell, and Terosky’s (2012) notions of agency. Using the aforementioned concepts, I propose a graduate student agency model.

**Introduction to the Theoretical Framework**

**Anti-Deficit Achievement Framework**

When examining the scarcity of minority students in higher education and acknowledging the achievement gaps that exist, scholars have mostly presented their research by “amplify[ing] minority student failure and deficits instead of achievement” (Harper, 2010, p. 64). Consequently, there is less known about those students who manage to gain access to and persist through college despite the empirical findings, which suggest that these students’ paths are often complicated as a result of various academic and personal factors (Harper, 2010). Harper recognized the shortage of literature that provides a more encouraging perception of minority student success; accordingly, he developed a framework that could be used to better understand how minority students such as African American male, successfully
navigate through college. The anti-deficit achievement framework’s theoretical base is composed of studies from both sociology and psychology as well as several years of scholarship pertaining to African American men and literature related to gender studies. Specifically, the framework reverses questions that have generally been used to examine the deficiencies of the experiences of African American males in higher education and the outcomes thereof and presents them in a more positive approach. This research uses the anti-deficit framework to explore the lived experiences of African American men in a more encouraging perspective by focusing on the factors that influence their success STEM doctoral programs.

**Graduate School Socialization**

Socialization is the process in which persons “gain the knowledge, skills, and values necessary for successful entry into a professional career requiring an advanced level of specialized knowledge and skills” (Weidman, Twale, & Stein, 2001, p. iii). This framework suggests that students enter graduate school with a particular set of skills gained from their undergraduate experience and a perception of what is required to be successful in a graduate program. When students begin their doctoral programs, they are socialized through experiences with the faculty, peers, academic program, and institutional climate. Upon completing their graduate degree, students should have gained the necessary skills valued within their field. The graduate socialization process has been shown to contribute to doctoral student success and retention (Turner and Thompson, 1993). Although graduate school socialization has been extensively studied, most studies view graduate students’ experiences
monolithically. Little consideration is given to institutional differences and student characteristics (Gardner & Mendoza, 2010). Austin (2010) asserts that “as the population of graduate students is becoming more diverse . . . socialization processes should recognize and reflect the diversity in age, race and ethnicity, and gender of [graduate] students” (p. xii).

Weidman et al.’s framework is employed to represent the factors that impact the success of African American male HBCU graduates who are seeking doctoral degrees in STEM fields at PWIs.

**Agency**

Drawing from Marshall’s (2005) characterization of agency, O’Meara, Campbell, and Terosky (2012) defined agency as “taking strategic and intentional views and actions toward goals that matter to oneself” (O’Meara et al., 2012, p. 2). The concept of agency is one that can be applied within various contexts. However, using literature from the social sciences and drawing from data collected through an ADVANCE grant study funded by the National Science Foundation (NSF), O’Meara et al. created a framework that specifically focused on faculty agency. Through their multidisciplinary review of more than 200 empirical pieces of research, they found that agency can be influenced on three levels, including individual, organizational (college and universities), and field and society. One takes these influences into consideration and makes meaning of their experiences. They then make a decision and take action to achieve their goal. Though O’Meara et al.’s research focused primarily on faculty agency, I contend that this framework can be useful in exploring agency with doctoral students by replacing the three levels of faculty influence with Weidman et al.’s (2001)
graduate socialization factors. The proposed research examines these students’ experiences by combining the ideas of agency and graduate school socialization within an anti-deficit achievement frame, forming a graduate student agency model. Each of the units of the framework will be discussed in greater detail, including how the frameworks are connected and will be used, in the literature review.

**Significance of the Research**

The current study has several benefits. First, the study adds to the current literature base. Although there is a need to address the disproportionate number of African American males enrolling, persisting, and graduating from college, we must expand this discussion to include the success they are experiencing (Allen, 1992; Gasman, et al., 2012; Harper, 2012). Thus, there is a need for scholarship that counters often negative characterizations of African American males (Harper, 2010, 2012; Gasman, et al., 2012).

Second, the research provides the participants with the individual benefit of giving them an outlet to use their voices to break down negative stereotypes about them. Although there are consistent gaps in the academic achievement of African American males when compared to their peers, these men have a historical legacy of defeating the odds and breaking down barriers in higher education (Allen, 1988; Newman, Mmeje, & Allen, 2012). Thus, African American males who have succeeded in college separate themselves from the often negatives images of African American males in media and the frequently negative depictions of African American males in higher education (Berhanu and Jackson, 2012). The proposed research gives voice to the often neglected stories of those African American male
HBCU graduates who are successfully managing to navigate the collegiate environment in hopes of attaining a doctoral degree in a STEM field at a PWI.

Further, the current study has the potential to inform policy, practice, and theory in higher education as it contributes to the progressing agenda to enhance the doctoral experiences of students of color in STEM fields. Findings from this study can be used to create departmental and institutional policies at both HBCUs and PWIs and implement practical solutions to increase the success of Black male doctoral students.

**Overview of the Methodological Approach**

Qualitative research is used to understand and explain the meaning of lived experiences (Creswell, 2007). As defined by Creswell (1998),

> Qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, report detailed views of informants, and conducts the study in a natural setting. (p.15)

Thus, a qualitative approach situates me in the real world while allowing me to study individuals in natural settings and interpret experiences based on the realities that the sample population brings to the study (Denzin & Lincoln, 2000). Specifically, I will use a narrative approach (Clandinin and Connelly, 2000). A narrative is considered to be an embodiment of one’s lived story (Clandinin & Connelly, 2000). The narrative approach will be employed to understand how African American male HBCU graduates make sense of their lived
experiences in STEM doctoral programs and take action to complete their degrees (Henry, 2010; Riley & Hawe, 2005).
CHAPTER 2. LITERATURE REVIEW

Introduction

This chapter outlines the existing scholarly research informing the experiences of African American males in the higher education context. Though this study focuses on the positive aspects of how African American males make meaning of and take action to successfully navigate their doctoral experiences, it should be noted that some of the reviewed research focuses on the problems that African American males may encounter as they navigate the STEM pipeline. Specifically, this study focuses on the experiences of African American male HBCU graduates who are currently enrolled in STEM doctoral programs at predominantly White institutions (PWIs). The study is guided by the following research questions:

1) What are the experiences of African American male HBCU graduates in STEM doctoral programs at PWIs?

2) What hinders and facilitates the success of African American male HBCU graduates in STEM doctoral programs at PWIs?

3) How do African American male HBCU graduates take action to successfully navigate the college environment toward doctoral degree completion in a STEM discipline at PWIs?

I begin this chapter by reviewing the experiences of African American males at HBCUs. This is followed by a review of the graduate degree experiences of African
American students. Then, I provide the theoretical framework and propose a graduate student agency model.

**African American Males and Their HBCU Experiences**

HBCUs are institutions founded prior to 1964 that afforded African Americans the opportunity to receive a college education during a period when African Americans were not allowed to be educated in the same facilities as their White counterparts (Brown & Davis, 2001; Stewart et al., 2008). Because of such inequitable laws, African Americans were educated in segregated facilities that have now flourished into learning environments with focuses on African American history, culture, and traditions; currently, 103 institutions are classified as HBCUs (Brown & Davis, 2001).

Literature concerning African American males in higher education has usually been framed as a comparison of the HBCU experience to that of a PWI (Allen, 1992; Davis, 1994; Kim & Conrad, 2006). Allen (1992) found that students at HBCUs were more involved in campus activities and performed better academically than those African American students at PWIs. Davis (1994) had similar findings to Allen in comparing the experiences of African American males at HBCUs and PWIs. Specifically, Davis studied how perceived social support impacted the academic performance of African American males and found that when there were high levels of perceived support at HBCUs, African American males were positively influenced. Thus, research suggests that African American males have more positive learning experiences at HBCUs than at PWIs (Allen, 1992; Davis 1994; Kim & Conrad, 2006). A discussion of the experiences of African American males at HBCUs is
extended in the succeeding sections. Specifically, a discussion of the support networks of African American males at HBCUs. This is followed by a discussion of their experiences in STEM disciplines at HBCUs and the impact thereof on doctoral degree enrollment.

The perceived level of support of African American males is vital to their success as students (Astin, 1993, Palmer & Gasman, 2008). Students attending HBCUs perceived that they had more supportive and personal experiences than their peers enrolled in PWIs (Allen, 1992; Palmer & Gasman, 2008). Several studies have documented the climate of HBCUs and found that African American males receive more support from faculty, staff, administrators, and peers than their counterparts at PWIs (Allen, 1992; Berger & Milem, 2000; Palmer & Gasman, 2008).

**Peer support.** Peer interaction and support have an impact on the success of African American male students at HBCUs (Palmer & Gasman, 2008). Being able to see and experience the success of their peers provides a sense of personal motivation for those African American students looking to succeed academically (Palmer & Gasman). Student persistence is fostered through social networks formed with peers at HBCUs, and this peer support allows students to become involved in the institution by participating in student activities and extracurricular activities (Hirt et al., 2008). The inclusive environment that is created because of this peer interaction leads African American students at HBCUs to have a more satisfying collegiate experience while simultaneously promoting student success and development (Guiffrida, 2003).
**Faculty and staff support.** In addition to interacting with peers, African American males benefit from the relationships with the faculty and staff at HBCUs (Fisher, 2007). Faculty and staff at HBCUs attempt to personally engage students and instill institutional pride while teaching behaviors and skills required for success (Berger & Milem, 2000). Palmer and Young (2011) examined the experiences of 11 African American men enrolled in a public, doctoral research-intensive HBCU and found that student success was increased when students perceived faculty to be concerned about their academic and personal well-being. In a study examining social capital and academic success, Palmer and Gasman (2008) found that the anti-deficit teaching approach used by faculty at HBCUs also increased students’ positive perceptions of faculty members as being supportive. Specifically, as stated by Gasman et al (2012), faculty at HBCUs “[teach] to maximize students’ potential because they [know] students [are] both capable and competent” (p. 81). Further, the faculty at HBCUs are more racially diverse than at PWIs (Perna, 2001). Increased availability of faculty of the same race as they are is pivotal to the success of African American students because they can be mentored by individuals who share experiences that they have and may come across (Gasman et al., 2012).

**Intrinsic motivators and inhibitors.** In addition to extrinsic motivators such as receiving support from peers, faculty, and staff, the campus climate at HBCUs affords students the opportunity to take ownership of their journey toward academic and personal success (Gasman et al., 2012). Research has uncovered several intrinsic factors that are integral to the success of African American males at HBCUs including the ability to manage
time, being passionate about the major of their choosing, maintaining focus and having a
sense of direction, and being personally responsible for their actions (Kimbrough & Harper,
2006; Palmer & Strayhorn, 2008; Palmer & Young, 2008). As a result of feeling personally
responsible for their success, African American males take the initiative to be involved on
campus, seek support from faculty and administrators, and interact with peers on campus
(Palmer & Young, 2008).

African American male students often rely on their desire to attain a degree to
maintain focus; however, this is not always easy to do (Gasman et al., 2012). In addition to
those intrinsic motivators that have been shown to aid in increasing the success of African
American male students at HBCUs, these students often have other internal struggles that
they confront (Palmer, Davis, & Hilton, 2009). Palmer et al. (2009) found that African
American men engage in internal battles with their pride. These internal struggles lead to
detrimental actions such as refusing to seek assistance when needed. Consequently, the
probability of attaining a degree is diminished as African American students (males
specifically) are also generally less prepared academically than their peers at PWIs (Gasman
et al., 2012).

**African American Male Undergraduate Experiences in STEM Fields at HBCUs**

HBCUs have provided a noteworthy contribution to the STEM pipeline by producing
a large portion of African American STEM graduates (Gasman, Lundy-Wagner, &
Commodore, 2012; National Science Board, 2004). In fact, although they represent only 3%
of postsecondary institutions, in 2009 HBCUs accounted for approximately 30% of all
STEM bachelor’s degrees awarded to African American students (Babco, 2003; NSF, 2010). Despite their success in producing African American STEM graduates, a significant amount of research pertaining to this success focuses on that of African American women (Herzig, 2004; Joseph, 2007). However, scholars have begun to pay increased attention to the success of African American men in STEM fields (Gasman, Lundy-Wagner, & Dresner, 2010; Harper, 2012; Lundy-Wagner, in press).

Using IPEDS data from 1981 to 2009, Lundy-Wagner (in press) found that the success of African American males in STEM fields was mixed. The number of African American males receiving bachelor’s degrees in STEM fields increased from 1,759 students in 1981 to more than 2,000 in 2009 (Lundy-Wagner). Of the STEM fields considered, African American males received more degrees in computer science, biological science, and engineering than in any other STEM field; however, within these three fields, there were only 435 more degrees received in 2009 than in 1981 (Lundy-Wagner).

Although there are fewer African American male than female students who enroll in and graduate from HBCUs, these institutions play a significant role in producing African American male STEM graduates (Museus & Liverman, 2010; Perna, Gasman, Lundy-Wagner, & Dresner, 2010; Perna et al., 2009). Seymour and Hewitt (1997) found that the supportive climate of the STEM departments at HBCUs played a large role in retaining and graduating African American students. However, researchers have found several factors that deter African American males from studying in STEM majors.
Gasman et al. (2009) found that an increased level of classroom competition contributes to the attrition of African American males in STEM fields. As opposed to promoting the interests of the STEM field, Green & Glasson (2009) found that introductory classes have been perceived as “weed-out” courses. Further, there is a lack of African American role models in STEM fields (Green & Glasson, 2009). Faculty teaching STEM courses at PWIs often employ a Eurocentric perspective, rarely mentioning the contributions of persons of color, which may contribute to a negatively perceived classroom climate (Green & Glasson). However, the increased numbers of minority faculty members at HBCUs creates a more supportive environment for African American males (Kimbrough & Harper, 2006; Palmer & Gasman, 2008). This support helps diminish perceived feelings of inadequacy and of being an outsider while positively influencing their self-efficacy, leaving African American males feeling that they have the capability to be successful in a STEM field (Perna et al., 2010; Seymour & Hewitt, 1997). In fact, African American STEM graduates from HBCUs are often competitive academically and enroll in prestigious advanced degree programs (Palmer & Gasman, 2008; Pearson & Pearson, 1985; Solorzano, 1995).

**African American Graduate Student Experiences**

Research suggests that the culture and climate of an institution are important factors in students’ enthusiasm and desire to both enroll in and persist through graduate school (Hurtado, Milem, Clayton-Pederson, & Allen, 1998). When entering graduate school, students enter a milieu that has been reported as being “emotionless, indifferent, and single-
minded” (Subramaniam & Wyer, 1998, as cited in Joseph, 2007). There are several factors that have been found to have an impact on the experiences of graduate students such as faculty and peer interaction, funding, institutional climate, and academic norms and expectations (Joseph, 1997; Weidman et al., 2001). This transition may be especially difficult for those African American males who enroll in graduate school at PWIs after having received their undergraduate education at HBCUs, which may be perceived as less prestigious and academically rigorous by their peers and faculty (Herzig, 2004; Joseph, 2007; St. John, 2000).

**Institutional Climate**

The climate at PWIs can be perceived to be hostile by African American students (Fleming, 1984). In some instances, PWIs have failed to create welcoming campus environments and continue to embrace a deficit pedagogy which is not conducive for students of color (Curry, 1992; Fleming, 1984). Dovidio, Gaertner, Kawakami, & Hudson (2002) assert that this may be the result of failed attempts by the administration as well as faculty, staff, and students to critically assess their internal perceptions of other races and ethnicities. Consequently, PWIs have been shown to be unsupportive to the cultural and social desires of African American students (Cleveland, 2009; Fleming, 1984). Patterson-Stewart et al. (1997) determined that students of color struggled to establish relationships with “non-minority faculty members” (p. 41). In an examination of the psychological adjustment of African American college students at four PWIs in the Midwest, Neville et al. (2004) found that African American students experience typical developmental and
adjustment issues just as other students do; however, they also experience race-related stress as a result of racial discrimination, insensitive comments, and alienation. Thus, students of color at PWIs may face undesirable social stigmas and increased stressors as a result of being minorities in this environment (Fries-Britt and Turner 2001, 2002; Milem, Chang, & Antonio, 2006).

As described by Stephen Macedo (2000) regarding life in America, “Diversity is the greatest issue of our time” (p. x as cited in Milem, et al., 2006). Though postsecondary institutions have become increasingly diverse in the past several decades, concerns about “chilly” racial climates continue to exist, and it is imperative that students, staff, faculty, and administrators acknowledge and make concerted efforts to ensure that these environments are inclusive of diverse populations (Duderstadt 2000; Milem et al., 2006; Smith & Wolf-Wendel, 2006). There have been several instances in which institutions have attempted to confront such chilly climates (Tierney, 1999). In fact, several colleges around the country have included diversity initiatives in their institutional strategic plans (Milem et al., 2006). Such plans include increased administrative positions and new administrative structures to address the diverse needs of students, more funding related to diversity initiatives, and more inclusive admissions policies to increase the racial composition of campuses (Garcia et al, 1995 as cited in Milem et al., 2006).

Though concerted efforts have been made to increase access for underrepresented populations and create policies to address their needs, they have produced plans that have
been described as “superficial” and “isolated” (Milem et al., 2006, p.2). Thus, there are still inequities that exist.

**Academic Program Norms and Expectations of Students**

Earning a PhD in a STEM field is a process during which doctoral students are socialized into being scientists and researchers (Golde & Dore, 2001; Weidman et al., 2001). Thus, PhD programs have a rigorous structure which, ideally, focuses on preparing future researchers to pursue various career paths; however, to prepare doctoral students for life after graduate school, the curriculum should be individualized and flexible enough to meet students’ needs, and the expectations and process should not be difficult to understand (Golde & Dore, 2001). Therefore, it is the responsibility of the faculty and the academic program to demystify the process and set appropriate expectations (i.e., publishing requirements, time-to-degree boundaries, and funding levels) so that students are not distracted from the learning process (Golde & Dore). Though doctoral education varies within academic programs, ideally doctoral students—especially those that have been enrolled in doctoral study for a few years—should “(1) understand and be adept at negotiating the formal logistical requirements of their program, (2) understand the mechanisms and overriding logic of the doctoral program, and (3) grasp the informal and tacit expectations” (Golde & Dore, p. 34).

In a longitudinal study of minority STEM PhD graduates, MacLachlan (2006) found that when African American students understood graduate school expectations it was because the academic department and/or faculty often communicated these expectations clearly. If
expectations were unmet, students were provided feedback. However, Golde and Dore (2001) observed that prior to enrolling into a doctoral program, students were noticeably unaware of the structure and expectations of doctoral education. Students pursued doctoral programs blindly with little understanding of the purpose, time commitment, and funding ideas.

Even more disturbing is that students have very little understanding of the process and have to figure out how to appropriately navigate it after being enrolled. Program faculty should clearly articulate the norms and expectations of their academic program, and students must be curious, ask questions, and demand that murky expectations are made explicit by faculty (Golde & Dore, 2001). Further, as opposed to only orienting students during the initial weeks of the program and expecting them to understand how to navigate it, it may be useful to spread out these discussions and provide students with information regularly as they persist through the program (Golde & Dore). In addition to academic norms and expectations, the curriculum plays a large role in how doctoral students are socialized and may impact the experiences of minority students.

Curriculum

The curriculum in graduate STEM programs may cause African American students to feel isolated and invoke feelings of fear (Anderson, 1990). Thus, institutions should create inclusive curricula (Gasman et al., 2009). By doing so, institutions promote access and success for graduate students of color (Armstrong & Thompson, 2003; Seymour & Hewitt, 1997). In reviewing the literature on the path students of color take to graduate school in
STEM disciplines, Gasman et al. (2009) suggested that there are a few main reasons why students of color felt isolated in their STEM courses including: “1) the ‘gatekeeper’ approach to learning, 2) the scarcity of diverse perspectives in the curriculum, and 3) the perceived lack of social relevance of STEM course work” (p. 69).

Gatekeeper courses are used in STEM fields to weed out students and ensure that the quality of these programs remain intact beyond the student admissions process (Gasman et al., 2009). However, incorporating the gatekeeper approach to learning “send[s] a message to students that being admitted to the program is not enough” (Busch-Vishniac & Jarosz, 2004, p. 270). Thus, students are constantly working to prove to themselves and others that they were worthy of being enrolled (Gasman et al.).

Aside from weed-out courses, students of color perceive the STEM curriculum to be Eurocentric (Anderson, 1990; Riley, 2003). Unlike the STEM curriculum at HBCUs, notions of race and the historical influence of non-Eurocentric individuals in the STEM field are rarely mentioned by faculty in class discussions at PWIs (Anderson, 1990; Busch-Vishniac & Jarosz, 2004; Gasman, Baez, Drezner, Sedgwick, & Tunic, 2007; Riley, 2003). Thus, students of color feel isolated due to the perceived lack of diversity in the STEM curriculum. It is important that faculty both recognize and have some appreciation for the increasingly diverse graduate student population (Austin, 2002). As a result of the changing student population, faculty should incorporate different teaching strategies and change the curriculum to include a broad range of diversity related ideas so that students of color feel relevant (Austin, 2002).
In addition to having a diverse curriculum, students of color would like to experience courses that acknowledge the social relevancy of STEM in the world (Busch-Vishniac & Jarosz, 2004). Students of color are interested in disciplines that explore the issues of their race and/or ethnicity, benefit society, and involve increased interactions with other individuals (Busch-Vishniac & Jarosz, 2004). However, the STEM curriculum tends to be isolating and lacks clear social relevance (Gasman et al., 2009).

**Research and Training Experiences**

Because the PhD is a research degree, academic programs often draw more attention to training in research with the result of excluding other skills (Golde & Dore, 2001). However, when surveying students about their preparation for research-oriented faculty careers, Golde and Dore found that doctoral programs are not meeting the needs of students. Students felt that they were not appropriately informed about all components of research, specifically the publication process, which is critical to a faculty role. About 43% of the students surveyed believed that their academic program prepared them to publish research. However, only half of the students had significant roles in research projects, primarily students in psychology and science fields.

After surveying more than 4,000 doctoral students in at least their third year of doctoral study, Golde and Dore (2001) found that “[t]he training doctoral students receive is not what they want, nor does it prepare them for the jobs they take” (p. 3). As previously mentioned, PhDs often have a strict focus on research to the exclusion of other valuable skills students will need to pursue and advance in a career. One participant from the Golde and
Dore’s (2001) study stated, “My department is very focused on churning out researchers and does not encourage students to excel at teaching nor to investigate other career options” (p. 19). As Golde and Dore (2001) assert, “Many students do not clearly understand what doctoral study entails, how the process works and how to navigate it effectively” (p. 3) to get the best outcome for themselves.

In examining the graduate socialization of doctoral students, Austin (2002) found that students felt their PhD programs lacked “organized, systematic professional development opportunities” (p. 105). Although students were confident in their ability to navigate the research process through their teaching and research experiences, they felt that they were not prepared for the life of a faculty member. Further, though students welcomed advice about the professoriate from faculty members, only a small number of them reported that they actually received guidance on faculty tasks such as advising students, serving on committees, assisting in the development of the curriculum, being involved in the community, and outreach opportunities.

In exploring the unique experiences of African American STEM PhD students, MacLachlan (2006) found that although most students felt that they were trained well in their fields, a noticeable number of African American students mentioned deficiencies in their doctoral training that affected the success they experienced in their careers. Specifically, students mentioned that they would have liked to receive more training focused on the long-term development of their careers.
Enrolling in classes outside their discipline can be helpful advancing their research and increasing their scholarship. “Pushing the boundaries” of one’s disciplinary research often results in students taking classes in other disciplines; however, despite doctoral students’ interests in being interdisciplinary and expanding their coursework, they are not prepared nor pushed to do so by their academic program (Gold & Dore, 2001). In addition to research and training, funding may have a significant impact on one’s doctoral experiences.

**Funding**

Doctoral students depend on financial support such as fellowships, teaching assistantships, and research assistantships to pay for their living expenses and tuition (Gold & Dore, 2001). Ampaw & Jaeger (2012) found that doctoral students are more likely to receive teaching assistantships in the beginning of their programs and transition to research assistantships around their third year of study. In exploring the effect of financial support on doctoral student completion, Ehrenburg and Macros (1995) found that students with research assistantships and fellowships were more likely to complete their degrees than those students with teaching assistantships, loans, or who personally funded their studies. Thus, teaching assistantships may actually prolong a doctoral student completion and decrease the chances of degree completion, while research assistantships may have better chances of decreasing the time to degree and completing their degrees (Ehrenberg & Mavros, 1995; Gillingham, Seneca, & Taussig, 1991). In contrast, Bowen and Rudenstine (1992) found that doctoral students holding teaching assistantships were more likely to complete doctoral degrees than students with fellowships. No matter the type of financial support received, when a doctoral
student has some type of financial support, they are more likely to complete the doctoral degree (Pyke & Sheridan, 1993).

Typically, financial support is provided up to a student’s dissertation research; however, when it came to financial support through dissertation research, students were unaware of how they would be funded (Gold & Dore, 2001). In fact, in examining doctoral student completion, Ampaw and Jaeger (2012) found that students received fewer assistantships after their third year of study, typically the stage in which students are working on their dissertation. However, the majority of students in STEM fields from Golde and Dore’s study had a clear understanding about their funding. Nonetheless, receiving funding, whether a student is aware of how they will be funded or not, is critical to completing the doctorate.

Support: Faculty, Personal Communities, and Self

Socialization in the academic community is vital to the success of students in graduate school, and faculty play a large part in introducing graduate students to the academic community and guiding them through this new territory (Weidman et al., 2001). In some instances, students choose their faculty advisor, while in others the students are assigned to faculty advisors. Golde & Dore (2001) found that the majority of doctoral students choose their faculty advisor as they either enroll in doctoral programs with knowledge that they will work with a specific faculty advisor or choose their faculty advisor after starting their doctoral program. Specifically, those students in art history, psychology, ecology, geology, and history came into the program with an advisor while those in
philosophy, molecular biology, chemistry, English, and mathematics doctoral programs chose their faculty advisor after they started (Golde & Dore, 2001). Further, students in STEM fields such as molecular biology and ecology were less likely than other disciplines to have the advisor that they wanted. Golde and Dore found that there were seven top reasons why students selected their faculty advisors:

1. similar research interest,
2. faculty advisor currently conducting research,
3. good academic/research reputation of the faculty advisor,
4. faculty advisor knowledgeable in research methods that the student is considering,
5. faculty advisor was willing to work with the student,
6. faculty advisor would push student to do a rigorous dissertation, and
7. the faculty advisor had a reputation of being a good advisor.

These faculty advisor attributes were considered to be more important than the advisor securing funding for them. The role of a faculty advisor is critical to a doctoral student’s education and post-doctoral aspirations (Golde & Dore). Therefore, it is important that doctoral students are appropriately matched with faculty advisors ensuring a mutually “fruitful and satisfying relationship” (Golde & Dore, p. 35).

Although faculty are significant to a student’s success in a PhD program, research has found that the support received by graduate students from faculty may be perceived as inadequate (Golde & Dore, 2001; MacLachlan, 2006). Research has also found that this issue may be compounded for African American graduate students (Johnson-Bailey, Valentine,
Cervero, & Bowles, 2008; Nettles, 1998; Nettles & Millett, 2006). In some instances, African American students feel they are invisible or ignored by faculty (Nettles, 1998). Further, African American students believe that they receive fewer teaching and research opportunities than their peers and are often the beneficiaries of unintentional racism due to perceived social discomfort from faculty (Nettles, 1998). Students with negative experiences often sought out assistance from others (i.e., personal communities) whom they thought were better able to help them. MacLachlan (2006) found that African American STEM PhD students had varied experiences with their advisors. Twenty-seven out of the 33 participants mentioned that they had “positive” or “very encouraging” relationships with their advisors. The remaining six participants used words such as “disrespectful,” “cold,” and “hands-off” to describe their advisors.

Winkle-Wagner et al. (2010) used focus groups and semi-structured interviews to explore the factors that affect the socialization of students of color in advanced degree programs. They found three emergent themes that influenced this transition. Each theme was centered on support: “(a) faculty and institutional socialization and support, (b) peer socialization and support, and (c) family and community socialization and support” (Winkle-Wagner et al., p. 184). These students often felt there was a lack of support from faculty and the institution. Because their needs were unmet, students often found encouragement from family and within the campus community through their involvement in social activities. In some cases, when students feel that they are not receiving adequate support from their faculty advisor, students seek out mentors. For instance, nearly all of the students Golde and Dore
(2001) surveyed had a faculty advisor. About 60% of the students identified an additional faculty member who also served as an unofficial advisor or mentor. However, mathematics and chemistry doctoral students were least likely to have an additional faculty mentor while more than 70% of history, sociology, and art history students had secondary faculty mentors.

In examining the support experiences of African American graduate students, Johnson-Bailey et al. (2008) found that African American students primarily relied on personal relationships with African American faculty members and students to navigate the academic community. However, similar to Winkle-Wagner et al.’s (2010) and Golde and Dore’s (2001) findings, when there was an absence of external support, students sought support elsewhere. As opposed to seeking support externally, Johnson-Bailey et al. found that African American students relied on self-support through self-efficacy, will to survive, and determination. Thus, when African American students perceive they are not being supported within their academic programs, they seek support from individuals outside of their programs or become self-supported.

Joseph (2007) used acculturation theory to examine the graduate school transition to a PWI by African American women whose undergraduate education was received at an HBCU. When at their undergraduate institutions, Joseph’s participants felt supported from faculty and peers and experienced healthy academic and social interactions. The climate was hospitable and there was a high sense of cultural pride. However, the climate was “chilly” at the PWIs. Joseph found that due to the perceived lack of support, students often sought support through their spiritual beliefs and from family and cultural organizations. When
African American students do not receive support from faculty members and peers, they may feel that they lack the academic capability to be successful in graduate school; as if they are “imposters.” Harvey and Katz (1985) assert,

[Imposter phenomenon sufferers are individuals who, despite objective evidence of competence, feel that they have fooled everyone into thinking they are smarter or more capable than they are in reality . . . They may attribute success to things like hard work, having a charming personality, physical attractiveness, or knowing how to please others (anything except intelligence, true ability, or both). As a result, these persons live in constant fear of being discovered as a fraud. They fear that once discovered, they will experience painful humiliation and lose their positions or success forever. (p. 55)

Ewing et al.’s (1996) study examined this notion by surveying 103 African American students at two PWIs in the Midwest. The researchers created a student information survey using scales that measured students’ racial identity (Parham and Helms, 1981); academic self-concept (Reynolds, Ramirez, Magrina, & Allen, 1980); and imposter mindsets (Harvey, 1982). The results from the study concluded that the imposter phenomenon is prevalent within the African American population, particularly with those students that were in the early stages of their Black identity development and had low academic self-concept.

Such feelings of isolation can potentially lead to African American students leaving their doctoral program (Kador & Lewis, 2007). It is important that African American students feel encouraged and supported by both minority and non-African American faculty (Taylor & Antony, 2000). However, in some instances, African American faculty may be
unconscious of a student’s perceived role and therefore do not assume to be single-handedly responsible for mentoring them (Taylor & Antony, 2000). As a result of an African American faculty’s obliviousness and a student’s perceived opinions of inaction to abide by unmentioned expectations, African American students may begin to feel isolated. Consequently, the journey to completing a graduate degree will be difficult if African American graduate students experience lack of advising and mentoring and do not develop personal relationships with faculty (Ellis, 2001; Nettles & Millett, 2006; Valentine, Cervero, & Bowles, 2008).

**Theoretical Framework**

The current study is framed using the following concepts: anti-deficit achievement framework (Harper, 2010, 2012); graduate socialization framework (Weidman et al., 2001); and agency (O’Meara et al., 2012). Each of the aforementioned concepts is discussed in detail in the following section. I also introduce a graduate agency model, which incorporates components of each of these concepts.

**Anti-Deficit Framework**

Harper (2010) introduced an alternative approach for examining the experiences of African American males in his article “An Anti-Deficit Achievement Framework for Research on Students of Color in STEM.” This uncommonly used approach, informed by 30 years of research about African American males in education and society, was adapted from his at-that-time unfinished research on high-achieving males in higher education (Harper, 2012). Harper recognized that prior research examining the experiences within education was
often approached through the use of a deficit-oriented lens. Instead of focusing on the factors that hinder students from achieving their goals, the anti-deficit framework explores how students navigate their academic journeys to achieve success. The central focus of the framework is the way in which the questions are asked (see Table 2). Research questions relating to the experiences of African American males are often presented in a deficit manner; however, reframing the questions with a more positive approach allows scholars to get an alternative, more encouraging perception of the experiences of African American males.

Table 2.

*Sample Deficit and Anti-Deficit Framed Questions*

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<thead>
<tr>
<th>Deficit Framed Questions</th>
<th>Anti-Deficit Framed Questions</th>
</tr>
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<tbody>
<tr>
<td>Why do so few pursue degrees?</td>
<td>How were aspirations for postsecondary education cultivated among Black male students who are currently enrolled in college?</td>
</tr>
<tr>
<td>Why do so few continue on to graduate school?</td>
<td>What compels African American males to enroll in graduate school?</td>
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There is a great need to examine the experiences of African American males in higher education at the doctoral level. The need to tilt the scales and explore their experiences in an anti-deficit approach is even more significant. The proposed research aims to explore the experiences of African American male HBCU graduates who are currently enrolled in STEM
doctoral programs at predominantly White institutions (PWIs) by using anti-deficit framed research questions and an interview protocol which consists of anti-deficit questions developed using the principles from the agency and graduate student socialization frameworks.

**Socialization Framework**

In 1989, Weidman (1989a) created one of the most widely-used undergraduate student socialization frameworks. This framework integrates research about how a student’s background characteristics and the institutional make-up impact the college experience. In focusing on students’ social and academic interactions, three dimensions were formed (Weidman et al., 2001). The first dimension, interpersonal, focuses on how often and to what magnitude do social interactions occur in the academic setting. The second dimension, intrapersonal, depicts students’ personal evaluation of their social interactions within the academic setting. The final dimension, integration, is representative of a student’s perception of how well he or she integrated into the social life of the institution: “fit or subjective assessment of his or her degree of social integration into the life of the institution” (Weidman, 1989a, p. 33, as cited in Weidman et al., 2001). Although this earlier model was used by several scholars in the 1990s (Bess & Webster, 1999; Chickering & Reisser, 1993; Pascarella & Terenzini, 1991), it was not without due criticism. Tierney (1997) suggested that Weidman’s undergraduate socialization process did not account for the uniqueness and individuality of the increasing diversity of the student population.
These criticisms were addressed in Stein and Weidman’s (1989, 1990) graduate socialization framework. With this framework, they argued that:

Socialization is a complex developmental process that can be analyzed at either the group or individual level. It describes the complexity of the socialization process by demonstrating the relationships among students’ background characteristics, university experiences, socialization outcomes, and mediating elements such as personal and professional communities both before and during the graduate school experience. (in Weidman et al, 2001, p. 33)

At the group level, the socialization process acknowledges the shared experiences all graduate students will have in a graduate program while the individual level is focused on isolated occurrences (Weidman et al., 2001). Four stages were included in Stein and Weidman’s linear model: 1) anticipation stage, 2) formal stage, 3) informal stage, and 4) personal stage (Stein & Weidman, 1989, 1990; Weidman et al., 2001). In the anticipation stage, graduate students enter their programs with preconceived perceptions of their graduate experiences. They are then exposed to the institutional culture through their faculty members and their colleagues in the formal stage. Next, in determining their personal, academic, and professional goals, the graduate student personally assesses the significance of the normative pressures in the informal stage. Last, in the personal stage, the student decides which personal commitments, beliefs, and goals will be changed or maintained to complete the socialization experience.
In 2001, Weidman, Twale, and Stein revised Stein and Weidman’s (1989, 1990) framework and incorporated Thornton and Nardi’s (1975) stages of socialization. Weidman et al.’s graduate socialization framework “takes into consideration differences as well as common threads and expectations among various types of students, academic and professional fields, and anticipated career outcomes” (p. 37). This framework suggests that graduate socialization is continuous, multifaceted, and developmental. Weidman et al.’s framework acknowledges that the graduate socialization process is neither monolithic nor linear. Instead, it is unique and multifaceted involving both institutional and individual factors (see Figure 1).

Figure 1. Graduate Student Socialization Framework (Weidman et al., 2001)
The core of the socialization process includes the institutional culture, socialization processes, and primary elements of socialization (knowledge acquisition, investment, and involvement). The graduate student’s academic program is in primary control in this segment. Faculty decide on which students will be admitted as well as whether they will receive funding and, if considered, how much. Further, faculty establish the norms of the graduate program as well as the curriculum. In this segment, graduate students are socialized into their academic fields through learning, faculty and peer interaction, and integration with the program activities. They also adjust to the social climate and are acclimated to the academic program by meeting requirements such as passing comprehensive exams. Four notable components surround the core include 1) students’ backgrounds and predispositions, 2) personal communities, 3) professional communities, and 4) the outcome of socialization. Each of these components interacts with the other and has varying levels of impact on the socialization process.

The prospective student’s backgrounds (race, ethnicity, undergraduate institution, etc.) and predispositions (values, beliefs, aspirations, etc.) are taken into account on the left side of the graduate socialization illustration. Personal communities, near the bottom of the Figure 1, acknowledge the influences of the graduate student’s family, friends, and employers (not including assistantships or any other work controlled by the academic program). Professional communities are recognized near the top of the illustration and include practitioners who influence the clinical and practicum factors of the graduate program in addition to serving as mentors and role models for graduate students. The
program-specific professional associations set standards for the field and influence the direction of the program. The primary outcome of the socialization process is included to the right of the core. This segment “represents the core elements of successful professional socialization, a well-developed commitment to and identification with the chosen professional career” (p. 39). A listing of the linear interactive stages of graduate socialization is included at the very bottom of the illustration. Although the stages align with the four components (“anticipatory with prospective students; formal and informal with personal and professional communities, and the university and personal with novice professional practitioners,” p. 39), Weidman et al. (2001) suggest that these characterizations may be evident at any time during the experience. They provide an example:

[T]he actions of current students could have an impact on future public policies or on the status of a profession. Professional identity and commitment are not presented in the framework simply as outcomes of a socialization process but are conceived as developing gradually in the individual student, both affecting and being affected by the other components of the framework. (p. 39)

Essentially, according to Weidman et al.’s (2001) framework, a student enters a graduate program with prior skills learned from their undergraduate institution and a perception of what is required to successfully complete their academic program and pursue a career on graduating. Next, students are socialized through their experiences, primarily those that occur within the normative context of their academic program. By the time a student
completes his degree, she or he will have gained the necessary skills that are valued within their field (Weidman, 2010).

Employing Weidman et al.’s (2001) framework allowed me to grasp an understanding of the lived experiences of African American male HBCU graduates currently being socialized through a doctoral program at a PWI. Specifically, this framework accounts for the backgrounds and predispositions of students prior to enrolling in graduate school. The current study focuses on African American males who received their undergraduate education at an HBCU. These students’ prior academic and social experiences at an HBCU as well as their personal backgrounds may have significant impact on their perceptions of what is required to complete the degree as well their academic preparation. Further, the framework provides a set of factors that have been shown to influence the experiences of students while in graduate school (e.g., institutional culture, academic program, and peer climate). In addition to influences found in the literature, these factors are used in this study to understand the experiences of African American HBCU graduates in STEM programs at PWIs. Although the graduate student socialization framework provides the factors that impact the experiences of graduate students, an additional framework, agency (O’Meara, Campbell, & Terosky, 2012), is needed to address how African American males make meaning of their experience and take action to persist through a doctoral program. However, prior to delving into O’Meara et al.’s framework, it is important to first set the context for their framework. Thus, in the subsequent sections, I provide a detailed background of the concept of agency.
Agency

Using energy as a metaphor, Marshall (2005) asserts that social theories such as agency have two primary components: “A way to deal with energy, and a way to deal with direction” (p. 59). He expands the metaphor by explaining the process of heating a home:

You need to have a furnace, to produce heat. But to understand the heating of a house you also have to account for direction – how and where that warm air moves from the furnace, through ducts, to the various levels and rooms of the house. . . . the [ego] is the furnace. It is the source of energy. But that energy needs channeling, and the complexities of psychoanalysis provide an explanation for how this energy is channeled into socially acceptable behavior (or not). (p. 59)

According to Marshall (2005), this process of heating a home is similar to the process of agency. Humans, as the furnace, have to make decisions in life. In understanding the decisions we make, we have to account for the process of how and why we make decisions and where the “energy” or decisions lead us. However, though we are the source of the decisions that we make, there are influences that may impact the way that we make meaning of our experiences, mentally come to a conclusion about a decision, and take action in regards to that decision (O’Meara et al., 2012).

Agency has been used frequently to describe the sociology of aging and one’s life course (Marshall, 2005). Consequently, the way in which agency has been defined and used has become increasingly conflicting (Marshall, 2005). In reviewing the literature on aging and life course literature, Marshall (2005) sought to identify some of the uses of the term
agency and its related concepts as it pertains to human development and life course theory.

His review of the literature revealed several ways in which agency has been defined and used including: a) agency as a production of a life, b) agency as environmental proactivity or adaptation, c) agency as masculine trait, d) agency as making possible loose coupling, e) agency as overcoming resistance, f) agency as evidence in life transitions, and g) agency as responsibility. Each idea is discussed in more detail in the next section.

**Defining Agency**

**Agency as a Production of Life**

Marshall (2005) identifies two pieces of literature that view agency as a production of life, that of Brim (1981) and Lerner and Busch-Rossnagel (1981). Brim (1981) argues, “The idea that organisms act to create environments to elicit responses from themselves is not new” (p. 3, as cited in Marshall, 2000). Though not explicitly using the term agency, Brim continues to imply it:

Behind this idea, to be sure, is the view that the organism is dynamic, powered by curiosity, growth, expansion, and a drive toward mastery over itself and its world; and also by the development during the first two years of life of a sense of self as a distinctive being, and the construction of images of future selves that are different from what one is now. Behind the idea is also the view that organisms are open to change, are much more malleable than heretofore thought, and that the consequences of early experience and biological endowment are transformed by later experience. (p. xv–xvi)
Essentially, Brim asserts that individuals are producers of their development. Lerner and Busch-Rossnagel (1981) state that not only are humans produced by their worlds, they also produce their worlds. As humans develop, their ability to act on the world and mold themselves increases. Thus, in this context, agency has been defined as having the ability make a decision (Brim, 1981).

**Agency as Environmental Proactivity or Adaptation**

Lawton (1989) conceptualizes agency in the area of person-environment fit. Lawton thinks of agency as the idea that one is shaped by their environment. Marshall (2005) asserts that through research on person–environment fit and the environmental docility hypothesis, Lawton perceives that humans react to the pressures and limitations of the environment. Thus, when people makes a decision they are influenced by their environment.

**Agency as a Masculine Trait**

Ackerman, Zuroff, and Moskowitz (2000) quantified agency through the use of Likert scales in assessing self-assertive-instrumental traits versus interpersonal-expressive traits. Through this assessment, masculinity and femininity scores are generated. They determined that agency is both a psychological trait and a characterization of one’s behavior. They found that masculine scores represented agency while communion scores represented femininity. The stereotypical masculine traits that were associated with agency include dominance, assertiveness, and strength (Ackerman et al., 2000; McAdams, de St. Aubin, & Logan, 1993).
Agency as Making Possible Loose Coupling

Elder (1984) believes that agency is a significant component in the decision-making process. He states, “Within the constraints of their world, competent people are planful and make choices among alternatives that form and can recast their life course” (p. 964–965 as cited in Marshall, 2005). He continues in stating the idea that “loose coupling reflects the agency of people even in constrained situations as well as their accomplishments in rewriting their journeys in the course of aging” (p. 965 as cited in Marshall, 2005). Agency in loose coupling exemplifies an individual who may be constrained by the social context, but wants to be an individual and deviate from the norm (Elder, 1997). Therefore, Elder perceives that agency may be necessary for one to exhibit behaviors that are considered to be outside of the socially structured boundaries (Marshall, 2005). Thus, agency is not exemplified when one conforms to the social norms, only when they deviate from them (Elder, 1997).

Agency as Overcoming Resistance

Marshall (2005) asserts that Elder’s (1997) conceptualization of agency as loose coupling may imply that agency is only exemplified when one resists the social norm. However, Heinz (1996) asserts that agency is exemplified only when one overcomes the decision to resist social norms. Through this definition, an individual exhibits agency by resisting norms and expectations as opposed to abiding by them.
Agency as Evidence in Life Transitions

Elder (1984, 1997) implies that an individual is agentic primarily in the critical moments in life—essentially, the point in which one is experiencing transitions in life. As Elder and O’Rand (1995) assert:

No idea better illustrates the contemporary link between social context and the agency of the individual than the concept of life transition, which defines the problem as a change in states social and psychological. Adults bring a history of life experiences to each transition, interpret the new circumstances in terms of this legacy, and work out adaptations that can alter their life course. When transitions disrupt habitual patterns of behavior, they provide options for new directions in life, a turning point (p. 456).

For example, we can think of an administrator who has a full-time job and is looking to advance his or her career. However, all of the positions s/he is interested in require a PhD. The administrator applies and is accepted into a doctoral program. In an effort to complete the program in a timely manner, s/he decides to resign from his job and pursue school full-time. S/He will have to transition into being a full-time student and make intentional decisions to best adapt his new lifestyle; therefore, exhibiting agency.

Agency as Responsibility

The final conceptualization of agency comes from Meyer and Jepperson (2000) who state that agency involves “being an agent for someone or something” (p. 9). Meyer and Jepperson argue that agency is a “legitimated representation of some legitimated principal, which may be an individual, an actual or potential organization, a nation-state, or abstract
principles” (Meyer and Jepperson as cited in Marshall, 2005, p. 9). In this form of agency, one can be responsible for being an agent for others, organizations or ideas, or self (Marshall, 2005). For example, an African American male student in a doctoral STEM program may perceive that his or her program’s curriculum lacks social relevancy and racial diversity. In an effort to change the curriculum, s/he expresses concerns to the program’s faculty (Busch-Vishniac & Jarosz, 2004; Gasman et al., 2009). When s/he takes action to amend the curriculum, s/he is exhibiting agency on behalf of an idea and possibly for himself and others who share his belief.

Marshall’s Constructs of Agency

As shown by Marshall’s (2005) review, agency has been conceptualized in several different ways. Thus, in an effort to provide a more clear understanding of agency, Marshall (2005) identified four constructs that frame agentic behavior. The first construct refers to one’s capacity to make a choice or to be intentional. In terms of the furnace analogy, if there is no furnace (or heat source), there is no capacity to heat a home (Marshall, 2005). The furnace represents a human and the heat represents choice. If there is no human, there is no capacity to make a choice. The physical fact of being human gives us free will and affords us the opportunity to make intentional decisions.

The second construct refers to “the resources within the individual or at the command of the individual that can be brought to bear in intentional or agentic behavior” (Marshall, 2005, p. 67). Humans use resources to aid them in their decisions. These resources may be within the individual (i.e., learned abilities or skills, education, or physical strengths) or
obtained externally (i.e., social capital and wealth). Extending the furnace analogy, resources are the fuel of the furnace. Marshall (2005) asserts that “some furnaces may have more, or better, fuel than others” (p. 68). For example, though there may be two African American men in the same doctoral program, their resources (i.e., funding and mentors) may be different. Thus, the way that they make decisions to complete their degree will be different. In sum, agency does not describe the resource. Instead, it focuses on the way that one uses resources to make an intentional decision.

Referring back to the furnace analogy, the third construct can be described as adjusting the thermostat and opening and closing the valves or duct openings (Marshall, 2005). For the heat to come out of the furnace, the thermostat must be adjusted. However, if the valves and ducts are not open, the room can’t be heated. The behavior of an individual reflects their intention. As Campbell (2012) asserts, this construct focuses “less on the human capacity for intentionality, and more on the tangible action or behavior of choicemaking” (p. 38). If an individual makes meaning of their experience and decides to act on it, they have not yet exhibited agency. Agency is not exhibited until the individual acts on their thoughts (Campbell, 2012). For instance, if a group of African American men feel that their teaching assistantship duties are hindering their chances for research opportunities, they may decide to seek an alternative assistantship. Although they have made the decision to act, they will not exhibit agency until they take action. Further, though there may be several African American men in this predicament, their outcomes may be different based on their decision of action or inaction.
Marshall’s (2005) fourth construct refers to the social and physical structuring of choices. In terms of the furnace metaphor, despite the quality of the furnace, thermostat, and fuel, there are structural barriers such as insulation, windows with cracks, duct work, and insulation that may have an impact on the furnace’s ability to heat a home (Marshall, 2005). This category of agency refers to the external influences that are beyond one’s control. Marshall (2005) believes that these external forces are part of the process of agency. However, the proposed study employs Campbell’s (2012) notion of this construct: the idea that external forces may impact one’s level of agency. For example, relating back to the African American male doctoral student who attempted to change his program’s curriculum to include an emphasis on social relevancy and racial diversity. Though he wants to take action to change the curriculum, he is constrained by his environment because there are processes or rules and regulations set by the department, college, and university to which he must adhere. Thus, though he has free will and is able to control when and how he takes action, his behavior is constrained by the context of his environment (i.e., department, college, and university).

Marshall (2005) realized that there were several meanings of agency as defined by various sociologists and psychologists, so he combined the definitions as he saw fit and identified four specific constructs of agency. These constructs included the notion that humans have free will and are able to make intentional choices. Further, humans may take intentional action on behalf of themselves, another person, or an organization or idea. However, their actions are limited as a result of their individual resources, external resources,
and environment. In the current research, I employ O’Meara, Campbell, and Terosky’s (2012) agency framework, which is guided by Marshall’s (2005) definitions of agency to understand how African American males make meaning of and take action to complete a doctoral degree in a STEM field.

**O’Meara, Campbell, and Terosky’s Agency Framework**

O’Meara, Campbell, and Terosky’s (2012) definition of agency is influenced by Marshall’s (2005) four constructs mentioned in the previous section. However, in reviewing the literature, O’Meara et al. (2012) found another component of agency that they believed to be significant to the agential process—agency as perspective (McAdams, de St. Aubin, & Logan, 1993; Schutz, 1967). As opposed to focusing on the premise that agency involves intentional and choice-making behaviors, agency as perspective highlights the reflection associated with the agentic process (Campbell, 2012). Accordingly, Campbell asserts that “agency is the ability to make meaning of human experiences, to reflect upon them, and to re-construct them internally” (p. 41). We use personal stories to help us make meaning of our lived experiences (McAdams et al., 1993). Using this as a guide and focusing on one’s lived experiences, O’Meara et al. define agency as “taking strategic and intentional views or actions toward goals that matter to [oneself]” (p. 2).

This concept of agency requires an individual to do two things: 1) make meaning of their circumstances and the context in which their circumstances exist, and 2) exhibit behaviors and take actions toward advancing their goals (O’Meara et al., 2012). Each manifestation of agency results in the individual both contributing to their reality and being
affected by it (Elder, 1994; Lawton, 1989; Lerner & Busch-Rosnagel, 1981). Thus, both the individual and the environment in which they exist are simultaneously responsible for one’s success (O’Meara et al., 2012).

The goal of the O’Meara et al.’s (2012) agency framework is to provide a theoretical tool for researchers to use to observe how individuals, namely faculty, “navigate, negotiate, reframe and act” (p. 3) in their environments. Additionally, the framework can be used by individuals such as administrators to create a climate that promotes agency to those who are most at risk in their fields (e.g., faculty of color at PWIs, administrators, department chairs). Although this framework was created as a tool to explore the experiences of faculty, I believe that it can be used to examine the experiences of doctoral students. Prior to making an argument to use the faculty agency framework with doctoral students, I will review each of the three components that make up O’Meara et al.’s agency framework: agency as process, influencing factors, and potential outcomes.

**Agency as Process: Meaning Making and Intentional Actions**

Relying on Marshall’s (2005) definitions of agency, O’Meara et al. (2012) provide two constructs of agency that are significant to their framework. The first is, “agency is a strategic and intentional action” (p. 7). O’Meara et al. suggest that individuals act intentionally to achieve goals. Though individuals are constrained by their environments, they have free will and are able to take intentional and strategic actions to impact their life courses (Clausen, 1991; Elder, 1994, 1997; Lerner & Busch-Rosnagel, 1981; Marshall,
2005). Thus, individuals take action to achieve their goals while recognizing who they are and the environments in which they exist.

The second construct “involves strategic views or perspective taking on human experiences in ways that advance individual or collective goals” (O’Meara et al., 2005). When an individual goes through an experience and is in the process of making a decision, he or she has internal conversations that assist him or her in making the decision in the most strategic way to meet his or her personal goals (Kahn, 2009). For example, a doctoral student of color may feel that his research advisor has stifled his progress through his academic program as a result of the student being the recipient of several micro-aggressive racial remarks by his research advisor. As opposed to framing the experience as a shortcoming on his behalf, he realizes that his research advisor may not encompass the racial proficiency to work with minority students. In this case, the student has made the intentional decision not to perceive himself as a failure in this situation. Through this, the doctoral student also made the decision to see an alternative perspective, which may not have been readily apparent.

Although another individual may see this situation as a wall, the agentic person recognizes that there are alternative choices or perspectives (O’Meara et al., 2012). Though a review of agency research suggests that agentic perspective and action are one process, O’Meara et al. proposes that the agentive perspective (e.g., what the student perceived) should be distinguished from an individual’s actions (e.g., what the student may do). Campbell and O’Meara’s (2011) research on faculty and agency revealed that perspectives and actions were separate constructs and that one’s agentic perspective strongly influenced
their agentic behavior. Thus, O’Meara et al. (2012) suggest that understanding and separating agentic perspective and agentive concrete actions is important. It is also important to understand how one’s agentic perspectives and actions influence their goals. As it relates to the proposed research, it is important to separate how an African American male may perceive experiences in his doctoral program, the strategic actions he takes, and how his perspectives and actions impact his goal to complete his doctoral degree.

In addition to understanding agency as strategic perspectives and agency as actions, it is important to know the “what” or the content of one’s agency goals (O’Meara et al., 2012). In other words, why and in what circumstance does one assume agency? An individual’s goals, resources, and/or environments vary; therefore, the way that one assumes agency will vary from that of another person (Campbell, 2012). For example, two part-time doctoral students may share the same goal of completing their degree. The first student takes a full load of classes in the fall and spring semesters. He has no significant other or children and decided that he will sacrifice his personal life to finish his degree in a timely manner. The other student, married with two young children, decides to take one or two classes a semester. Though his time-to-degree may be longer, he values the time with his wife and children. Both students share the same goal of completing their doctoral degree, but they assume agency differently.

Another consideration is whether an individual’s actions are with or against the grain of their social context. In some cases, individuals may decide to exhibit agency by deviating from the social norm or resisting normative structures (Elder, 1994, 1997; Heinz, 1996).
Thus, one is agentic when they challenge systems or take actions that are opposite of the norm (Campbell, 2012). However, O’Meara et al.’s (2012) framework suggests that one may exhibit agency by simply using free will, making a choice, and taking action to achieve the goal (Emirbayer & Mische, 1998; Lerner & Busch-Rossnagel, 1981; Neumann, Terosky, & Schell, 2006). Thus, one may decide to exert agency by aligning their actions within the system as opposed to resisting it or vice versa (Campbell, 2012).

Finally, individuals may be agentic “toward both positive and negative ends” (Campbell, 2012, p. 79). For example, a doctoral student may feel that his research partners lack the intellectual ability to publish a paper on their recently completed research project. He is planning to be faculty and recognizes the importance of academic publishing and conference presentations. So, without informing the group, the doctoral student completes the paper and submits it to a journal for publication. Although an extreme case, the doctoral student exhibits agency by achieving his goal of publication, the positive end, but he disregards the contributions and opinions of his research partners—the negative end.

**Influencing Factors of Agency**

O’Meara et al. (2012) reviewed the literature and found that agency is influenced on three levels: individual, organizational, and societal (see Figure 2.). The influences are dynamic and interact with each other to drive and/or hinder one’s sense of agency (O’Meara et al., 2012). The proposed research seeks an explanation of doctoral student experiences. In the proposed research, I focus on only two of these three influences as identified by Weidman et al.’s (2001) graduate socialization framework—individual (i.e., backgrounds
and pre-dispositions) and organizational (i.e., institutional culture and academic programs).

As a result of the direction of the proposed study, the subsequent section includes an overview of the literature which describes the individual and organizational influences of agency. I then introduce a doctoral student agency model.

**Figure 2.** Faculty Agency in Professional Lives.

**Individual.** O’Meara et al. found three key individual influences: psychological traits and internal resources; perceptions of social capital; and identity. Self-efficacy is one of the most well-known psychological traits or internal resources in the agentic process (Bandura, 1982). Self-efficacy is defined as being “concerned with judgments of how well one can execute courses of action required to deal with prospective situations” (Bandura, 1982, p.
122, as cited in O’Meara et al., 2012). Self-efficacy is critical to the agentic process because if someone feels that they have the capability to do something, they are more likely to exhibit agency than those who don’t (O’Meara et al., 2012). For example, a doctoral student who is confident in his teaching skills is more likely to take on a teaching assistantship than a student who lacks self-efficacy. Some individuals have innate predispositions and have the ability to be agentic as a result; however, this may have to be learned or developed with others (Bandura, 1982; Clausen, 1991; Goleman, 1998). For example, the doctoral student who lacks confidence in his teaching ability could enroll in professional development or teaching courses to advance his skillset. Though he may not naturally have this ability, it can be developed and nurtured through practice.

In addition to self-efficacy, social and emotional intelligence are critical psychological traits and internal resources in agency. Coined by Salovey and Mayer (1990), emotional intelligence is defined as “a form of social intelligence that involves the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them, and to use this information to guide one’s thinking and action” (p. 4). However, Daniel Goldman, a science writer for The New York Times and trained psychologist, became aware of Salovey and Mayer’s work in the 1990s and wrote a book, Emotional Intelligence (1995), which became a catalyst for separating emotional intelligence and emotional competencies in the field (Cherniss, 2000). Emotional competencies include the individual and social skills that one displays through individual interactions. There are four clusters of emotional competencies: self-awareness, self-management, social awareness, and relationship
management. However, O’Meara et al. (2012) highlight two clusters of the emotional competencies that impact agency—social and self-awareness. Social awareness may include one’s awareness of the norms and expectations of their environment (i.e., academic department) and the resources available to them (i.e., financial). Self-awareness includes one’s ability to understand their strengths and weakness so that they are able to make meaning of their experience and take strategic actions to meet their goals (O’Meara et al., 2012). When one understands their ability and the norms and expectations of their environment and has clear goals, they are more likely to have strategic perspectives and take actions to pursue those goals (Elder, 1995; Ganz, 2010; Marshall, 2005). For example, doctoral students have a goal to complete a PhD, but the reason for doing so may vary from participant to participant. Those doctoral students with clear understandings of their course, research, and comprehensive exam requirements in addition to confidence in their ability to complete these tasks are more likely to assume agency. As O’Meara et al. (2012) state, those “who are aware of the ‘rules of the game’ may be more likely to win” (p. 15). Thus, those who are most aware of how their strengths and weaknesses work within their contexts’ norms and expectations are more equipped to make meaning of their experiences and take actions to achieve their goals (O’Meara et al., 2012).

In terms of emotions, there are some that my inhibit action (i.e., fear, doubt, isolation) and others that encourage agency (i.e., hope, solidarity, feeling that you can make a difference, urgency, anger) (Ganz, 2010; Marcus, 2002). As Ganz asserts, “Our capacity to consider action, consider it well, and act on our consideration depends on what we feel,” (p.
517, as cited in O’Meara et al.). The way that we feel heavily influences the actions we will consider.

The final individual factors, identity and social capital, are closely related. According to Bourdieu (1986, 1990) individuals have multiple identities. Identities include age, race, religion, class, and gender, among others. In the proposed study, the focus central identities are gender and race. In some social contexts, parts of one’s identity may be welcomed, though in others their identity may not be as welcomed or understood. This may have a significant impact on the way that an individual makes the decision to assume agency and, if they decide to take action, the manner in which they do it. O’Meara et al. (2012) state,

A person will feel less encouraged to pursue his/her goals in a social context where he/she feels some aspect of his/her identity is not welcomed or understood, whereas a person who feels like his/her identity “fits” well within the social setting and is welcomed is more likely to feel that he/she can pursue his/her goals. (p. 16)

For example, an African American male doctoral student may be uncomfortable expressing his concerns to his research group about the lack of racial diversity in their research if he is the only person of color. Comfort levels with identities are temporal because individuals and their environments are constantly interacting (Emirbayer & Mische, 1998). Thus, one’s identity may increase their social capital when it is welcomed or may cause one not to fit in, or lose social capital, when misunderstood. Although the doctoral student may feel less comfortable in expressing his concerns to the research group, he may feel more comfortable speaking to a faculty of color outside of the group.
Organizational. Framed within the context of higher education, O’Meara et al. (2012) identify five organizational influences that may impact agency including norms and expectations, climates, resources, policies, and leadership. The organizational level is framed within the context of higher education. As institutions, colleges and universities influence the way an individual may assume agency. Specifically, O’Meara et al. (2012) state that organizations “frame, limit, dominate, form, and shape” (p. 17) how one makes meaning of experiences and takes action to achieve a goal (Giddens, 1979).

New Institutionalism theory suggests that institutions of higher education have distinct rules, power associations or structures, systems, processes, and practices (Meyer & Rowan, 1977). Doctoral students, similar to faculty, have to decide whether they will conform to, resist, and/or negotiate the norms and expectations or institutional controls within their institutions, colleges, and academic departments (Gold & Dore, 2001; Lawrence, 2008; MacLachlan 2006; O’Meara et al., 2012). Institutional controls consist of the culture, policies, and other daily practices that shape one’s perspectives and actions toward the goals, patterns, and practices of an organization (Lawrence, 2008). O’Meara et al. extend the discussion of institutional controls to include Powell and Colyvas’s (2008) reference of “institutional scripts.” Institutional scripts refer to those behaviors that are deemed to be appropriate within the culture of a college or university. These scripts are frequently repeated, widely recognized expressions and understandings within the institutions.

In addition to norms and expectations, an organization’s climate may impact how an individual assumes agency. O’Meara et al. state, “Unlike norms and scripts that are derived
from specific acts and practices in an institution, organizational climates are a broad and pervasive sense of an institution or department” (p. 18). Using acculturation theory to explore the experiences of African American doctoral students who completed their undergraduate study at HBCUs and then enrolled in STEM doctoral programs at PWIs, Joseph (2007) found that students felt that the racial climate at HBCUs was hospitable and there was a high sense of cultural pride; however, they perceived the racial climate at PWIs to be “chilly.” However, organizations can also promote or maintain an influential climate (O’Meara et al., 2012). For example, doctoral programs are becoming increasingly diverse and institutions, colleges, and departments are taking measures to ensure that all students are comfortable in their environments.

Along with the climate, resources and polices are additional organizational influences that impact one’s sense of agency. Marshall’s (2005) four constructs of agency included a discussion of internal and external resources. Organizational influences refer to those external resources that impact one’s ability to make strategic decisions and take actions to pursue a goal. For example, if a doctoral student’s funding is attached to a grant and the grant is not renewed for the next academic year, the student has to reflect on his experience and decide his course of action to find financial resources so that he can complete his degree.

Leadership is the final factor that impacts one’s sense of agency within a college or university. O’Meara et al. (2012) argue that faculty are heavily influenced by the messages received from their academic leaders as to how they should prioritize their time (Gonzales, 2012; O’Meara & Bloomgarden, 2010), what institutional roles they should play (Kezar &
Lester, 2009), and how their scholarship will be evaluated (Gonzales & Rincones, 2011). As apprentices, doctoral students are impacted by their faculty advisors, who are impacted by the academic leaders of the institution (i.e., president and provost), college (i.e., deans), and department (i.e., department chairs and heads) (Golde & Dore, 2001). Thus, the institutional leaders, in this way, impact doctoral students indirectly. For example, a doctoral student’s experience may be impacted by a new strategic plan that influences faculty to increase doctoral student research opportunities. Consequently, a doctoral student with limited research experience is afforded opportunities to increase his experience as a result of the signals and cues sent by the institutional leaders. Leaders send messages to organizational members implying what things are most valuable and important to the organization. Organizational members such as faculty and doctoral students use these messages to prioritize their goals.

There are several influences that may impact one’s sense of agency on both the individual and organizational level. Individual factors include psychological traits and internal resources, perceptions of social capital, and identity. Though some individuals have innate capabilities that may guide the way they assume agency, these capabilities may also be developed and shaped through learning experiences (O’Meara et al., 2012). Organizational factors include norms and expectations, climates, resources, policies, and leadership. Individuals are given cues by their institutions, which imply what actions are deemed culturally appropriate. Individuals assume agency when they take action to adhere to, negotiate, or resist those institutional structures. In addition to providing the influences and
processes of agency, O’Meara et al.’s (2012) framework suggests that there are potential outcomes of agency. As Marshall (2000, 2005) discussed, individuals may exhibit agency on behalf of themselves, others, or for an organization or idea. Thus, one may assume agency to change an organization, make a societal change, or to achieve an individual goal such as completing a doctoral degree. When one assumes agency in one of these areas, there are potential outcomes that may result. When an individual decides to take action, it is usually the response of their being highly motivated and seeking increased satisfaction (Diener et al., 2006; Wlezel & Inglehart, 2009).
CHAPTER 3. METHODOLOGY

Introduction

This study employed a qualitative approach to examine the experiences of African American males who received their undergraduate education at a historically Black college or university (HBCU) and were working toward a doctoral degree in a Science, Technology, Engineering, or Mathematics (STEM) field at a predominantly White institution (PWI). Specifically, I used narrative inquiry to gain insight into how African American males made meaning of their doctoral program experiences and took action to complete their degrees. The following research questions were used to guide the participant selection, data collection, trustworthiness, and data analysis of the proposed study:

1) What are the experiences of African American male HBCU graduates in STEM doctoral programs at PWIs?

2) What hinders and facilitates the success of African American male HBCU graduates in STEM doctoral programs at PWIs?

3) How do African American male HBCU graduates take action to successfully navigate the college environment toward doctoral degree completion in a STEM discipline at PWIs?

The following elements are discussed in this chapter: a) the rationale for qualitative methodology, b) the rationale for the narrative approach, c) researcher paradigm and subjectivity, d) participant selection, e) data collection and analysis, f) trustworthiness and ethics, and g) study limitations.
Rationale for Qualitative Methodology

LeCompte and Preissle (1993) state, “Qualitative studies are framed by descriptions of, explanations for, or meaning given to phenomena by both the researcher and the study participants” (pp. 31–32). Qualitative methods are best used to discover and understand individuals’ experiences and their perceptions of their experience (Mertens, 2010). A qualitative approach situates me, the researcher, in the real world while allowing me to study individuals in natural settings and interpret experiences based on the realities that the sample population brings to the study (Denzin & Lincoln, 2000). Additionally, by using qualitative methods, I was able to approach the study using an inductive method without “imposing preexisting expectations on the phenomena under study” (Mertens, p. 225) and provide more in-depth reflections of the participants’ lived experiences (Denzin & Lincoln; Miles & Huberman, 1994). Moreover, qualitative methods allowed me to obtain the rich detail needed to explore how individuals make meaning of their experiences within their own cultural, social, and historical contexts (Creswell, 2007). In this study, I explored how African American males make meaning of their doctoral experiences in STEM fields at PWIs and take action to complete their doctoral degree. Specifically, a narrative approach was used (Clandinin & Connelly, 2000; Riessman, 2008).

Rationale for Narrative Inquiry

I believe that stories are the best way to convey one’s experiences. I feel that sharing the stories of the participants of this study provided a compelling perspective as to how African American male doctoral students in STEM fields at PWIs view their experiences and
take strategic actions to navigate their college environment towards doctoral degree completion in a STEM discipline. I anticipated that the individual and collective stories would be useful in establishing a deeper understanding of these students’ experiences. Thus, I used narrative inquiry for my study.

Narrative inquiry is a method used to understand one’s lived experiences through their voice, (Clandinin & Connelly, 2000; Riessman, 2008). As noted by Clandinin and Connelly (2000), narrative inquiry is a collaboration between researcher and participants, over time, in a place or series of places, and in social interaction with milieus. An inquirer enters this matrix in the midst and progresses in this same spirit, concluding the inquiry still in the midst of living and telling, reliving and retelling, the stories of the experiences that make up people’s lives, both individual and social. . .Simply stated narrative inquiry is stories lived and told. (p. 20)

Clandinin and Connelly (2000) were strongly influenced by John Dewey’s writings on the nature of having an experience, which became the foundation of their narrative context. Two ideas were the framework for this foundation: The first is that “experience is both personal and social . . . People are individuals and need to be understood as such, but they cannot be understood only as individuals. They are always . . . in a social context” (p. 2). When I listened to the participants’ stories, I had to understand that the participants’ pasts experiences shaped the perceptions of their current circumstances. Additionally, I had to be aware that their experiences are impacted by the realities of their social context. The participants’ experiences at an HBCU prior to enrolling into a doctoral program and within
their academic departments, colleges, and institutions while pursuing a doctorate may have played a large role in their existing perspective.

Clandinin and Connelly (2002) also believe that “experiences grow out of other experiences, and experiences lead to further experiences. . . . [Each] point has a past experiential base and leads to an experiential future” (p. 2). This is a key factor in the study because each participant’s past, predispositions, and backgrounds—as defined in the socialization framework—shape their agential behaviors to make meaning of their doctoral experiences and take action to complete their degree. Narrative inquiry creates an opportunity for human agency to be expressed (Riessman, 2000). Thus, narrative inquiry allowed me to understand how the participants made meaning of their doctoral experiences and understand the strategic actions they take towards navigating the college environment toward doctoral degree completion in a STEM field (Josselson, 2011).

**Researcher Subjectivity**

This study was positioned in the constructivist paradigm as it was my intent to understand the multifaceted experiences from the reality of those who lived it (Charmaz, 2006’ Schwandt, 2000). In explaining the social constructive standpoint, Schwandt asserts, “[H]uman beings do not find or discover knowledge so much as construct or make it” (p. 197). The constructivist paradigm assumes individuals construct the meanings of their experiences, thus constructing their realities (Charmaz, 2006). From this perspective, the study aimed to extract and understand how African American males constructed or made meaning of their experiences in STEM doctoral programs at PWIs. I believe that the
participants were in control of their own experiences, and they were able to reflect on these experiences and construct the reality in which they participated.

Constructivist exploration includes analyzing, critiquing, and reanalyzing the apprehensions and problems of the participants (Schwandt, 1994). Therefore, as a researcher, my understanding of the participants’ experiences is also a construction of a reality (Charmaz, 2006). Thus, I acknowledge that the research process consists of a co-construction process in which both the participants and I, the researcher, create a reality. Thus, I was reflective and transparent through the research process (Mills, Bonner, & Francis, 2006). In being transparent and reflective, it is important that I am up front about my background, experiences, and interest in pursuing the proposed research topic.

**Subjectivity Statement**

I completed my undergraduate study at Albany State University (ASU), an HBCU in Southern Georgia. During the four years I was enrolled at ASU, I was involved in several extra-curricular activities and I excelled academically. I was one of only two freshmen students afforded the opportunity to have one of the coveted spots on the Student Activity Advisory board (S.A.A.B.), which was responsible for planning the majority of student events on campus; I was a student representative for the College of Education’s Dean’s Cabinet; I served as a member of the Honors Council; I started a group for African American males who wanted to make a difference on campus and in the community (Distinguished Intelligent Men of Excellence); I developed a mentoring program for fourth grade boys; I served as a resident assistant; I joined a Greek organization; I volunteered at the Boys and
Girls Club of Albany, GA; and I maintained a GPA over 3.0 in addition to many other activities and accolades.

Because of my involvement and academic success, I was selected by a campus administrator to be part of a study about the success of African American men in college. After being interviewed by the researcher, he stated that I should think about venturing into the field of student affairs because much of what I mentioned I wanted to do was connected to the field. By this time, I was a senior and was looking forward to graduation and starting my teaching career. I thought about applying but was a bit uncomfortable moving so far away from home and being in an environment that was new to me. I also questioned my ability to be enrolled in a master’s program at a large research university. I had the credentials and others—such as the interviewer who was a faculty in the field, my peers, and faculty and staff at the University—pushed me to apply. Though I had experienced some academic success at ASU, I wasn’t sure if I could do the same on the master’s level. I ended up missing the application deadline and traveled back home to begin my teaching career, which would last for one year.

While teaching, I decided to apply to higher education and student affairs programs. In an effort to get out of my comfort zone, I applied to institutions that were outside of my home state and served a majority population unlike that of ASU. Eventually, I was accepted and enrolled into a master’s program at Indiana University (IU), a research-intensive PWI in the Midwest.
During my first year at IU, I was apprehensive and questioned my academic capacity. Although I had gained a bit of confidence prior to arriving to Indiana, I perceived that the other students and faculty knew that I was from an HBCU and didn’t think that I had the academic ability to be successful in the program. Although I met the requirements for the program, I felt like an imposter. Further, I was one of few African American students in my cohort. So, with me coming from an HBCU and being one of the few minorities, my race was very salient to me and played a large role in my experience.

After completing my master’s degree in Student Affairs at IU, I was admitted as a doctoral student in the Higher Education Administration program at North Carolina State University (NCSU). I entered the doctoral program with a wealth of educational experience from two different environments—an HBCU in the South with a population of approximately 4,500 students and a large research-intensive PWI in the Midwest. The master’s program that I had just graduated from had an exceptional academic reputation and I was entering a doctoral program with a similar academic standard and reputation, so, I felt like I was prepared to take on doctoral-level work. However, although I had conquered my feelings of inadequacy from my master’s program, they redeveloped when I began doctoral-level courses.

Despite these feelings, I looked forward to the start of my doctoral experience. I was excited about being in a new place. I felt I would have the support and guidance to be successful. This excitement was short-lived. After about the middle of my first semester, I had second thoughts about being enrolled in the program. I had a problem with the structure,
disliked the evening class times, and had a few perceived negative interactions. At one point, I was even looking to transfer to another institution. Ultimately, I felt that I lacked the support that I thought I would be receiving in the program. Because I didn’t feel supported in my academic program, I relied on external support, which included my family, peers from my master’s program at IU, friends, and individuals that I connected with at the university outside of the doctoral program. I was completely disconnected from my doctoral program peers and faculty. After carrying this negative load for a while, I was tired. I was tired of being unhappy, tired of feeling like I had no support, and tired of feeling like I didn’t want to be there. I decided that it was time to make a change.

I arranged meetings with faculty so that I could speak to them about how I was feeling. This was the best thing I could have done. After doing so, I found that there were a few issues that contributed to my feeling discontentment about my experience. After having these meetings and doing a self-assessment, I was able to move on and have an enjoyable personal and academic experience at NCSU.

I established and re-established relationships with my peers, faculty, and administrators and became more involved within the College of Education (COE), around campus, and at surrounding colleges and universities. I was involved on a search committee with the COE, served as a student representative on the college’s PhD-revisiting committee, participated on graduate recruitment panels for underrepresented groups interested in NCSU, assisted the Assistant Dean of Student Engagement with doctoral support programs, and served as an executive member of the African American graduate association.
When I began both my master’s and doctoral programs, my research focus and personal interest was supporting the access and retention efforts for underrepresented students, primarily undergraduate students. However, throughout the past three years as a doctoral student, I have become increasingly passionate about the experiences of graduate students, specifically African American doctoral students. As a colleague of mine once mentioned, “People usually choose to study themselves as a dissertation topic.” Accordingly, my academic journey is similar to that of the participants that I will study. I am a man. I identify as being African American. I completed my undergraduate study at an HBCU. And I am currently enrolled in a doctoral program as a third-year student at a PWI. However, this is where the similarities end. One of the key differences of my participants and me is that I am not, nor have I ever been, enrolled in a STEM doctoral program.

As the primary research instrument in the study, I have taken precautions to be as objective as possible. In naturalistic inquiry, humans are the instruments of choice (Lincoln & Guba, 1985). I gathered data at several levels concurrently, was responsive to the cues of the participants and reacted accordingly, processed and analyzed data as it became available, provided feedback and verified data with the participants, and explored the participants’ unanticipated responses. In doing so, I accounted for my past and current experiences by journaling and doing a dependability audit so that the data collection and analysis processes were not obstructed. All of this is discussed in more detail later in the chapter and further alludes to the fact that every component of the study is grounded in the constructivist paradigm, including the method in which participants are selected.
Participant Selection

Constructivist researchers select their samples with the intent to provide rich information (Mertens, 2010). Patton (1990) asserts, “Information-rich cases are those from which one can learn a great deal about the issues of central importance to the purpose of the research” (p.169) while providing awareness and a comprehensive understanding of the information. In exploring information-rich cases, I hoped to provide an in-depth understanding of the participants’ lived experiences (Patton, 2002).

In an effort to gain multiple perspectives and explore information-rich cases, this study used a purposeful sampling method, specifically, criterion and snowball (or chain) sampling (Patton, 2002). Purposeful sampling is defined as a process of “selecting participants who will serve a specific purpose consistent with a study’s main objective” (Collingridge & Grantt, 2008, p. 391). Another definition, provided by Devers and Frankel (2000), states that purposeful sampling is used to “enhance understandings of selected individuals or groups’ experiences or for developing theories and concepts” (p. 264). Purposeful sampling allowed me to focus on a specific subset of a population who are central to the purpose of the research (Patton, 2002). In an effort to provide an in-depth analysis of the participants’ experiences, this study used criterion sampling in which participants were selected because they met some significant predetermined standards and experienced the phenomenon currently being investigated (Patton, 2002; Polkinghorne, 2005). The essential predetermined criteria for this study included the following:

A. Gender: Male
B. Race: Identify as being African American or Black

C. Undergraduate Experience: Previously enrolled in a STEM discipline at and graduated from an HBCU

D. Graduate Enrollment: Currently enrolled in a STEM doctoral degree program at a PWI

Each aspect of the criteria was a key to collecting useful data to answer the research questions of the proposed study. I recruited participants who met each of the criteria with the assistance of gatekeepers (Hesse-Biber & Leavy, 2011). Gatekeepers are used to assist researchers in gaining access to and develop trust with the participants being studied (Hatch, 2002; Hesse-Biber & Leavy). Specifically, informal gatekeepers, individuals that hold critical positions in an area in which a researcher is attempting to access, were used (Hesse-Biber & Leavy). These individuals were influential in shaping the level of access for me as well as in recruiting participants.

Informal gatekeepers included individuals such as university faculty, graduate school administrators and staff, Black graduate student association representatives, and representatives from the National Society of Black Engineers (NSBE). To begin participant selection, an introductory email was sent to these gatekeepers. The email included the following information: a) an overview of the proposed research, b) a request to conduct research, c) a request for names and contact information of gatekeepers who may assist in the recruitment of participants, d) a request of names and contact information of students who met the criteria of the study, e) background and contact information of the researcher in case
that more information is needed and f) a link to a Qualtrics website for males interested in the
study. After gatekeepers identified potential participants, I provided them with a detailed
introductory letter and an informed consent form through Qualtrics which included: a) an
overview of the proposed research, b) the participants’ role in the study, c) the participants’
time commitment, d) a request for gatekeepers who may be useful in finding participants
who meet the criteria, and e) a request for additional participants who met the criteria. I also
used snowball or chain sampling in components “d” and “e” of the introductory letter to find
gatekeepers and recruit participants (Patton, 2002).

Snowball sampling is an approach in which I asked “well situated people” to
recommend participants that met the criteria and/or informants or gatekeepers who may have
assisted in recruiting participants (Patton, 2002, p. 237). There were eight participants
interviewed for this study by use of purposeful and snowball sampling.

**Data Collection**

As researchers, we come to each new inquiry field living our stories. Our participants
also enter the inquiry field in the midst of living their stories. Their lives do not begin the day
we arrive nor do they end as we leave. Their lives continue. Furthermore, the places in which
they live and work, their classrooms, their schools, and their communities, are also in the
midst when we researchers arrive. Their institutions and their communities, their landscapes
in the broadest sense, are also in the midst of stories. (Clandinin & Connelly, 2000, p. 64)

As a narrative researcher, when I entered the field and began to collect data, I was
fully aware that I was capturing a moment in time that was the direct result of the
participants’ past experiences. It was important that I both recognized and inquired about events in the past that informed the participants’ experiences and assisted in shaping their futures. In this research, I sought an understanding of the lived experiences of African American male doctoral students in STEM fields at PWIs, specifically how they made meaning of those experiences and took action to complete their degrees. A demographic questionnaire, reflection worksheet and interviews were used to collect data about the lived experiences of the participants.

**Demographic Questionnaire**

Data collection began with a demographic questionnaire (see Appendix A), which the participants were sent through Qualtrics, a web-based data collection tool provided by North Carolina State University to ensure that they qualified for the study. Upon qualifying for the study, participants answered demographic questions about their family background, undergraduate and graduate education, and assistantships. The participants also used Qualtrics to select dates and times for interview availability.

**Interviews**

Aligning the study with the constructive paradigm and the narrative approach, I conducted semi-structured, individual interviews to collect data from the participants. Eight participants were interviewed in this study. During the interviews, my purpose was not to answer questions nor to evaluate in the standard sense (Patton, 1989). Instead, I took an interest in understanding the lived experiences of the participants and the meaning that they made of those experiences (Seidman, 1998). Simply, “interviewing allows [the researcher] to
put behavior in context and provide access to understanding [the participant’s] action” (Seidman, 1998, p. 4). Riessman (2008) asserts that narrative interviewing “can offer a way . . . for investigators to forge dialogic relationships and create communicative equality” (p. 26). Therefore, when conducting narrative interviews, “it is preferable to have repeated conversations rather than the typical one-shot interview, especially when studying biographical experiences” (Riessman, 2008, p. 26).

Therefore, I used a modified version of Schuman’s (1982) three-interview series technique. As described by Seidman (1998), the first interview, which focuses on life history, is used to establish the context of a participant’s lived experience. The second interview is used to focus on the specific details of the participant’s experiences as they relate to the topic of the study (Seidman). The third interview allows the participant to reflect on the meaning of their lived experiences. As Schuman mentions, the schedule set in place for the three-interview series may be modified to better adapt to the personal and work lives of the participants. However, I recognized that any modifications must allow the “participants to reconstruct and reflect upon their experience within the context of their lives” (Schuman, 1992, p 15). I interviewed each of the eight participants twice either in person, through Skype video conferencing, or by phone.

The semi-structured, individual interviews were guided by an interview protocol that included predetermined, open-ended questions that were organized by incorporating elements of the agency, graduate socialization, and the anti-deficit perspective (see Appendix C). The modified interview style was split into three sections. I asked the participants to reconstruct
their backgrounds and undergraduate experiences at HBCUs in the first part of the interview. Next, I asked questions to understand the participants’ lived experiences as they transitioned into graduate school at a PWI from an HBCU. Additionally, in this part of the interview, the participants addressed their intellectual and emotional connections as they related to the experiences as African American male doctoral students in a STEM program.

Prior to scheduling the second interview, I sent a reflection worksheet through Qualtrics to allow participants to reflect on the interview and share additional information as they saw fit. The reflection worksheet is described in more detail below. I then scheduled a second interview to clarify information gathered from the first interview and explore the information shared through the reflection worksheet (Joseph, 2007). Furthermore, participants were given an opportunity to reflect on their experiences and provide any additional information in which they felt was pertinent to their lived experiences.

I followed Schuman’s (1982) recommendation as it relates to the length and spacing of the interviews. Interviews were scheduled to last approximately 90 minutes. Schuman believes that this time line is appropriate because “an hour carries with it the consciousness of a standard unit of time that can have participants ‘watching the clock’... [while] two hours seems too long to sit at one time” (p. 14). Although Schuman recognizes that there is nothing “magical” about the 90-minute timeframe, it provides a suitable amount of time for participants to reconstruct their lived experiences. In this study, three of the eight initial interviews exceeded 90 minutes. However, the follow-up interviews were conducted within the scheduled time frame. Interviews were scheduled between three to seven days apart.
Interviews followed a semi-structured format (Merton, Fiske, & Kendall, 1990). Semi-structured interviews are useful when researchers would like to collect in-depth information about participants’ experiences and to gain a thorough understanding of those experiences (Merton et al., 1990). During the initial moments of the interview, I provided an explanation of the interview process and allowed the participants to read the written informed consent form. After consent was received, data collection began.

The questions the researcher asks are critical in shaping the participants’ narratives (Riessman, 2008). Therefore, the semi-structured interviews were guided by an interview protocol that including predetermined, open-ended questions that were organized by incorporating the elements of the agency, graduate socialization, and anti-deficit perspectives. Although specific questions were asked, the researcher was aware that there was a possibility that the interviews may become conversational. Storytelling may occur at any time and allowing time for extended narration may require that the researcher gives up control during the interview (Riessman, 2008). Thus, the semi-structured format allowed for flexibility for the participant to reflect on experiences that were most meaningful. Conversely, participants may be silent at times during the interview process. In these situations, the interview protocol was used to guide the participants through the interview with hopes of gathering information to answer the research questions that guided the
proposed study. I intended to conduct all interviews in a natural setting most comfortable for the participants (Creswell, 2007). Thus, each participant selected a place, if in person, to meet for the interview and I traveled to meet them. However, the location was changed during one of the interviews because of the noise levels. The participant agreed to move the interview outside to a place in which we could hear each other and where he was comfortable. All interviews were recorded and transcribed by a third party for data analysis within seven days of the interview.

**Reflection Worksheet**

In addition to the demographic questionnaires and interviews, participants had an opportunity to complete a reflection worksheet with prompts provided by the researcher (see Appendix B). The reflection worksheets allowed the participants to provide written accounts of their lived experiences. Each participant was provided a customized link through Qualtrics to write reflective journal entries throughout the research process. The reflection worksheet allowed the participants to reflect on and describe any significant events or relationships that have contributed to the way they view their doctoral experiences and impacted the decisions they’ve made to be successful as a doctoral student (Atkinson, 1998 as cited in Tullos, 2011). Further, the reflection worksheet was used as a reflection tool to build the participants’ narratives and support the data gathered through in-person interviews.

**Data Analysis**

In qualitative research, data analysis entails the preparation and organization of the collected data and reduction of this data through a coding process (Creswell, 2007). There are
several elements that may influence the construction and interpretation of a narrative including the research questions, disciplinary preferences, and evolving theories (Riessman, 2000).

The data analysis process is cyclical and simultaneous and occurred while data was collected through interviews, researcher field notes, biographical timelines, and reflection worksheets. To initiate the data analysis process, I sent the audio-recorded discussions to a professional transcriptionist and the interviews were transcribed within seven days of each interview. The interviews served as the primary data source for the study.

On receipt of the transcripts, I began to re-story the narratives (Riessman, 1993). Riessman (2002) states that researchers “create a metastory about what happened by telling what the interview narratives signify, editing and reshaping what was told, and turning it into a hybrid story” (p. 226). It is important that I kept the participants’ stories intact during the re-storying process, but this proved to be challenging. Riessman (2002) asserts, “The challenge [with narratives] is to identify similarities across the moments into an aggregate, a summation (Riessman, 2002, p. 226). She continues, “[A] life story told in conversation certainly does not come readymade as . . . an article or a dissertation. The stop-and-go start style of oral stories of personal experience gets pasted together into something different” (Riessman, 2002, p. 226). Because of the murky boundaries, the interviewer and individuals telling their story must negotiate placement and relevance of the interpretation of the story (Riessman, 2000). During the process of re-storying, I repeatedly listened to interviews and reread the interview transcripts to find the story that the participants are conveying.
In narrative inquiry, as opposed to finding narratives, the researcher participates in the creation of the stories (Burke, 1952). Keeping stories intact, though, is key in narrative research (Riessman, 2002, 2008). Narrative interviews are used to detail specific accounts of one’s experience as opposed to generating general comments or brief statements (Riessman, 2008).

**Coding the Data**

The coding system created for this study was used to develop themes from the participants’ stories. Data analysis was ongoing throughout the study, and the research questions guiding the study were acknowledged during each segment of data analysis (Hesse-Biber & Leavy, 2011). First, the digital audio files were transcribed using the transcription services of Rev.com. I verified the transcriptions and made edits as needed by listening to them several times. To protect the confidentiality of the participants, their real names were replaced with pseudonyms that were picked by the participants. The information from the demographic questionnaires and reflection worksheets were also used in data analysis.

Data gained through the narrative inquiry method were analyzed using the categorical approach (Lieblich et al., 1998 as cited in Josselson, 2011). As stated by Josselson, “A categorical analysis abstracts sections or words belonging to a category, using coding strategies, and compares these to similar texts from other narratives” (p. 226). Thus, narrative analysis can be used by the research to represent the participants’ narrative as well as allow the researcher to have authority over the interpretation of the literal and conscious meanings.
of the participants’ narratives. (Chase, 1996; Hollway & Jefferson, 2000 as cited in Josselson, 2011). Narrative researchers analyze data to discover themes that complete the story and the participant voices that “carry, comment on, and disrupt the main themes” (Josselson, 2011, p. 226). Thus, the focus of narrative analysis is to extract stories surrounding themes and analyze such themes based on the research questions guiding the study (Josselson, 2011). In this study, I first created codes and then formed themes based on the participants’ narratives, which assisted in answering the study’s research questions.

Coding is used to create labels for portions of the text facilitate understanding and capture meaning (Hesse-Biber & Leavy, 2011). Data collected through the interviews, reflection worksheets, and demographic questionnaires were coded using concepts from Strauss’s (1987) grounded theory analysis approach; specifically, open and axial coding. First, I used the open coded approach. This entailed a line-by-line examination of the data with the intention of developing temporary concepts. I openly coded the raw data by creating comments on each of the transcripts using Microsoft Word. When possible, gerunds, words ending in “–ing” were used to “build action within the codes” (Charmaz, 2012, p. 7). I then recorded all of the codes in a Microsoft Word document. Infrequently used codes were eliminated, and similar codes were merged. Next, axial coding was used to compare the codes derived from open coding, and combine the codes into patterns and then themes. Once themes were created, based on the literature and the emerging data, I used Microsoft Excel to create a codebook. The codebook consisted of the definition of the codes and the accompanying themes. Finally, the participants’ narratives were reviewed using the
codebook. Codes that were not frequently used across the participants’ narratives were eliminated. Themes were adjusted based on the codes that were eliminated or new meaning derived from the codes. The final themes were used to answer the two research questions that guided the story.

**Veracity and Trustworthiness**

Riessman (2000) states, “[N]arrative analysis does not assume objectivity but, instead, positionality and subjectivity” (p. 19). She continues, “The ‘trustworthiness’ of narrative accounts cannot be evaluated using traditional correspondence criteria. There is no canonical approach to validation in interpretive work, no recipes or formulas” (p. 22). With this in mind, I followed several steps to ensure the trustworthiness of the study. While collecting and analyzing data, I used member checks and a dependability audit to ensure that data is credible and reliable. Member checks “involve the researcher seeking verification with the respondent groups about the constructions that are developing as a result of data collected and analyzed” (Mertens, 2010, p. 257). Additionally, each participant was sent a detailed participant profile to review. Further, at the conclusion of each interview, I recapped the interview and summarize all notes as well as informed the participants that the transcripts will be sent to them in an effort to ensure that their perspectives were accurately represented and allowed them to provide additional input or clarification if needed.

Mertens (2010) asserts that dependability audits can be used to ensure that increased levels of “quality and appropriateness” (p. 257) are maintained through the inquiry process by tracking and documenting changes throughout the research. Therefore, I used memos and
field notes to provide an inventory of information to document the progress of the study as well as those changes that occurred. Researchers have the greatest intentions of recording everything; however, this is impossible (Clandinin & Connelly, 2000). Because we are unable to record each event as it occurs, we are forced to be selective. In cases when we are selective, “we sometimes choose with conscious awareness . . . [while] at other times we choose without being aware that we are making choices” (Clandinin & Connelly, p. 93). Whether conscious or not, there is some selectivity going on while composing field text prior to entering the field, while in the field, and after we leave the field. Clandinin and Connelly mention that as researchers, we are selective with the questions we ask and the way we interpret those questions. It’s something of which we must constantly be aware and with this awareness comes a responsibility.

It was my responsibility to acknowledge my subjectivity and ensure that I was as objective as possible. I remembered that, as a narrative researcher, it was my responsibility to give an accurate account of the experiences of my participants. Although the interpretation of these stories will open the door for justifying my subjectivity, I was aware that the role of the narrative researcher is to represent the story of the participant while being objective as possible. To ensure that I interpreted my participants’ stories appropriately, I followed-up with them and allowed them to read the transcripts from the interviews as well as keep field notes on the interview questionnaires.
**Ethics**

Although this study poses no serious ethical problems, I continually sought to respect the participants as well as the institutions and programs with which the recruited participants may be associated. A series of steps were taken to ensure that ethical practices are used throughout the research. First, I followed the considerations and requirements provided by the Institutional Review Board for the Protection of Human Subjects in Research (IRB) of North Carolina State University. Such considerations included completing a comprehensive education program created for researchers using human subjects and submitting a detailed account of the proposed research to the IRB for approval (see Appendix E). Second, I accessed participants using gatekeepers. The gatekeepers were provided with a detailed plan of the proposed research. I exhausted measures to ensure that the plan is free of unbiased language and confusing terminology. Further, in addition to giving the participants a comprehensive review of the proposed research, the participants were assured of their confidentiality in the case that they decided to participate in the study. Prospective participants were also informed of the right to decline to participate prior to data collection or cease involvement at any time during the project.

**Chapter Summary**

The purpose of this research was to understand the lived experiences of African American males who completed their undergraduate study at an HBCU and were pursuing a doctoral degree in a STEM field at a PWI. I accomplished this goal through use of a rigorous
qualitative narrative approach. Specifically, I used Clandinin and Connelly’s (2000) perspective, which focuses on the notion that life experiences are met on a continuum:

    [A]n experience is temporal . . . we also mean that experiences taken collectively are temporal. We are therefore not only concerned with life as it is experienced in the here and now but also with life as it is experienced on a continuum—peoples’ lives, institutional lives, lives of things (Clandinin & Connelly, 2000, p. 19).

    This chapter outlined my qualitative research methodology and provided a rationale for my research design. The participant selection, data collection, and data analysis methods were also provided. Further, I provided a discussion of the study’s trustworthiness and ethical considerations. I provided a detailed subjectivity statement and stated the limitations of the proposed study.
CHAPTER 4. PARTICIPANT PROFILES

Introduction

The purpose of this study is to explore the experiences of Black male HBCU graduates in STEM fields at PWIs and understand what actions they take to complete their degrees. A qualitative approach, narrative inquiry, was employed, which allowed me to acquire rich stories to understand how the participants make meaning of their experiences within their own cultural, social, and historical contexts (Creswell, 2007). The study used purposeful sampling to recruit participants (Patton, 2002). In this study, eight participants were selected. Each participant graduated from an HBCU for their undergraduate degree and was currently enrolled in a STEM doctoral program during the time of the study. Three forms of data collection including a demographic questionnaire, a reflection worksheet, and interviews were used. In this chapter, I will provide the participants’ family and educational background, which were collected from the demographic questionnaire as well as a profile for each participant, which was collected from the reflection worksheet and interviews.

Participant Demographics

There were eight participants selected to share their experiences in the study. The majority of the participants were in their mid-twenties, while one participant was in his mid-forties (See Table 3). Six of the participants grew up in a two-parent household while two participants were reared in a single-parent household in which a female was the primary provider (See Table 4). The majority of the participants were raised in a household where at least one parent had some college experience; however, one participant grew up in a
household in which the highest educational attainment of both parents was a high school diploma. Of those participants whose parents attended college, three had a parent (father) with a graduate degree. Each of the participants attended an HBCU in the Southeastern region of the country. As it relates to graduate study, seven participants’ institutions were located in the Southeast and one participant was enrolled in a university in the Midwestern region of the country. Each of the participants majored in a STEM field as undergraduate and graduate students. There were academic disciplines represented from each of the STEM field designations. For confidentiality purposes, the names of the participants’ graduate institutions, and their majors will not be included within the document. The eight participants in this study are Kurtis, James, Scott, Pete, Wally, Charles, and Walter.
Table 3.

**Participant Family Information**

<table>
<thead>
<tr>
<th>Participant Pseudonym</th>
<th>Age</th>
<th>Family Structure Growing up</th>
<th>Highest Educational Attainment of Mother</th>
<th>Highest Educational Attainment of Father</th>
<th>SES Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kurtis</td>
<td>25</td>
<td>Married-couple or two-parent family</td>
<td>Bachelor's degree</td>
<td>Bachelor's degree</td>
<td>Middle Class</td>
</tr>
<tr>
<td>James</td>
<td>27</td>
<td>Married-couple or two-parent family</td>
<td>Bachelor's degree</td>
<td>Master's degree</td>
<td>Working Class</td>
</tr>
<tr>
<td>Scott</td>
<td>45</td>
<td>Married-couple or two-parent family</td>
<td>Bachelor's degree</td>
<td>Master's degree</td>
<td>Wealthy/Affluent</td>
</tr>
<tr>
<td>Pete</td>
<td>28</td>
<td>Married-couple or two-parent family</td>
<td>Bachelor's degree</td>
<td>Master's degree</td>
<td>Working Class</td>
</tr>
<tr>
<td>Wally</td>
<td>28</td>
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<td>Some College</td>
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Table 4.

*Participant Education Information*

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<tr>
<th>Participant Pseudonym</th>
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<tr>
<td>Kurtis</td>
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<tr>
<td>James</td>
<td>Oakwood University</td>
<td>Applied Mathematics</td>
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<td>Scott</td>
<td>Howard University</td>
<td>Electrical Engineering</td>
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<td>Pete</td>
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<td>Melvin</td>
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<td>Albany State University</td>
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Kurtis

Kurtis is 25-year-old majoring in a science field at a PWI in the Southeast. Prior to enrolling in graduate school, Kurtis attended Morehouse College, which is a private, all-male HBCU located in Atlanta, Georgia. Kurtis described his undergraduate experience at Morehouse as “rich,” largely because of the community-like feel. He states, “I would say that I felt a definite sense of camaraderie there and support from the students, from our parents as well as from the faculty.” He felt that Morehouse was a relatively supportive and “pretty close knit” environment. Kurtis states:

You never felt like someone didn't have your back. There was always someone there who would have your back whether it was a friend, whether it was someone you stay in the dorm with, your roommate, someone else in your class with or faculty member or administrator or receptionist, secretary who just likes you then they would just look out for you.

One of his fondest memories at Morehouse was living on campus at W.E. B. DuBois Hall and being on the step team:

I'm to this day friends with every single guy on that floor. We all just remained really tight. I think that part of it, just coming in our freshman year and having that immediate sense of community and sense of belonging was a big thing for me.

Kurtis expected graduate school to be the “biggest challenge of [his] life.” He expected graduate school to be challenging; he also questioned his intellectual ability and felt that faculty would have extremely high expectations of him. Further, Kurtis believed that his
peers would be much smarter. He even expected to experience culture shock as he made the transition from an HBCU to a PWI. In addition to having these expectations, Kurtis questioned his preparedness coming from an HBCU and felt that his White counterparts would “view [him] as being inferior or less than not just because [he] was Black, but also because [he] went to an HBCU.”

Kurtis experienced several ups and downs as a graduate student. His greatest disappointment was that there were very few Black male graduate students. Despite this visible absence, Kurtis has continued to be successful in his program. His greatest sense of accomplishment comes from the progress he’s made as a graduate student, such as passing his oral and written qualifying exams and becoming a doctoral candidate. Kurtis was also excited about his involvement in extracurricular activities with his favorite being an organization that combines policy and science. After graduating, Kurtis hopes to use his passion for policy and science to impact local, state, and federal legislation.

James

James, 27, grew up in a working family household wherein both of his parents had college degrees, which influenced his decision to attend college. He is currently an Engineering major at a PWI in the Southeast. Prior to enrolling in graduate school at LGRU, James was an undergraduate student at Oakwood University, a private, religiously-affiliated HBCU in the Southeastern region of the country. His religion, Seventh Day Adventist, is important to him, and he believes that religion is relatively important in the Black community.
as well. Thus, he felt that the church affiliation with Oakwood made it more personable than his current school.

As an undergraduate student, James was involved in several extracurricular activities such as the drama group, which helped him form “some pretty strong” relationships with his peers. In addition to having strong relationship with his peers, James recalled experiences with faculty, staff, and administrators that made his experience at Oakwood personable. He mentioned that Oakwood was a family-like environment as he described his experiences with “the cafeteria lady.” He said, “She was just like a grandma. . . . She had that kind of motherly relationship with the students.” He continues, “People would look out for you, because at the end of the day, they just want you to do well.” James also believed that he had supportive faculty during his undergraduate experiences despite the “weed-out” courses he enrolled in.

James recalls an experience with his calculus professor:

Honestly, I think back then, if I would have took those courses at somewhere like [a PWI in the Southeast], I could have potentially been weeded out. But because it was there you had the professors who really wanted to see you pass, at the end of the day. My calculus teacher, I remember sitting there first day and was like, ‘Man, welcome to college.’ Because I realized it was hard stuff. I was like, ‘This stuff ain’t just coming to me as easy as stuff did in high school.’ Nevertheless, she always made herself available. We could e-mail questions, I could go to her office. She had office hours, but you pretty much could show up any time if you had questions.
Although his courses were challenging, James believed that faculty were intentional about making sure that he was successful.

James received encouragement to attend graduate school from several outlets including family, friends, and members of the Oakwood community. However, his most significant encouragement came from his mentors at an internship at the NASA Space Flight Center:

I had an internship when I was an undergrad in Huntsville, at NASA Space Flight Center. . . . I had a mentor who was a Black male who also shared an office with another Black male. . . . They kind of just talked to me about pursuing a graduate degree. It wasn’t even a PhD at first; it was just like, ‘You need to go to grad school, get that advanced degree. . . . Those two Black men, who had PhDs, who I worked with on my internship, were very influential and encouraged me to go to grad school. While James enjoyed his undergraduate experience at Oakwood, he was excited to enroll in graduate school and have the opportunity to conduct research with experts who shared similar interests. James also looked forward to taking advantage of the increased networking opportunities that his graduate institution would provide.

However, there were some concerns that James had as a Black male HBCU graduate entering a predominantly White institution, specifically regarding study groups. He stated, “I expected to walk in the classroom and be identified as the one who you don’t want in your study group.” Despite this expectation, James felt relatively equipped for graduate school, both academically and socially, as a result of his preparation at Oakwood. He states:
[Oakwood] pretty much gave me confidence. I knew the stuff that I learned there was hard. But because it was more accommodating, to where it enabled me to eventually pass these classes, it gave me confidence to know that at the end of the day, it’s not because I don’t know how to do it. . . . They showed me that given the right practices, I could learn. My ability or my intellectual capacity isn’t the issue.

While James felt that faculty were accommodating at Oakwood, he didn’t second-guess his intellectual capacity. In fact, James is most excited that he attempted going to graduate school and that he passed his preliminary exams, which he considered a “tough period.” While James has had some thoughts about it, he has never seriously considered leaving his graduate program. When posed a question regarding leaving his doctoral program he states:

I mean I’ve thought about it. . . . Is it worth it? Why?. But I’ve never gotten to the point where I’m seriously saying, all right, I’m really about to let this thing go. And I think that's kind of a personality thing. I think there are opportunities as well as maybe even some reasons why I probably should have or shouldn't have. But I guess by and large the answer would be no, not seriously. I don't like to leave something I have started undone.

Scott

Scott is a 45-year-old engineering doctoral student at an institution in the Midwest. He grew up in a two-parent household in which both his parents held postsecondary degrees and described his socioeconomic status as affluent. Prior to enrolling into graduate school, Scott was an electrical engineering student at Howard University. He was influenced to
attend Howard by his family. His older siblings and brother-in-law attended Howard and “showed [him] that it was a fun place.” It was also his brother-in-law’s interest in engineering that attracted him to the field.

Upon his arrival at Howard University, Scott was shocked at the ratio of males to females in his academic program. He states, “It was the only engineering school where I knew where there were more females than males.” While Scott was an engineering major, he had a personal interest in radio and television. Fortunately for him, Howard had two radio stations and a television station. Scott worked at both radio stations and the television station. As a result of being involved with the “non-academic side of school,” Scott believed that he “had a pretty full social life and liked the balance of academic to social life” at Howard. However, there was a shortcoming to his experience as an engineering student at Howard. He states:

The downside of what I found at Howard is that they did not push sciences or the math and when I struggled or when something was difficult, the general consensus was, ‘Oh, that's hard, don't worry about it, just skip that and it won't be a problem.’ Scott wished that his experience “had been a little tougher.” While at Howard, he believed that he had been “pushed to succeed and not just supported to finish.” While at Howard, Scott didn’t form “any lasting relationships with the faculty or staff;” however, he remains close friends with some of his engineering classmates.

After graduating from Howard, Scott earned a job in industry and married. However, Scott eventually divorced and began to evaluate his life. He reminisces:
It was 18 years from me between undergrad and grad school. For me, in undergrad, I got the degree and worked in the top of the different industries to try and find something that really excited me, and was pretty successful in them. Then I got divorced and that kind of lead me out on a path of spiritual awakening of what was possible and what was not possible, realizing that if I stayed in the corporate world I’d have to work another 20 years on the same job, and it was going to be that basically another 20 years of what I've already done. I just really looked at what I wanted to do for the second half of my life and for me. I felt passionate about the teaching and mentoring and helping other people to get through.

Thus, Scott believed that obtaining a PhD would be the appropriate next step. During this time, Scott received a great deal of encouragement to attend graduate school from several outlets including his classmates from Howard and family members. While Scott received a considerable amount of support from his undergraduate classmates and family, the most significant encouragement came from a childhood friend:

He stopped at his master’s degree because he felt that he did not want to do [the PhD]. He didn't have the stomach for the politics of the PhD program. He is an. . .executive, so he's very successful in his field, probably one of the top 20 people in the world in his field, and just through lots of discernment with him, we came to the conclusion that I have the kind of the stomach or tolerance for the politics part and have the intellect for the academic part and then just the desire and the personality that could push through the PhD program, and so I felt more supported by that.
While Scott was encouraged to take steps to earn his doctoral degree as suggested by his conversations with his classmates, he had some concerns about his graduate experience as an African American male HBCU graduate. Specifically, he was concerned about experiencing racism. Despite his expectations, Scott believed that his undergraduate experience prepared him to enroll as a non-traditional, electrical and computer engineering major at Midwest University. Specifically, Scott felt that his HBCU experience prepared him for the politics he encountered as a doctoral student as well as providing him a strong theoretical foundation to be successful with his course material. In addition to navigating the politics of the PhD, Scott believed that Howard had prepared him to handle the academic difficulties of being a doctoral student. While primarily theoretical, Scott mentions that his background on the fundamentals of engineering gained at Howard as a controls engineer were extremely useful during his doctoral experience.

Scott believes that being a Black male doctoral student has proven to be both positive and damaging during his experience at a PWI. On a positive note, Scott believes that his race has given him a “spotlight.” He explains:

I think that [my race] puts a spotlight on me that just about everybody in this building knows who I am or in three or four words they would know who I am. With that spotlight comes a lot of doors that get opened for me.

However, Scott mentions that “there are days that it doesn't feel that way.” He stated that being a Black male in the spotlight is also “a lot of weight and responsibility.” He recalled an experience with his faculty advisor. Prior to Scott, his advisor had advised and graduated one
other Black PhD from the university. Scott mentioned that his faculty advisor would mistakenly call him that student’s name and constantly compare the two. This went on for two years until Scott’s advisor realized that he was offended by this behavior and felt that it needed to stop.

Despite any negative experiences with his race, Scott has never considered leaving his doctoral program, largely because of the quality of perseverance instilled in him by his parents. He recalled his parents often telling him, "Don't ever, ever give up. Be a man of your word and finish what you start." Thus, he continues, “In my head there's really no option but to just, no matter how bad it is, stick in there and press through.”

**Pete**

Pete was raised in a working class household in which both of his parents earned postsecondary degrees. Pete’s mother earned a bachelor’s degree and his father earned a master’s degree. Currently, Pete is a doctoral candidate pursuing his academic studies as a microbiology and immunology major at an institution in the Southeast. Prior to enrolling in SFU as a doctoral student, Pete was a psychology major at Fayetteville State University. Pete called his HBCU undergraduate experience “one of the most unique experiences [he’s] ever had in [his] life.” He explains:

I say that because as a Black male in America, you rarely have an opportunity to have at your disposal what I call or what is known as the invisible knapsack. What I mean by that is, just the things taken for granted by the majority of the population, which are White men and women, and the things that they take for granted such as being
able to interact on a day to day basis with people who look like them, be evaluated by people who look like them, and be able to socialize with people who look like them. I was able, by going to an HBCU, to experience a little bit of that for four years. That was an experience that prior to that, I have never had, and following that I will never have again unless I go to an HBCU and become a faculty member there.

Pete embraced the opportunity to be a majority student at his undergraduate institution and have privileges as a result. Pete entered Fayetteville State University on the Chancellor’s Scholarship, which is a “full-ride” academic scholarship. From the time he arrived at Fayetteville State University, he was serious about his academics. However, he was also heavily involved in extracurricular activities such as playing football, which, in addition to his academic excellence, cast him into the social spotlight.

Pete shared that he was able to take advantage of several opportunities that were afforded to him at Fayetteville State University. In addition to playing football, he was also president of the Student Athletic Advisory Committee and served as a representative on the National Student Athletic Advisory Committee for his institution’s athletic conference. As a result of his academic success and involvement, Pete valued his undergraduate experience and was glad that he took advantage of the opportunity to attend an HBCU.

Pete’s undergraduate academic background was unique when compared to the other participants in the study in that he was the only participant to major in a social science, psychology, as an undergraduate and transition to a hard science as a doctoral student. Pete explains his unique transition:
I guess my situation is slightly strange or different than probably a lot of people… I wanted to go to graduate school originally in psychology. I knew I wanted to do an internship to make me more competitive for the application process. I didn't get into a lot of the internships that I had wanted. One internship that I ended up getting was an internship in a neurobiology lab. I was like maybe some of the things that I learn here will be [transferable] because I have taken physical psychology, which went over a lot of actual potentials and sodium-potassium exchanges, which form my basic thought and sensation. I thought that was going to be translational. While I was there, I tended to like science.

In addition to enjoying the hard sciences, Pete had another, more personal reason for deciding to pursue a PhD in microbiology and immunology: Pete felt that there was a higher power intervening in his life. Pete recognizes the severity of the HIV epidemic in the Black community and states, “I will dedicate my life to curing this, trying to find a cure for this.” Prior to making the decision to transition, Pete made a pact with his spiritual deity. If he was able to get past his personal circumstances and get into a program, he would hold up his side of the bargain:

The rest is pretty much history. I am now... a PhD candidate at... one of the top AIDS research institutions in the world. I can't really explain how that happened. I talked to my friend and he was like "You're from psychology?" I'm like "Yeah, I came from psychology." "How are you here then?" I'm like, "I don't even know." That's what happened.
During this transition, Pete received a great deal of support and encouragement to pursue his academic dreams. Pete mentioned that his parents were extremely supportive and proud him. He explains:

Of course your parents are going to be really supportive because they are just proud that your child is ascending into the “upper echelons” of society and climbing the social ladder. Especially Black families. We've come from shackles and chains and to see the fruits of that labor, achieving a PhD, the highest level of education that this country has to offer, of course they are going to be proud of you.

Pete felt his parents understood that, as a Black male, pursuing and earning an advanced degree would be extremely impactful. While his family was extremely supportive, Pete also received encouragement from an administrator at Southeast Flagship University. After giving a presentation at his internship at Fayetteville State University, the administrator walked up to Pete and mentioned that she enjoyed his presentation. After having a conversation, the administrator became even more impressed and inquired about Pete’s future. Pete mentioned his academic interest, and they made an immediate connection. The administrator told Pete, “This is going to be really tough. I'm not going to guarantee that you are going to get in. If it is something you really want, then there is not going to be anything that is going to stop you.” Pete soon found out how “tough” it would be.

Pete took the advice of the administrator and began to use his electives to take courses such as Molecular Biology and Organic Chemistry so that he would have the required courses for his graduate program. After completing these courses and taking the
necessary steps to prepare for admission into graduate school, Pete applied to several institutions and was not accepted. He was disturbed. Pete, expressing his frustrations, said, "Hey, I did this stuff and I didn't get accepted." However, after speaking to the administrator, it was suggested that he take more classes. Pete did just that and was eventually admitted into graduate school and accepted into a lab.

As a result of his challenging journey to get admitted into his doctoral program, Pete had a “chip on his shoulder.” Consequently, his expectations of graduate school were minimal. However, Pete believed that he was prepared by Fayetteville State University for his doctoral program and that he was prepared to take advantages and make opportunities for himself. Additionally, Pete expected that he would have to prove himself and take on the role of being the representative for his entire race. These feelings have actually manifested in his doctoral experience.

Pete was very aware of his presence as a Black male doctoral student. He believes that that the pressures, including feeling like he has to represent his race, can be conducted into positive energy:

If you can channel some of that pressure and some of those expectations and some of those hesitations and some of those [inaudible] from your race, and coming from an HBCU, and being a male, again I'm the only Black male in the room, then you can really do a lot of great things.

Despite the pressures, Pete has continued to be successful in graduate school, and he feels that it is important to give back to others. Reflecting on his experience, Pete states, “A
graduate student who does not open doors for others is a tragedy.” In fact, in addition to
going into graduate school and co-founding a science policy advocacy organization on
campus, Pete’s greatest accomplishment as a Black male doctoral student has been writing a
grant to start a college preparatory program for academically-talented students from
underrepresented populations.

Pete’s ability to make it to graduate school allowed him to help others have the same
opportunity. Pete states:

Being involved with [the preparatory program] is one of the things that I'm very
proud of, and being able to meet people who came to that who subsequently now are
in grad school, and they know what I've been able to help them with, that’s really
cool.

Wally

Wally is a 28-year-old engineering major at an institution in the Southeast. He grew
up in a working class family in which both of his parents had some college education but did
not earn postsecondary degrees. Prior to his admission into graduate school, Wally was a
computer engineering major at Jackson State University (JSU).

While admitting to be a little “young” and “naïve” upon entering Jackson State
University, Wally called his undergraduate experience “great.” He entered JSU on a full
scholarship, which motivated him to be “the best engineer to keep [his] scholarship.” Wally
explains, “I knew I didn’t have any money to pay for school. That turned out to be a great
recipe for success for me. I [was] pretty much one of the top students in my department.”
Wally came to know the faculty, department chairs, and associate deans of his department very well. He was also able to get “great opportunities to do internships” as a result of his hard work and relationships with these faculty and administrators. Wally took advantage of opportunities to do research at an army research lab, work as a systems engineer, work as a software engineer, and also enjoy research experience at a university in the Midwest. In addition to his several research experiences, Wally also had the opportunity to be a teacher’s assistant (TA) as an undergraduate for a course he had previously taken. While he had the opportunity to become a well-rounded student, Wally admitted that he wished he had streamlined his experience to focus on gaining either research or industry-related skills.

Wally seemed to exceed any expectations and was always looking for a challenge, whether personally or academically, so it was only natural that he embarked on a journey to obtain a PhD. While this seemed to be the natural progression in his academic and professional career, earning an advanced degree was not always a priority for Wally. Though he excelled at research and teaching, his PhD aspirations were minimal because he didn’t want to be on the “publishing grind.” Wally was encouraged by his faculty members and dean to take the “next step” because they had served witness to and believed he had the intellectual capacity to be a successful doctoral student.

When making the decision to enroll as a doctoral student, Wally admitted that he was “oblivious to the challenges of graduate school.” After being asked to delve a bit deeper into his reflections, Wally mentioned that he wasn’t as concerned about the expectations placed
on him as a doctoral student because he was more concerned about the high expectations that he placed on himself, which he found to become a hindrance during his experience.

In addition to the high expectations he placed on himself, which eventually had an undesirable impact on his doctoral journey, Wally found that being one of very few Black men in his field was very displeasing, and having to constantly hear the statistics concerning minorities in his field was even more demotivating. He explains:

When I stop and try and think about the magnitude of what I’m doing, it becomes a bit overwhelming. I’m trying to get a PhD. What’s my motivation? For me, actually hearing statistics demotivates me sometimes now. It’s like, ‘Only this many African American males get their PhD,’ so it makes me feel like this process is so obscure.

Wally noted that he still places high expectations on himself, and no matter what, he was going to make sure he was successful as a doctoral student.

Wally felt that he was prepared for his doctoral program because of his undergraduate experiences at Jackson State University, largely because of his research and internship involvement. However, he does admit that his HBCU background may have hindered him or at least he perceives a difference between his educational background and students with other educational backgrounds:

I feel like the undergraduate portion definitely prepared me. Not even just in terms of my experience, in terms of research and internships, but just even talking to [PWI] students sometimes I have this perception of ‘oh my gosh these folks went to [PWI] for undergrad and little old me I just went to Jackson State.’
Wally mentions that at one point, he felt that his courses at his HBCU alma mater where not as rigorous as courses that students may have taken at his PWI graduate institution. During the interview, he admitted that he is still hindered by these feelings, which he called the imposter syndrome (Harvey and Katz, 1985). The feeling of being an imposter had a great impact on his experience, both personally and academically. Wally elaborates:

I found myself constantly comparing myself to other students and identifying shortcomings that would lead to my failure. I found myself facing depression from feeling like I wasn't prepared for this goal, numerous simultaneous changes in my life during this time, and the weight of expectation. I often felt that I needed to ‘cure cancer’ to get someone's attention and then I could begin researching to pursue my Ph.D.

After realizing the magnitude of the impact that the imposter syndrome was having on him, Wally took steps to handle those feelings. In addition to seeking therapy, Wally notes, “I just needed a clear set of expectations, goals, and a plan to achieve those goals.” He also found it necessary to build a team of supporters.

In addition to building his own support team, Wally has made it a priority to support other Black students in STEM. When asked about his greatest accomplishment as a Black male doctoral student, Wally talked about being a mentor:

I have at least one direct mentee who goes to Jackson State who I know and talk to. He's a junior now. I talk to him probably…3 to 4 times a month [about] everything from his internship this summer with Boeing to him struggling [with his courses]…
being able to reach back is very rewarding….I definitely get satisfaction being able to reach back, but also knowing that they look, kind of, up to me.

Wally is extremely excited about the progress that he has made as a Black doctoral student and even more excited to share the knowledge he’s gained with others.

Charles

Charles is a 26-year-old majoring in a science and mathematics discipline at an institution in the Southeast. He grew up in a single-parent, working class household in the Midwest. Charles’s mother and father attended college but did not complete their degrees. Prior to enrolling into graduate school as a doctoral student, Charles was a physics major at North Carolina Agricultural and Technical State University. Charles decided to major in physics because he “wanted to out how the world works in a very technical and quantitative way.” Charles mentioned that he had a “pretty great experience” as a Black male undergraduate STEM student at an HBCU partly because of the “small environment” in the physics department. Because of the small environment, Charles mentioned that he was able to enhance his strengths and improve his weaknesses as a student. Further, as a result of the department’s size, he was also able to engage with faculty members and peers in ways that students in majors with a large numbers of students were unable to do. Charles explains:

I learned from some of the best people I think I've ever met, and I was able to go places that I've never really thought I would ever be able to go to. . . . Because our community was so tight knit, we were able to really work with each other to develop into better students and better scientists and better people by working through some
of those difficult problems that we just wouldn't be able to solve on our own. Through that, I learned a lot about how to actually work with people and how to actually support other students who are doing the same thing that you're trying to do and who have a similar background.

Learning to support his peers was an important part of his experience at NC A&T. Charles mentioned that competition was minimal between students. Instead, the focus was placed on helping each other out:

We could feed off of each other and really pull each other up. At the same time, we understood that we all were coming from a similar background as far as education and upbringing. We knew that we're not competing with each other, we're really just trying to make it through our subjects and do the best that we can individually and as whole.

Charles’ described his transition into a PWI in the Southeast as “unique,” largely because he was a physics major as an undergraduate student and entered a biophysics program as a doctoral student. While his physics background was valuable, he expected to have some challenges adjusting to the new material, but nothing he felt he couldn’t handle. Charles anticipated some differences in his experience as a graduate student, particularly regarding the research expectations. He states, “[To] me, a stereotype was that people were just about results, results, results, results and really quickly. I was wondering if I was going to have time to actually grow and develop in my program.”
Charles recognized that he was coming from a different academic, social, and ethnic background from the majority population at the Southeastern PWI he attended. Because of this, he felt a great deal of internal pressure to be successful which both positively and negatively impacted his experience:

Because of my ethnicity and my background, there’s that whole internal [pressure] that I put on myself just coming from an HBCU and also coming from [a different] ethnicity. We want to do well. One of the biggest driving forces for me, and this could be positive at times, and it also can be negative at times, is that I always have this internal feeling that I don't want to do something that's going to prevent someone else from following in my footsteps.

Throughout his interview, Charles continued to bring up the idea of “keeping the door open” for others and how this pressure to do so could be both motivating and inhibiting. When this pressure begins to add his “already burdensome” experience, Charles mentioned that he takes a moment to step back and analyze the situation:

Carrying that sense of responsibility around is something that I try to balance out and always try to keep in a positive light. When it starts to be something negative, then I try to take a step back and realize that I'm only one person. I'm only capable of doing the best that I can. If I'm doing the best that I can, then that's all I can really ask from myself. I can't put the weight of my race on my shoulders all the time and expect to be able to open doors for the next generation of students. That's just something that's just not fair to myself, but it's also something that I'm never going to get away from.
Charles feels that he will always have these feelings, but he tries to focus on being the best “Charles that he can be” and open doors for as many people as possible without becoming a detriment to himself. In fact, when asked to describe what it takes to be successful as a Black male doctoral student, Charles provides the following advice, “Don't try to be Superman. You're not Superman. You're just a person and just do the things that I know that are going to work for me.”

Charles also mentioned another way that being a Black male has impacted his doctoral experience. He said that he was one of few Black doctoral students and one of very few Black male doctoral students within his department and institution. Because of this, he mentioned that he “was definitely on pins and needles” when his first arrived on campus. He tried to keep a low profile, but he quickly realized that this wasn’t going to be possible. Charles explains:

When I look at it, and I think about how many people I met in my first week and how many people I could actually recognize, it was only a handful of people. However, everywhere I went people were like, "You're [Charles]," and I'm like, "Why do you know that. The only reason you know that is because of the [approximately 90] students that we brought in here, there's five, six Black people." I'm in this special biophysics program. It's not hard to recognize who I am.

Charles felt that everyone was watching him. At some times, he felt that it was hard to be himself. While he noticed that other students were able to react to adversity more
expressively, he felt that he really had to watch himself and try not to overstep his boundaries and create a bad impression; and potentially “close the door” for someone else.

His biggest disappointment as a Black male doctoral student is finding the time to develop professionally and mentor others. He feels that giving back to other students that are in similar situations as him is important to his success. Charles felt that he has always found the time to complete his academic and research tasks, but was “a little frustrated” that he was unable to devote his time to giving back. However, he mentioned that he understands that he has to prioritize his task and sometimes school takes precedence over the things that are most self-fulfilling to him. Charles does feel that balance is important, though. In recognizing his need to maintain balance, Charles found physical outlets such as going to the gym and working out, running, and playing tennis or basketball.

Charles’ biggest accomplishment as a graduate student, thus far, is passing his qualifying exams and getting through all of his coursework without any “real trouble.” He feels that he’s been “pretty successful” in the lab and is working on a really good timeframe in regard to completing his degree. Charles also feels accomplished to have gained admission into a top program. He feels that it is important for him to realize the progress he has made. He explains, “I try not to overlook that. When I'm thinking about where I am at and how great a school that [my graduate institution] is, I have to remember that I've earned that.”

Melvin

Melvin is a 25-year-old, is majoring in a technology discipline at an institution in the Southeast. He grew up in a low-income household. In describing his childhood environment,
Melvin mentioned that he grew up “somewhat in the hood” through elementary school, but he went to a predominantly White high school. In regards to his parents’ educational attainment, Melvin’s mother earned a bachelor’s degree and his father earned a high school diploma. Prior to being admitted as a doctoral student, Melvin had the opportunity to experience life as an undergraduate at two different institutions. The first was a private institution affiliated with the Evangelical Lutheran Church. Melvin stated that the cost of attendance was fairly expensive. Melvin mentions, “Pretty much everybody who went there was either playing sports, or if they weren’t playing sports they were rich because it was like $30,000 to go there.” Melvin was on a football scholarship. However, the very activity that afforded Melvin the opportunity to attend this private institution opened his eyes to an alternative college environment; one which he initially intentionally avoided. Melvin states, “I never wanted to go to an HBCU. . .coming out of high school.” However, after competing in an away game at an in-state HBCU, Melvin said to himself, “Why am I here?” After experiencing the camaraderie and excitement of an HBCU football game, Melvin decided to transfer to North Carolina State Agricultural and Technical State University (NCA&T), an HBCU.

Melvin mentioned that he did not know “a lot” until he enrolled into North Carolina State Agricultural and Technical State University. When asked to elaborate, Melvin explains: 

Once I got to North Carolina State Agricultural and Technical State University, my department, Computer Science, they really looked out and helped make sure students
were either doing something where they had an internship for somewhere or being at summer school, trying to get out.

Melvin also mentioned that he had the opportunity to learn a lot about himself and meet and form relationships with a variety of individuals from around the country while attending NCA&T. Melvin described the climate in the computer science department as being “very close-knit.” He explains, “We were kind of like a big family. We all hung out together and we all looked out for each other.” This was a new and exciting feeling for Melvin. He mentioned that he didn’t experience this at his first undergraduate institution. Melvin explains, “At my old college, I never had anything like that. I felt like I was all alone. Once I got around my people, it was different.”

The summer before he graduated from NCA&T, Melvin accepted an internship with the Research Experience for Undergraduates (REU) program, which is sponsored by the National Science Foundation (NSF). His specific program was called a DRE, or Distributed Research Experience for Undergraduates, and it was housed at the Southeastern institution he currently attends. During this internship, Melvin was mentored by a faculty member who would eventually become his faculty advisor in his current doctoral program. This relationship sparked Melvin’s interest in pursuing a PhD.

Melvin mentioned that his understanding of graduate school was limited prior to meeting his mentor. He explains, “I didn't know nothing about graduate school. I just knew it was extra schooling and I did not want to be a professor…Then I met [my faculty mentor]
and he was telling us his story, how he became where he is.” After hearing his mentor’s story, Melvin was inspired to pursue his PhD.

In addition to being inspired by his faculty mentor during his summer internship, Melvin also received encouragement from his family members, specifically his parents. Melvin was extremely happy to be supported by his parents because he knew that some of his friends did not receive this encouragement. He mentioned that his friends’ parents would say things like, “Well, you need to work, you need to make money.” Melvin stated, “That never made sense to me why some people’s parents are like that.” Melvin was relieved to have his parents’ support. He recalls a conversation he had with his mother: “My mom [said], ‘You want to go to grad school? I’m proud of you. Keep doing what you're doing.’ That was pretty much all the encouragement I needed from them.”

Initially, Melvin stated that he did not know what to expect as a Black male HBCU graduate during his doctoral experience. However, after reflecting on his REU internship, he mentioned that he knew it would be a challenge. Unlike the other participants in the study, there was one transition that would be a bit easier for Melvin. Though he attended a predominantly White institution, his program enrolled a large number of minorities, mainly African American and Hispanic students. Melvin explains:

I didn't know what to expect, but the thing is, my graduate lab, we're all minorities. It's like 15-20 PhD Black students in my lab. It was like ... the same transition I had at [NCA&T] with a whole big family, close-knit.
Melvin knew that being in a program surrounded by other minority doctoral students was unique. He also found it to be encouraging.

Melvin believes that his race and gender have had a positive impact on his doctoral experience. Specifically, he mentioned that diversity is becoming priority for companies, making him a “hot commodity.” Melvin was encouraged as a result of these positive experiences:

I never would have thought I'd be in graduate school. I didn't even know what grad school was and now I'm here meeting all these people and doing all these things. I have all these skills and a lot of people want these skills. It makes me feel good.

**Walter**

Walter is a 28-year-old majoring in a mathematics discipline at an institution in the Southeast. Prior to being admitted as a student at SLGRU, he was a mathematics major at Albany State University. Walter stated that his undergraduate experience as a Black male at an HBCU was “pretty interesting.” He entered Albany State University as a pre-engineering student, but that changed after meeting a professor, who would eventually become a mentor when Walter took his first calculus course. He explains:

[The professor] took me under his wing and figured that with my ability and the results from some of my coursework in mathematics that I might be geared towards being a pretty good mathematician. After taking a few classes thereafter that were prerequisites for engineering, it sparked my interest that rather than being an engineering major, I could major in mathematics
Walter was enrolled in a five-year engineering cooperative education program in which he completed three years of course work at Albany State University as a pre-engineering student and transferred into an engineering school to complete the requirements to earn a bachelor of science in engineering. However, after he realized intellectual capability with mathematics and “falling in love with Albany State University,” he changed his major and decided to stay at the institution.

Walter was very involved as an undergraduate student. He was in the marching and show band, a member of two fraternities, and served on several boards and committees. His involvement with the computer science club, math club, and within his department deepened his relationships with his faculty, his love for math, and his interest in graduate school. He mentioned that he had supportive relationships and worked with several professors. Specifically, he helped them with research, grading papers, and sitting in on tutorial sessions. Though Walter worked with several members of his department, there were two who gave him the most encouragement to pursue his PhD: Dr. “G” and Dr. “O.” He mentioned that both of them “let it be known that graduate school was something that I wanted to look into.” He eventually was influenced by Dr. O to attend two summer research experience programs, which increased his interest in graduate school.

The following fall semester, Walter enrolled as a master’s student at a PWI in the Southeast. He enrolled in graduate school with full intentions of getting a doctoral degree, but he became apprehensive once finishing. Walter explains, “My mindset at first was that I didn't think that I could obtain it…It was something I could say I feared in a sense.” Walter
elaborated on these fears in our follow-up interview. He mentions that he feared “the unknown” and was unsure if he was able to do the research required as a doctoral student.

Though Walter had some fears, he ultimately felt that he was prepared at Albany State University to be doctoral student at a predominantly White institution, partly because of the advice he received from Dr. O and Dr. G. Walter states, “They introduced me to research as well as opened up my eyes.” While feeling prepared, Walter still had a few challenges during his experience. He reflected on his undergraduate academic experiences and compared them to his experiences as a doctoral student:

I’m not going to say undergrad came easy, but math and science were my areas of studying that I always exceeded in as a child, so undergrad was easy. When I got to graduate school it was so much difficult to deal with that I felt [like], wow!

To get through these hard times, Walter relied heavily on his spirituality. In addition to his spirituality and “leaning on other students of color,” Walter relied on his perseverance and determination in order to be successful. He explains:

You have to be willing to accept the unacceptable. You have to be able to accept the fact that everyone's not going to like you. You have to be able to accept that everyone's not going to work with you or help you to be able to get through the program. You're going to have to be able to have self-determination.

Being able to accept the unacceptable and have self-determination have proven to be all too common in Walter’s doctoral experience. During our interview, he mentions that he failed
one of his first doctoral courses miserably and even failed his qualifiers the first time he took them; however, he continued to persevere and rely on his spirituality during these times.

Despite the challenges Walter has had, he feels extremely accomplished to be a Black male student in a doctoral program, largely because he uses his experience to be a role model for others. As a first generation college graduate in his family, Walter is looking to prove to the next generation of his family and students of color that academic attainment is possible. Walter said with excitement, “If I can do it you can do it because we came from the same place.”
CHAPTER FIVE: FINDINGS

The purpose of this study was to discover and understand the experiences of African American males who completed their undergraduate degree at an HBCU and are pursuing a doctoral degree in a STEM discipline at a PWI. The themes presented in this chapter will answer the study’s research questions:

1) What are the experiences of African American male HBCU graduates in STEM doctoral programs at PWIs?
2) What hinders and facilitates the success of African American male HBCU graduates in STEM doctoral programs at PWIs?
3) How do African American male HBCU graduates take action to successfully navigate the college environment toward doctoral degree completion in a STEM discipline at PWIs?

This study was guided by a theoretical framework which included Harper’s (2010, 2012) understanding of anti-deficit achievement; Weidman, Twale, and Stein’s (2001) conceptualization of the graduate student socialization process; and O’Meara, Campbell, and Terosky’s (2012) notions of agency. There were five themes and several subthemes that emerged from the participants’ stories. The themes are: 1) Undergraduate HBCU experiences: Backgrounds and Predispositions; 2) Doctoral PWI Experiences: Feeling “Black” on Campus; 3) Intrinsic Inhibitors of Success; 4) Persevering Despite Obstacles: “It’s been very rocky, very bumpy, very up and down, but I’ve just continued to move, to push forward…”; and 5) Taking Strategic Actions to be Successful (See Tables 5-7).
Table 5.

**Research Question 1 Themes and Subthemes**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
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<tbody>
<tr>
<td>Undergraduate HBCU Experiences: Backgrounds and Predispositions</td>
<td>A) Being prepared for graduate school at an HBCU</td>
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<tr>
<td></td>
<td>B) Anticipatory Socialization: Expecting Graduate School to be a Challenge</td>
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<tr>
<td>Doctoral PWI Experiences: Feeling “Black” on Campus</td>
<td>A) Lack of Reflection in the Campus Mirror: &quot;It’s…disappointing and disheartening at times to know that I’m one of just a few…”</td>
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<td></td>
<td>• Lack of Black Graduate Students</td>
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<td>• Lack of Black Faculty</td>
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<td>B) Experiencing Feelings of Isolation</td>
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<td>C) The Role of Code Switching: “I don’t feel like I can be myself”</td>
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<td>D) Encountering a Chilly Climate</td>
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<tr>
<td></td>
<td>• Perceived experiences of racism</td>
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<td></td>
<td>• Being perceived as inadequate</td>
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### Table 6

**Research Question 2 Themes and Subthemes**

<table>
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<tr>
<th>Themes</th>
<th>Subthemes</th>
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<tbody>
<tr>
<td>Intrinsic Inhibitors of Success</td>
<td>A) “Keeping the door open:” The Pressures of being a Black Male Doctoral Student</td>
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<td>B) Feeling like an Imposter: “I feel like I have somehow snuck into this program and fooled everybody around me”</td>
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| Persevering despite obstacles: “It’s been very rocky, very bumpy, very up and down, but I’ve just continued to move, to push forward…” |}

### Table 7

**Research Question 3 Themes and Subthemes**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
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<tbody>
<tr>
<td>Taking Strategic Actions to be Successful</td>
<td>A) Practicing Self-Care as an African American Male</td>
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<tr>
<td></td>
<td>• <em>Seeking Spiritual Guidance</em></td>
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<tr>
<td></td>
<td>• <em>Balancing Work and Personal Life</em></td>
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<td></td>
<td>• <em>Seeking Therapy</em></td>
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<td>• <em>Agency as Responsibility: Giving Back</em></td>
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<td></td>
<td>B) “Playing the Game”: Using Savviness to be Successful</td>
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<td></td>
<td>• <em>Picking Battles: Confronting or Walking Away</em></td>
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<td></td>
<td>• <em>Understanding the University’s Culture</em></td>
</tr>
<tr>
<td></td>
<td>C) Seeking Supportive Relationships</td>
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<tr>
<td></td>
<td>• <em>Networking towards success</em></td>
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<td></td>
<td>• <em>Developing meaningful relationships</em></td>
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The subthemes related to the first theme, Undergraduate HBCU Experiences: Background Dispositions, include: 1) Being Prepared for Graduate School at an HBCU and 2) The Participants’ Expectations of Graduate School. The participants expressed how their experiences as undergraduates at an HBCU prepared them both academically and socially for their doctoral experiences. Additionally, the participants talked about their expectations of graduate school in a STEM field at a PWI as a Black male HBCU graduate.

The subthemes related to the second theme, Doctoral PWI Experiences: Feeling “Black” on Campus, include: 1) Lack of Reflection; 2) Experience Feelings of Isolation; 3) The Role of Code Switching: “I don’t feel like I can be myself;” and 4) Encountering a Chilly Climate. The sub-theme Lack of Reflection includes participants’ feelings regarding the lack of Black faculty, Black graduate students, and Black male graduate students. The participants addressed the chilly climate by mentioning their perceived experiences of racism and feelings of being perceived as inadequate by others.

The subthemes related to the third theme, Intrinsic Inhibitors of Success, include the participants’ feelings regarding the pressures of being a Black male and the pressure to “keep the door open” for the other Black students coming behind them. The participants also felt like “imposters” or academic frauds within their institutions and academic programs. However, the participants were resilient despite these inhibitors. The participants’ sentiments regarding Persevering Despite the Obstacles they encountered as Black male doctoral students are presented in the fourth theme.
The subthemes related to the fifth theme, Taking Action to be Successful, include: 1) Practicing Self-Care as an African American Male; 2) “Playing the Game”: Using Savviness to be Successful; and 3) Seeking Supportive Relationships. The participants felt that one of the most important tasks they have to undertake as graduate students is to take care of themselves. The participants used reflection and spiritual guidance in addition to balancing their work and personal lives to take care of their physical, spiritual, and mental needs. Regarding reflection, the participants used their personal time for self-reflection and also sought out professional help from therapists. The participants relied on savviness to navigate their experiences and understand the institutional culture and politics. The participants also picked their battles; they felt it was important to understand when not to make a big deal out of an issue and when to speak up because of the potential consequences as a result of being a Black male. Additionally, the participants found ways to learn the culture and politics of their institutions and programs. Regarding the final subtheme, the participants felt that it was important that they build and maintain supportive relationships in order to be successful. The participants believed it was important to network, develop meaningful relationships, and seek support from the other underrepresented minorities.

In this chapter, I will present each of the aforementioned themes and subthemes using the narratives of the participants that were collected through interviews and reflection journals. Tables 5-7 provide each of the themes and the associated subthemes that emerged from the data collection process including: 1) Undergraduate HBCU experiences: Backgrounds and Predispositions, 2) Doctoral PWI Experiences: Feeling “Black” on
Undergraduate HBCU Experiences: Backgrounds and Predispositions

The participants’ background includes their race, ethnicity, and gender as well as their experiences at their HBCU undergraduate institutions. The participants talked about their predispositions when expressing their expectations of graduate school at a PWI. These subthemes are discussed in the following sections.

Being Prepared for Graduate School at an HBCU

Each of the participants discussed how their undergraduate HBCU experience prepared them for graduate study at a PWI. The participants expressed mixed messages about their graduate school preparation. Their stances shifted between being prepared in some areas and wishing they had more experience in others. Scott mentions that he was prepared to handle both the political experiences and academic rigor he would encounter as an African American male doctoral student:

Politically, I found that I was way ahead of the game. . . . I found out how to navigate certain systems and. . .the unspoken [expectations], and apply for fellowships. . . . I think that Howard did an excellent job in preparing me. . . . They prepared me best. . . for the intangible skills of the politics in the PhD program.

Pete believed that his HBCU experience “was the best preparation” and gave him an advantage over others:
I feel like I have an extreme advantage over everyone around me. I feel like everyone around me goes through the motions and goes through a situation... It’s kind of like if we were at a banquet where they call your table to go get something... to eat. I feel like I'm the person that’s like "Oh, forget it. I'm not waiting on them to call me. I'm going to go up to get it now." I feel like everybody else is conditioned to just wait until their name... or the table's called. I don't think they are as intense as I am. I don't think that they have the same chip on their shoulder that I have.

Walter explained how the advice he received from his faculty mentors at his HBCU assisted in his preparation for graduate school:

They introduced me to research as well as opened up my eyes... Once I started graduate school, it was everything and more from what my mentors had told me about. I felt I was prepared for the challenge because I was previously warned and aware of what I was getting myself into.

Like Walter, most of the participants had research experiences while enrolled at their HBCUs. They mentioned that such experiences prepared them for graduate study. Melvin attended the Research Experience for Undergraduates program, sponsored by the National Science Foundation. James was an intern at NASA. Walter was involved with research from a faculty member in his department and also held a research internship at a university in the Midwest. Wally also had the opportunity to get hands-on research experience as an undergraduate. When asked about his preparation for graduate school, He said, “I feel like the undergraduate portion definitely prepared me.” Wally explains:
I was able to get a wealth of experience as an undergraduate. I was very focused on diversifying. . .my background, so I did some research. . . Overall, I think I have a breadth of experience that I was able to acquire in undergraduate that I come to find out or realize that not a lot of people have.

However, Wally also mentioned that he felt that his coursework may not have been as rigorous as his that of his counterparts at PWIs. Other participants also questioned the preparation they received at their HBCU for graduate school. Though Walter felt prepared and talked about his research experiences, he still “feared the unknown” of graduate school, ironically, regarding the types and expectations of research:

You know being at Albany State we’re. . .a liberal arts school so we. . .teach the material and leave it at that. I more so had a fear of how to properly do research because we’re not a research institution, so we don’t really learn. We know how to do a basic research paper in English or the thing you major in but to do major research like you’re doing now at the master’s and graduate level, I didn’t think that I was possibly capable of doing such. Cause I had no prior experience doing it.

Though Walter had worked closely with his faculty as an undergraduate and had taken advantage of summer research experiences, he still felt that he needed more preparation to be successful as a graduate student. Kurtis also questioned his preparation, partly because of his attending an HBCU:

I definitely questioned my preparedness at times coming from an HBCU even though I think that proved not to be an issue. I kind of felt that my White counterparts might
also view me as being inferior or less than not just because I was Black, but also because I went to an HBCU. So I have feelings going to grad school thinking that my White counterparts might not see me as almost same level or as equal to them. Those are the doubts and fears and concerns that I had.

Scott wanted a more rigorous undergraduate experience. He states, “[I was] pushed to succeed not just supported to finish.” He explains:

The focus was to get a degree and finish and don't be one of the ‘statistics’ that doesn't finish, that the grades weren't that important and have to have any marketable skills were secondary to getting a degree.

The participants generally felt that their HBCU undergraduate experiences had prepared them to be successful graduate students at PWIs. The participants mentioned that their research experiences, the advice received from faculty, and intangible skills gained while at their HBCUs were helpful. However, some of the participants expressed how they wished their academic programs would have been more rigorous and placed more focus on research experience.

**Anticipatory Socialization: Expecting Graduate School to be a Challenge**

Each of the participants talked about their expectations of graduate school. Overall, the participants expected graduate school to be challenging, both academically and socially. Kurtis talked about his expectations of his peers and his professors’ expectations of him:

I was expecting faculty who were just kind of brainiacs and expected me to know everything and just get everything and just be sharp all the time. I expected my peers
to be smarter than me, to just be more on point, to have more research experience, a higher GPA, just more on the ball. I just expected them to be, I don’t know, for whatever reason, not be in the same boat as me… I had an expectation that they would already know the ropes.

Similarly, Pete expected that he would always have to prove himself to others and be placed in a position to be the representative for all Black persons. James expressed similar sentiments when he mentioned that he had concerns about finding study group partners as an African American male:

I expected to walk in the classroom, and be identified as the one who you don’t want in your study group. It wasn’t like bothersome, but at the end of the day I didn’t go into the classroom thinking, ‘Everybody’s going to want to study with me.’ It was kind of like, I know I’m probably not going to be asked to be in a study group.

Kurtis also talked about his expectations of acclimating to a new learning environment in graduate school at a PWI:

I felt like even though there would be a little bit of a culture shock for me coming from an HBCU to a PWI and being Black in the classroom with my White counterparts. I was expecting a challenge there in my learning style and being able to acclimate myself to being able to learn in that type of environment.

In some instances, the participants initially mentioned that they didn’t have any expectations of graduate school, nor any thoughts about what others expected of them. Melvin said, “I didn’t know nothing about graduate school. I just knew it was extra schooling and I did not
Charles stated, “Coming from an HBCU. . .I didn't really understand what the expectations for me were going to be coming over to this research intensive environment.” However, after delving a little deeper, the participants’ expectations become clearer. Charles states:

[A] stereotype was that people were just about results, results, results, results and really quickly. I was wondering if I was going to have time to actually grow and develop in my program. That was one of the biggest concerns I had. I come from a different background.

Melvin mentioned, “I thought it was going to be hard, very hard…I was just coming in as a rookie.” Scott expressed his concerns about entering a new academic culture in which he felt the values of his counterparts would be different:

I expected there would be some racism in it. I expected that there would be some part of their values of interpersonal relationship that are different than mine, and I would get this, ‘Oh, you don't play soccer, so you're not really one of us,’ or, ‘You prefer this kind of food and not our kind of food so we're not going to socialize with you,’ and then I would just feel like an outsider.

James expected that his graduate institution would have more resources than his HBCU undergraduate institution. He states:

My expectations were certainly more resources than I had at my HBCU, because though HBCUs were very familiar, they didn’t always have all the best or abundant
resources, in terms of technology or space even, or furniture. I expected more resources.

Pete had a challenging experience of being accepted into a doctoral program. Thus, his expectations to receive any assistance were minimal:

I just thought that [there] were going to be obstacles and oppositions and stuff to me.

All the stuff that I went through to get here, I kind of went into it with a chip on my shoulder and looking at everybody as competition. I didn't really have any expectations from anybody. I really felt that I had to do everything on my own.

The participants had varying expectations of graduate school. However, they generally felt that graduate school would be a challenge to them, both academically and socially. They expected adventurous transitions in acclimating to the culture. The participants also expected their race and HBCU undergraduate experience to play a role in the way they would acclimate and how their peers and faculty would perceive them.

**Doctoral PWI Experiences: “We definitely feel Black…”**

This theme provides an understanding of the participants’ doctoral experiences as Black, male, HBCU graduates. As Melvin said, “[We] definitely feel Black… I don't mean it in a good way, but it's like you know you're Black down here. You're reminded every day.”

This theme provides a glimpse as to why the participants felt this way. The four subthemes explored in this section include: 1) Lack of reflection in the campus mirror, 2) Feeling isolated, 3) the role of code-switching: ”I don’t feel like I can be myself,” and 4) Encountering a chilly climate. The subtheme “Lack of reflection in the campus mirror”
emerged as the participants consistently mentioned the shortage of Black graduate students and faculty on campus. “Isolation” describes participants’ feelings of seclusion from their counterparts. The participants also felt that they had to live two separate lives as Black male doctoral students. Finally, chilly climate is a subtheme about the participants’ experience with racism and being perceived as inadequate by others.

**Lack of Reflection in the Campus Mirror:** “It’s…disappointing and disheartening at times to know that I’m one of just a few.”

Statistically, each of the participants is considered an underrepresented minority at their respective institutions. These statistics are magnified when their specific programs and gender are considered. The participants make up a small number of Black students on a campus predominantly populated by White individuals. During the study, the participants consistently mentioned that there was a lack of Black persons on campus, namely graduate students and faculty. They would walk around the campus, sit in a class, and attend events and see very few people, if anyone, who looked like them.

Using the metaphor of the campus as a mirror, the participants felt like their reflection was not present on campus. They rarely saw other Black persons, and they expressed significant interest in increasing the number of Black students and faculty. The participants in this study were equally or even more concerned with the modest number of Black male graduate students. Thus, their reflection on campus was even fainter when considering gender. They consistently expressed how adamant they were about increasing the number of Black graduate students, males, and faculty in academia.
Lack of Black Graduate Students. Kurtis expressed his frustrations with the lack of Black graduate students when asked about his greatest disappointment as a Black male graduate student. He states:

I’m disappointed that there are not more Black male graduate students if anything and it’s not that I’m disappointed in anyone or anything in particular, but I’m disappointed in the fact that there are not more people in the same position I’m in because I feel like there are plenty of other Black males in [other] fields who are qualified or capable to qualify to be in tier one PhD programs and they’re not for whatever reason. So that is a little bit disappointing when I look around and I realize that I’m the only one. . . . It’s disappointing and disheartening at times to know that I’m one of just a few.

When asked about his experiences as a Black male doctoral student at the PWI in the Southeast that he attended, Kurtis said he “definitely [felt] unique,” but he was still “comfortable.” He explains:

I feel like I belong there. . . .at times. I feel like I am the only one [and] it’s kind of me and then there's my White, non-White and non-Black counterparts. . . . I'm very aware of my position on. . . .campus and yet I still feel comfortable of that.

When asked to explore his feelings of being unique on campus, Kurtis explains:

[I feel] unique in that when I…meet new people who were not in grad school, who were not doing PhDs, who might be in professional school, in dental school or med school or something else, there's definitely a very colorful response when I tell them
that I'm a doctoral student in the program that I'm in. [So] you can kind of tell that
they either never met someone like me, they've never met another Black male PhD
student in the sciences or they've met very few. That's one thing that makes me feel
unique. Just kind of walking around and looking around and just seeing that everyone
else in my program and everyone else in my area doesn't look like me makes me feel
unique because it's just visible, it's very visible.

James expressed a similar sentiment of receiving colorful responses from others when telling
them that he is a doctoral student. He mentioned that people were usually “surprised” that he
was a doctoral student because there were so few Black male doctoral students. Kurtis
explains that while there are a few Black graduate students in his program, only two of them
are male:

In my department I would say I can think of two other Black people in my department
out of . . . between 60 and 80 people, I think, and they're both women, so I'm the only
Black male graduate student.

When asked about the racial diversity within his program, Pete said, “There are no Black
people. . . . There really are no Black people. I'm just it. You don't see nobody like you.”

Thus, he is excited when he encounters other Black males in his field at events away from
campus:

I will go to a conference and I will be the only Black person there. Or if there is
another Black person there, for some reason, no matter where we are, I can look over
my right shoulder. I don't care if he's on the other side of the room, somehow we lock
eyes and we kind of give each other like ‘Hang in there brother.’ It doesn't even matter. We communicate like ‘You're Black, I'm Black. Hang in there.’

When speaking about the racial diversity within his program, Scott mentions that he is also one of very few Black students. In fact, he states that he is the only Black, male, full-time student and mentions that the program “is much dominated [by] European Americans.”

Walter described his experience of transitioning from an HBCU to a PWI in which there are few other Black persons as a culture shock. He states that while his program was diverse with students from both the United States and abroad, most of the students were of Asian descent and Walter was one of only two Black students. Wally mentioned that while he had a great relationship with three supportive Black women in his program, he would have appreciated having a Black male to connect with:

"It would be nice to have another guy here for a guy level for motivation and stuff. Somebody I felt I could lean on. . . [The Black women] were good support, but at times I think you just need another male [while you are] . . . going [through the] process and I didn’t feel like I had that. . .the time."

When asked to talk about his experiences a Black male doctoral student, James states he felt like a “rare breed.” He explains:

"You feel like an endangered species. . . . You know there [aren’t] many of you walking around. . . . You know even when you see other Black guys, you respect them. . . . At the same time, a lot of them are undergrads. They’re still not into that completely endangered category. I remember when I was first at orientation, they
were like, ‘Eight percent got their bachelor’s in the world, five percent have their doctorate degree.’ I thought to myself, ‘I don’t even want to know how many of those are Black…men.’ You do feel as though you are a select few, in good ways and bad.

When he was asked about the racial diversity within his program, Charles said that he is “the only Black male” and there was at least one other Black woman in his program. While he wanted to keep a low profile on campus, he realized within a week of his arrival on campus that this was not going to be possible. He explains:

> When I look at it, and I think about how many people I met in my first week and how many people I could actually recognize, it was only a handful of people. However, everywhere I went people were like, ‘You're Charles,’ and I'm like, ‘Why do you know that?’ The only reason you know that is because of the [nearly 100] students that we brought in here, there's five, six Black people.’ I'm in this special [STEM] program. It's not hard to recognize who I am for everybody else on campus.

**Lack of Black faculty.** In addition to adamantly expressing their concerns about the modest number of Black graduate students within their academic programs and on campus, the participants were also aware of and disappointed with the absence of Black faculty. This sentiment was largely expressed when the participants were asked, “As a Black male what do you feel is missing from your program?” Charles stated, overall, though lacking Black graduate students, the graduate student population at his PWI in the Southeast was diverse. However, he mentioned that while SFU has a great understanding of student diversity, the institution was:
not so great at...facilitating an environment where they notice that there's a diverse world. [It's] not really an environment that's changing that world. Not only is there a diverse population of students who are interested in science but our faculty isn't really that diverse when you look at it as far as being [a Black male].

Walter expressed a similar sentiment and mentioned that both the faculty and student populations of his academic program were diverse. He noted that there was racial or ethnic faculty representation for most of the students within his program, with the exception being no Black faculty for the Black students to relate to. Walter and other participants expressed that increased numbers of Black faculty in academia would make them more comfortable:

[We] want to assume in this country that no one sees color, nor...race. We all see color and we all see race. As a...Black student, it’s probably easier for me to go to a Black professor and talk to them about certain things that I probably would not talk to a Caucasian professor about unless I felt comfortable with them at that level.

Walter felt it was extremely important for faculty to understand and relate to his experiences as a Black male. During our interview, Walter reflected on an experience in which he felt the cultural differences between him and his faculty advisor caused him to be frustrated and uncomfortable:

[My relative] passed. . .right around the same time my [child] was being born and I was getting ready for the qualifier for the first time, but I didn’t take it that year because my [relative] died literally two weeks before the qualifier. So I was distraught and mentally I wasn’t all there. I told my advisor at the time, “I [don’t]
think I’m going to take the test,” and he was kind of like, “Life happens and you can’t just stop life every time someone dies in your family.” And it’s kind of like the way he said it I was like “Whoa.” I kind of care about family, and family to me means something. . . . School is going to be my life later on, but I’m going to go see about my family. He literally was like, “I don’t think you should go to the funeral. You should just stay here and study for the qualifier because anytime something happens, you can’t just drop everything and just go.” And that kind of took me, and that’s why I say sometimes I think culturally some people are different. Blacks are real family-oriented a lot of times.

It was important to Walter that he had faculty that could relate to his cultural understandings on a personal level.

While disappointed at being the only Black male graduate student within his program, Kurtis appreciated that there were, although very few, other Black males within his department. However, he wanted the opportunity to work with Black faculty members within his department. He recognized that this was not only a problem at his institution, but other research-intensive institutions as well:

I think what it comes down to is more people who I can relate to. Specifically, I would say Black faculty members. That is the big thing to me that is lacking and I think that’s probably my experience and I would probably say that’s most top tier or research one institutions. . . . I think that is one thing that is certainly lacking from my
experience, because I think I’ve interacted very, very briefly with one Black faculty member here at [SFU]. . .in the. . .almost four years that I’ve been here.

Pete agreed and said, “I’ve never encountered a Black academic scientist that’s a faculty member, that [I] could [relate to].” Kurtis believed it was equally, if not more important to have Black male faculty visible on campus and within his program:

I think it does several things. I think number one is someone who you can relate to. I think it’s empowering in a sense and it can be comforting knowing that there is someone else who looks like you that may have had similar or probably had similar experiences that you’ve gone through and that you’re going through currently in grad school who are at essentially the highest level in academia, and so for that person to be visible is extremely important in just making someone feel comfortable and making you feel like you can relate to them.

Charles agreed and expressed the significance of faculty and students relating on a personal level. However, Charles stated that the experiences of the majority of faculty at his institution did not give them reason to nor provide them with adequate intentional opportunities to interact with underrepresented minorities such as Black males on a personal level:

I don't understand. When would they interact with someone who's not exactly like them? I don't know. . . . The majority of faculty members here, in [their] life, [have] had no reason to interact with someone who wasn't doing the exact same thing and who didn’t have the same background as [them]. You can see it. I mean, if you look closely at people's CVs and their resumes, you'll see that they went from UC, San
Diego, UCSF to Harvard, to MIT or something like that. At no point in your professional career have [they] interacted with anybody who’s [an] underrepresented minority on a significant level. . . . To me, that's important because there's a lot of underrepresented minority students who are interested in science, math, and even medicine. . . . Our preparation. . . . in life is different than someone who's been exposed to it since the time they're two years old because their parents are doctors, or their parents are scientists. When I look for people who would understand some of the things that I'm going through, it's kind of few and far between, especially here on campus.

However, Kurtis mentioned, “Every Black faculty member is not going to necessarily be an advocate for every Black grad student.” Nevertheless, he states that in addition to the ability to relate, seeing and interacting with Black faculty could be useful for Black graduate students considering faculty positions post-graduation:

    I think it’s empowering and it’s inspiring to see someone at a level even if the way we’re kind of trained to think as grad students, is that if you’re a grad student, you’re here to be trained to eventually become a faculty member somewhere. To eventually become a professor and start your own research laboratory and do high impact research. And so if that’s your goal, seeing someone who looks like you is going to be inspiring, and it’s going to make that goal look that much more attainable, that much more achievable, versus if I never saw a Black male faculty member at my institution or another institution then it might not deter me from looking towards that goal, but it
certainly wouldn’t empower me or make me feel any more motivated or inspired that I could reach that goal.

Pete agreed with Kurtis and explained that it’s important to have Black male faculty as “visual cues” to guide Black male graduate students.

Without necessarily being cognitive or aware of it, when you see somebody who looks just like you doing a certain thing, you feel that, in that particular position, you can do that same thing. . . . These kind of things. . . .subconsciously play into the way we behave or the way we perceive ourselves. I think seeing somebody who you aspire to be look like reinforces our belief that we can accomplish what we aspire to accomplish.

In addition to having Black faculty on campus, the participants felt that it was important to see Black faculty members in positions of influence such as running a research lab. Seeing and interacting with Black faculty on both a personal and professional level was empowering and inspiring for the participants. While the majority of the participants had similar experiences in which the population of Black faculty and students was modest or nil, one participant, Melvin, had a unique experience. Melvin mentioned that there were not many Black graduate students on campus, but his program was the opposite. Similar to the other participants, his program lacked the representation of Black male graduate students. However, unlike the other participants, Melvin’s program was very diverse including majority Black students and faculty. As a result of the racial make-up within his program, Melvin felt “at home.” He explains, “It's very motivational. . . . I feel like I'm at A&T
sometimes, especially within my department because we all look the same and we are very close-knit. . . . We get to travel to a lot of different conferences and. . .we all travel there together, so we all [have] this kind of family bond...”

Experiences Feelings of Isolation

The majority of the participants in this study were clear that they were not only minorities in the statistical sense, but they actually felt isolated. When speaking about his academic department, Kurtis provides some context about his feelings of isolation because of the lack of Black male graduate students. He mentions that he often feels secluded:

In my department, I would say I can think of two other Black people in my department out of. . .between 60 and 80 people, I think, and they're both women. So I'm the only Black male graduate student and there's one other Black male postdoc. [But] definitely within my department there are definitely times where I feel not excluded, but I feel secluded I guess. I feel like I could tell that I'm not the only one. I'm aware of it.

Kurtis mentions that his program is great academically because it is highly ranked; however he was concerned about the “social aspect” of the program. He explains:

I definitely feel distant at times as far as being a Black male. . . . I feel isolated at times. . . . If you look at the larger community outside of my department, there are other Black males and a lot of other Black people I can talk to in my department where I'm taking courses, where we have qualifying exams, where we have all these
different things that we have to do specifically for the department, there's not necessarily anyone in that same boat who I could talk to.

During our follow-up interview, Scott was asked about what he felt was missing from his program. After hearing this question for the first time, Scott paused for a moment and said, “I can't think of anything that's missing.” However, after asking, “What do you feel is missing from your experience as a Black male doctoral student?” Scott immediately laughed and stated that there actually was something missing:

Any kind of relatedness to, not just other Blacks, but just to Black culture, to my community, is [missing]. I don't feel a sense of community here. We talked a little bit about the sports. Even that, they're all into Soccer and I know nothing and I'm a complete outsider at Soccer. I feel like it's not really connected to my community.

Scott mentioned that because his university does not have a football team, soccer is very a very popular sport. However, he often found it hard to relate to other students who were culturally aware of the sport. He felt isolated as a result of his inability to relate and feel a part of the community. Scott reiterated his feelings of isolation in his attempts to form study groups with other students in his Applied Math course. He said, “As Black man, I found it difficult to make sub-groups or study groups or circles that we could study together and support one another.” He described it as one of the most stressful experiences in his academic program. This course covered a significant amount of information spanning from high school Geometry to college-level math. However, he admitted that the age difference between him and other students may have also played a role in his struggles to feel like he was a member
of the community on campus. Walter had a similar experience with study groups. He felt that his exclusion from study groups was, at times, “blatant:”

I could be in my office studying and I hit a block on something I didn't really understand…nor [did] anybody in my office understand it. So, I'll go ask somebody else. I'll be like, ‘Hey, can you help me explain this?’ They're like, ‘Well, I'm kind of busy.’ You know? You kind of the cold shoulder sometimes. They'll be like, ‘Oh, I'm working on something else. Can I help you a little bit later?’

Charles also felt isolated as a Black male within his academic program. He described a similar instance of struggling through a course:

It's in that same period in time when I was...struggling through some of the Biophysics courses as a Black male that made me feel very isolated. While they could struggle with the material and just know that they were only struggling with the material, I was struggling with the material and struggling with the fact that I'm struggling with the material. As a Black male, I can't struggle with the material. I have to be able to keep this door open. I've got to be able to succeed. Not only succeed, I have to succeed in such a way they're going to want somebody else from A&T to come and follow in my footsteps.

Charles’s feelings of isolation stemmed from the notion that other students didn’t have to face the same struggles as he did. While his counterparts may have struggled academically, Charles’s feelings of isolation stemmed from the complexities of also struggling with the material as a Black male. James’s also had feelings of isolation. Specifically, James felt that
his cultural perspectives on items such as current events and political situations were distinctive in a program where he was the only Black male.

The Role of Code Switching: “I don’t feel like I can be myself.”

In addition to feeling isolated, participants felt like they had to live two separate lives. They often mentioned how they had to code switch (i.e., modify their language in different situations) and abandon or hide significant parts of their identity altogether. Kurtis mentioned that he has had conversations with his peers in his program about the “unspoken rule” of code switching, which was something he learned in high school:

I think that...especially [as] Black males in academia and...the further you move up, you just kind of know...You heard [of] this word code switching. We all know that it’s an unspoken rule and thing that we’re all aware of. I feel like I was almost groomed to code switch, especially at high school, growing up in a [racially] mixed...and majority-White high schools before going to Morehouse. I definitely learned to code switch.

He shared that he felt that he could be himself “most of the time.” Although he code-switched, he believed that it was important to show his identity and culture as a Black male to his peers:

I make the effort to be my true self while I'm in the lab and while I'm around my peers so that they can be exposed to something different that they might not have ever been exposed to. I try to show them that I'm bringing something to the table and to challenge them in their ideas about what the norm is.
Though he made attempts to be himself, he was still uncomfortable and sometimes afraid of what others may think about him as a Black male doctoral student:

There are those times where I don't feel that comfortable and I feel like I may be judged or I may be looked at differently if I am myself. So, there are times where I kind of draw back and where I code switched and I won't be Kurtis…100 percent.

Scott stated, “I think I end up living separate lives, and that's...sad.” Pete associated his feelings with W.E.B. Dubois’s sentiments of dual-consciousness and his love for music. Pete said that he really enjoyed music, and specifically rap and hip-hop music, but he felt that this was a part of his identity that he had to hide when he was in an environment with his White counterparts even though he felt they were allowed to play and talk about the music they enjoyed. After Pete mentioned this, I asked, in situations like this, “What do you do to make sure that you are still going to be successful as a doctoral student?” Pete’s response was, “I just hide all of that stuff…I actually haven't fully determined how to figure that out. I definitely live two different lives.” He continues:

People always play music in the lab. I don't ever play my music. I always wear headphones. My music has a lot of curse words in it too. That could be another reason. But, yeah, I don't play rap music in front of everybody, but I always talk about rap music. . . . [At] the end of the day, I am trapped in an environment that does not really care about Black culture or think Black culture is some kind of off-shoot of mainstream America.
Wally mentioned that he once felt it was important for him to have dual identities in his academic, social, and professional environments. He stated that he was initially unaware of the behaviors that were considered to be appropriate around his White counterparts. He explained parts of his dual identity during the interview. He said, “I guess to kind of put it on a more direct level is like the Wally that you might play spades with [is not the same] Wally that you collaborate with on a research subject.” Wally mentioned that he was able to be himself while playing a card game, spades, which is popular amongst his Black friends. However, he avoided the same actions, words, and tones he may have used during a game of spades to express himself in a collaborative research environment. At one point during his doctoral experiences, Wally mentioned that he did not share with his White counterparts that he was socializing with other Black students:

I used to do stuff like go to Black graduate student events, but have to think of what I’m going to tell my lab mates when I get back because I was literally the only Black person in my lab for most of the time actually… I used to think, “Oh my goodness I don’t want to tell them I’ve been to a Black graduate student event.” So I’d just tell them I went to lunch. I’d be like, ‘Oh yeah, I’m going to [this place]…I’ll be busy later.’ I learned [to say], “Yeah I’m going to a Black graduate student event,’ and sharing that with them, and why that’s important to me.

After having made adjustments as a result of his experiences, Wally no longer feels the need to have a dual identity as often. He said, “Okay, look, I’m Black and I appreciate being Black
and my HBCU experience and just my background.” He continues, “I definitely, lately, [have] been more, just, Wally… I’m just a what you see is kind of what you get type person.” Wally talked about an experience similar to Pete’s, in which he felt that his music was unappreciated by his lab partners, but he felt that he was expected to value and listen to theirs:

> You’ve been trained to think, ‘I have to blend in, I have to…’ It’s almost shamelessly to say like a slave mentality, not ask and blend in, make it. Then like I said being a PhD is much about learning as it is about your identity. It’s important for me to be true to myself because that’s an experience for them.

Several of the participants also expressed that they felt their counterparts were able to express themselves freely by using profanity, drinking, and acting in a way that they felt would draw more attention if exhibited by a Black male. Charles felt that he had to always be aware of who was around them, and how he presented himself.

During our first interview, Charles described being yelled at by a faculty member in a public space during his first few days as a doctoral student. To provide some context, he did not take any biochemistry courses as an undergraduate but was interested in learning the material. He asked around and found that his peers were successful in taking the course, which gave him more confidence to enroll. After thinking about it for a while, he decided to enroll in the course.

> I was like, all right, I have a couple of electives. I'll take it at this point. The instructor for the course just came out of nowhere and berated me for about 15, 20 minutes in
the middle of the hallway about how I didn't have the background to take the course and that I was going to struggle. I should just drop it and not take it or go take all these other courses to get ready for it. The way [s/he] was doing it was very abrasive and very disrespectful to me.

Charles mentioned that he was definitely caught off guard by this experience, especially since he was new to the institution. He was puzzled that his instructor did not support him in wanting to learn more. He found this to be opposite of his HBCU experiences in which he mentioned that everyone was supportive, and was not going to create barriers for students who wanted to progress academically:

I remember just sitting and standing there and thinking that I just want to go off on this lady and tell her to get out of my face, but I knew that if I did that, it was going to have a negative repercussion from that day forward in my program. That's something I had to keep in mind and really keep my emotions in check and just block him/her out. I don't even remember how I got through it. I just remember sitting there [and thinking] why are you yelling? I didn't understand what I did wrong. Why are you yelling at me for signing up and taking this course that hasn't started?

Charles mentioned that he had witnessed his counterparts handle adverse situations like this differently:

I see other people just whipping out. They're able to talk and cuss and do whatever they want to do to get through their day. I really got to watch myself and make sure that I'm not overstepping my own boundaries.
As opposed to expressing himself as he usually would have, and mentioning, even respectfully, that he was offended, Charles chose to remain silent: “I sat there quietly and shook my head, nodded my head, and I didn't say anything really bad to her and just let that go away from me.” He mentioned that as a Black male, he feels like he is always in the spotlight and any perceived adverse reaction may have proved to be damaging:

“It's going to be impossible for me to do anything on campus, to do anything, to have any type of troubles without the entire community knowing about it. I thought, ‘I'm glad I handled it the way I did. If I had said what I really wanted to say to her, then this negative light would have been cast on me instead of just her.’

Similar to the experiences of some of the other participants, Charles struggled as a Black male doctoral student because he felt like he was always in the spotlight and could never go into “the background and disappear;” yet he found it difficult to be himself because of his fear of creating a chance for someone to be prejudicial and “[closing] the door” on opportunities for both himself, and Black students coming after him.

Charles also described how being an introvert was useful at times a Black male doctoral student:

“I've been in plenty of situations where definitely having my introverted personality has helped me to really understand the entirety of the situation and not get caught in the moment. For our graduate program, I'm around people who like to drink. They like to go out and go to bars and…happy hours…. Because I'm so cautious, I really take the time and think about what's the big picture here. We're not just going out for
drinks. We're not just going out to have a happy hour. Although, that's what it's presented as, everything that I do is being observed and watched by people, so maybe I just shouldn't drink.

Charles stated that he always had to be “on” and couldn’t take a day off because an “off” day could prove to be detrimental to his networking and providing opportunities for other Black students. He mentioned that he always wanted to present himself in the best light. Charles felt it was important for his non-Black counterparts and faculty to know more about him as a student, than socially. He explains:

I don't want to drink with my PI. I don't want to have a glass of wine or go out for a beer. I don't want to do that, because I know that I'm not really comfortable with that level of familiarity with...my PI. ... The people who are around me, I'm not comfortable enough with them to present that part of myself. Being an introvert keeps me protected from too many assumptions by other people. I'd rather them assume that they don't know anything about me, than that they know everything about me.

Encountering a Chilly Climate

The participants are in academic disciplines at institutions that have been described as “chilly” for Black persons as a result of the overwhelming White population and historical context which has been geared towards the success of that population. Two primary subthemes emerged from the participants regarding their experiences of a chilly campus climate as Black men including: 1) perceived experiences of racism and 2) being perceived as inadequate by individuals on campus.
**Perceived experiences of racism.** Several of the participants were adamant about the notion that they have been the beneficiaries of racism. Pete mentioned that these experiences are “extremely annoying” and they happen so often that they “really drive [him] crazy.” Pete spoke about a perceived racism he experienced while riding a bus on campus:

When I get on the bus and nobody wants to sit next to me, it's extremely annoying. . .

You might think that's nothing, but every single day I get on the bus and I'm the last person anybody wants to sit next to. I’m the first person, [on] the first [bus] stop. . . . We have parking lots that you can park at, then get on the bus and then the bus takes you to campus. I go to the parking lot. The people at the parking lot are the first people on the bus. There will always be empty seats, so you can sit down. Then you stop at the other bus stops. Nobody wants to sit next to me ever. I remember one time it was absolutely packed, standing room only, people stood in the isle. The seat next to me was empty.

Pete felt that people did not sit next to him on the bus because his was a Black male. He felt that it was important that he made his colleagues aware of this experience:

I took a picture. I took it to school and I showed people because I’m always talking about race. I'm not really scared to talk about race. . . . I don't care. I got to deal with it, so you should deal with it.

Pete explained the situation to his lab mates. He said, “I told you things are racist. Nobody ever wants to sit next to me on the bus.” Pete was surprised at the response he received:
The first thing they do is try to justify the actions of the people not sitting next to me.

‘Oh maybe you smell bad.’ Or ‘Did you just come back from working out?’ ‘Nah, nope.’ ‘Well were you wearing a big jacket?’ ‘Nope.’ Why can't you just be like, ‘Ah man, that's messed up?’ They always want to defend it and it just frustrates the crap out of me.

Pete mentioned that he also experienced racism by individuals who are not directly affiliated, but interact with students, faculty, and staff on campus. He described an encounter he often experienced with package delivery employees. Pete mentioned that that they never stop him for help, and he feels that his race has something to do with it:

[They] always come in. They never even stop. I don't care how lost somebody is, they will walk past me over and over again looking for a White person to ask where their place is. . . . What they are doing is. . . .looking for visual cues that allow them to identify a person who has information for where to go. Those people are probably scientists in the lab. They're looking for what looks like to them would be a scientist, which is a White person, maybe wearing a lab coat, maybe not. They walk past me and they quickly look and they're like, ‘[He doesn’t] fit into that form that I'm looking for. [He doesn’t] have the cues that I'm looking for.’ I am a scientist, but I think that's just how the mind works. This is done by Black people and White people alike.

Though Black and other underrepresented students are now more visible in STEM fields, their experiences are still vastly different from their White counterparts. Thus, initiatives and groups that aim to support such students have been formed. The participants
expressed that, in some instances, their colleagues questioned initiatives that focus on supporting underrepresented students. Though Wally was very accomplished both academically and professionally, he mentioned that during the beginning of his doctoral program, he had very little confidence and depended on the National Society of Black Engineers (NSBE) to support him as a new Black male student on campus. He describes a conversation he had with a colleague about NSBE.

To be honest, if you didn’t know any better you would say he was racist…He was definitely. . .one of those White guys who was like if we had a White institution for engineering people it would be an upheaval. I was like, it’s called the Institute for the Electrical and Electronic Engineers. That’s the standard organization [and] it’s White. I was like. . .all of them are White organizations. It’s just not written. That’s why we have to let you know we are a Black organization, not because that’s the predominant force, but because that’s something that ties us together.

Wally expressed that he was offended by his colleague’s comments. However, he stated that he did not allow his colleague’s comments to be the perspective of all White persons that he may encounter at his campus. He explains, “I was like he’s just underexposed. I took it as a lack of knowledge and maturity on his behalf as opposed to letting the offensiveness overwhelm me.”

Walter felt that his institution used the rising statistics of Black PhD graduate students for marketing purposes, but failed to support Blacks adequately during their experiences.
They...tell you...yeah they graduate a high rate [of Black PhDs] and they admit a lot of Black students, but they don’t tell you about all the ins and outs and hell that they put the [Black] students through to get out of that institution with that degree.

He credits the perceived racist environment as being the catalyst for the negative experiences of Black PhDs:

It’s kind of like a rite of passage in order to be able to say that you’re a doctoral student and to say that you achieved a doctoral degree from a predominantly White institution. It’s kind of like one of those unwritten rules that you just got to endure. There’s not much you can do about it because racism still exists and as much as they may make the opportunity for you to get [into graduate school], they didn’t say that they was going to let you graduate.

When asked to describe a specific experience, Walter talked about the perceived racism he endured from a faculty member:

My first year, I took a course. The major professor had graded the papers and I got back my exam. I looked over it and certain things [were] right and he marked them wrong. Then when I went to go talk to him about it, he told me he wasn't going to talk to me about it and it is what it is. But then, he let another student...of a different [race or ethnicity] and...gender...speak to him... When she saw him, I looked at hers and looked at mine and we had the same exact answer... I was like, ‘How is it that he graded hers wrong, graded mine wrong, but gave her the points, but refused to give me my points, and we had the same exact answer?’
Walter seemed to be perplexed yet frustrated by this experience. He decided to speak up about the issue by speaking to the chair of the department. However, Walter felt that he “ruffled some feathers” by taking this route, and he has had an even harder time navigating the program since this experience because the professor he spoke about is now in a position of power and influence within his department.

The participants described experiences in which discussions involving politics and other social matters in the media emphasizing race created chilly environments. James described a conversation with his peers regarding the heavily-publicized criminal case of Trayvon Martin and George Zimmerman. Martin, a 17-year-old Black male, was killed by Zimmerman, a 28-year-old mixed-raced male who identifies as being White. Though James was not focused on the legal process, he was upset that his colleagues failed to acknowledge the racial profiling that he recognized in the case. James felt that the conversations in his academic setting regarding the case created a chilly environment for him. He mentioned that he was afraid to state his feelings on the case fearing retribution:

I didn’t say anything, because I didn’t want to lose a friend. I knew I could have lost a couple of friends, if anybody I was cool with, would have said something at that, period. That’s a good point. I just don’t say nothing, because I don’t want to lose my cool.

When describing his experience of being a Black doctoral student at his institution, James mentioned that there are both good and bad ways his race and gender impact his experience. He explains:
The bad way is, if I had a concern that affected me as a Black male, good luck trying to get that addressed. . . . Something as small as a joke. . . . Because there’s only one of you, and there’s 50 people in the room, not enough people are going to really care enough to say, ‘Hey,’ they just start laughing at the joke.

The jokes he was referring to were about President Barack Obama. During the presidential elections, he mentioned that he experienced racism from his White counterparts. Again, he mentions that he does not speak up in these instances. He states, “Just being the only Black male there isn’t enough for you to really get your voice heard, in any kind of discussion that may be opposed to Barack Obama, a Black man as president.”

When asked to talk about his experiences as a Black male doctoral student at his institution, Charles had a similar response. He stated that it can be a “great” experience, but being a Black male also yield some undesirable experiences. One of the negative impacts is the perceived racism he experiences when interacting with faculty members from different countries:

A lot of the faculty members have come from countries that have a hierarchy in their own country, among their own race, about who's better than who[m]. Interacting with those faculty members can be very frustrating, because . . . sometimes they actually look down upon you, because you're not a part of their race, and you're not a part of what they deem as the upper echelon of society. I've had a couple of interactions where it's been very difficult dealing with faculty members that put you in a box
before you speak to them, before you say anything to them. They do so in such a way that makes you feel a little bit inferior and a little bit upset and pissed off.

Charles mentioned that during these experiences, he thinks to himself, “Why are you treating me like that? I worked just as hard as everybody else to get here, just as hard as any of the other students, and I don't appreciate that you're treating me like I'm less than.”

Kurtis mentioned that he and his lab mates often talk about their personal lives and have political and philosophical conversations. In describing a stressful situation, Kurtis discussed a conversation in which he heard one of his lab mates make a racially insensitive comment:

I heard one of my lab mates... [say]...some racially insensitive remarks and not even about Black people. It was about Asian people, but I took offense to it and because part of what I was hearing was that she could have applied the same thing to my race and so it was offensive to me in that way, but also it was just generally offensive.

Similar to James, Kurtis chose not to state his feelings about the situation:

So, instead of making a big fuss about it, I went to the people who I related to most, I went to other Black grad students and just kind of like, ‘Man, you won't believe what I heard’ and they're like, ‘Yeah, I hear that all the time.’ I was able to vent about it. I was able to get advice about how to handle that situation the next time that I was in it.

**Being perceived as inadequate by others.** In addition to having perceived experiences of racism, the participants also perceived that others felt they did not possess the academic capability to be successful students. Walter explains:
Being a minority, especially an African-American, it's kind of in a sense that we're already seen as being, I guess you could say, incompetent to some, and you have to try to overcome that by proving that you actually belong. . . . Prime example, when you have conversations with certain people, you could tell that they don't feel comfortable having that conversation, and then in certain instances, you know, like if you go to ask a particular student for help on a particular problem, they kind of give you that look like, ‘How do you not know that?’ It's already a notion that other nationalities already feel as if African Americans seem to be somewhat of a lesser intellect than others.

Several participants could recall instances in which their peers were reluctant to include them in study groups, or collaborate on homework assignments. James mentioned that he can generally tell who students felt were knowledgeable:

You’re not automatically assumed to be one of the people who know what they’re doing. You start, and you have to prove yourself. . . . We do homework, and before we turn in our homework, it’s just commonplace for people to try to compare their answers. ‘Hey, what did you get on this, that and the other?’ . . . And you can tell who people think are smart, based on who they ask to compare their answers to. If I think [Student A] is right, I will say, ‘[Student A], let me see how you did number three.’ So the night before the classes, you can see the people go to the people that they actually think know what they did. And so it’s not that people would actually push me away, but at the end of the day, coming to me and like, ‘Hey, do you want to see my
answers? Do you want to see what I got?’ As opposed to, [me asking] ‘Hey, what did you get?’ When people are trying to compare notes, compare answers, people typically go to those who they believe did it right. And you could tell by the frequency in which they come to you, or they go to somebody else, basically their idea of kind of who’s where you are, in terms of understanding.

James described another instance in which he felt that others perceived him to be inadequate because of the way that he communicated as a Black male. Though he knew the academic material, there were times in which he would raise his hands and explain it using, as he called it, “non-technical” language, and receive a lot blank stares from his classmates.

Despite the perception of inadequacy, the participants believed that they were academically capable, and deserving of their opportunity to be enrolled as a doctoral student. Charles stated:

I've always felt that I'm exactly where I'm supposed to be. I've worked hard to get here. I know for myself that I've worked hard and I know what I've done so far to get here is legitimate. I hadn't taken any shortcuts.

However, though participants like Charles felt that they worked hard and possessed the academic capability to succeed, they were perplexed that their colleagues questioned their ability and work ethic. Charles states:

One of the reasons that's kind of complicated is because although I know for myself, one of the things that I always kind of felt is that other people don't see that the same way that I do. Sometimes, other students wouldn't. . . give me the credit for being here
although I have always given myself the credit. I know it takes a lot of work to be
where I'm at. . . I guess the best analogy for that, is that I know I'm not a criminal. I
know I would never steal anything from the store. That doesn't mean that when I go
to the store, I don't notice that people would sometimes follow me around.

Experiences of perceived inadequacy by others were also encountered off campus. Melvin
discussed an experience in which he was enjoying a night out downtown and interacted with
some White undergraduate students. During the conversation, he told them that he was a
doctoral student. Melvin states, “After I told them I could tell, their whole facial expression
changed. . . When I say I feel Black, I can see that people here don't really expect for me to
be doing what I'm doing.”

This presence was also felt in the classroom as an instructor. Walter felt that his
students questioned his teaching ability and publically challenged him because of his being a
Black male:

Another thing that was kind of different was, being in the classroom and the
perception of some of the students. Here I am [a Black male teaching] at a
predominantly White institution with a class of 60 students and probably 52 of them
are White. . . [I'll] make a statement in class and [I'll] basically try to prove a point
and then a student will basically try to say, ‘Oh, well, that's wrong.’ [I'll] be like, ‘No,
it's right.’ Then [I] basically have to prove to them that [I’m] right, because they're trying. . .to show that [I’m] incompetent. But you can kind of tell it's based on racial
lines. It's not more so on merit. It's more so racial. . . . But as the semester went on, they kind of realized like, ‘Oh yeah, this dude, like he knows his stuff.’

Though their intelligence is often questioned, the participants mentioned that they still try to keep a positive attitude. Pete explains:

If I'm in a room full of people, I'm [usually] the only Black person. . . . There are a lot of problems that come from that. There's always this question of your intelligence that other people don't go through. I'm fine with that. . . . That's cool with me. It bothers some people, but I definitely have seen [it]. . . . I always feel good.

**Intrinsic Inhibitors of Success**

The participants recalled several instances in which they felt inhibited as Black male doctoral students. Some of the participants questioned their merits and the motivations of their institutions as Black male doctoral students. The participants were appreciative of the opportunity to reflect on their experiences and to speak to me about them. Kurtis shared a story about how he felt inhibited by his department’s motives of recruiting and retaining minority students. Prior to telling the story he states, “I never shared this to anybody.” Kurtis explains:

I feel like the department is thirsty for more Black students and I think they want their Black students to do well. . . . We had a departmental retreat last year was a postdoctoral award for best talk or best poster for a postdoc and best poster for a grad student, and me being the only Black male grad student and [my colleague] being the only Black male postdoc, we both won that award. The day after. . . .there was [an
individual] from [his PWI in the Southeast] who was talking about [a STEM related program for minority students]. . . . Our chair was really just excited and you could tell that s/he was really hoping that our department would make a good impression on [this individual] and that [s/he] would see that our department would be a really good ally for this program because that will mean more funding for our department. . . . I think there's some correlation between getting more underrepresented minorities into our department in the way that we could get funded and so [we received the awards] just after that talk and about how important having underrepresented minorities was a big deal and how that was important to the department. I do think the postdoc had a great poster and I'm sure he deserved [the award] and I believe I deserved my award as well, but it was also that question of whether or not those awards came from my department and our chair. The chair of my department wanted to make a good impression on this [individual] who had just presented it and also kind of seizing an opportunity to present two minorities. I think that's often the case where you don't have a lot of minorities in any program and oftentimes you look at the website and here goes that one minority who is in the program. They pop on the website, they pop up on a brochure, or they pop up in a recruitment thing and so it was one of those things that made me wonder. I can't honestly say I don't know that they truly, truly value underrepresented minorities and that's really the goal or if there's something else that there might be ...like f they want underrepresented minorities for some personal gain so to speak.
Kurtis’s self-consciousness seemed to constrain him. Though he felt deserving of the award he and his colleague received, he questioned the motives of the department which impacted his perspective of his doctoral experience. This may provide context for the “self-doubt” Kurtis experienced in the beginning stages of his doctoral program. He states the following after talking about how important it is to for him to recognize his success as a Black doctoral student:

Honestly, I doubted for a long time that I would actually get to this point. When I entered grad school. . .I was challenged with course work and doing rotations in different laboratories trying to find a thesis lab. Throughout that entire process or at the beginning of that process, and really throughout it, I was doubtful of myself of being able to get to this point. I questioned myself whether or not I was capable of getting to this point. So, finally getting here is pretty incredible to me thinking back on my mindset, thinking back on the fears and the doubts that I had early on in this process. It almost feels like a miracle that I’ve made it this far.

After being asked, “Have you considered leaving your doctoral program?” Wally chuckled and stated, “Every day.” He mentioned that he felt this way as a result of heavy pressure he had placed on himself to succeed.

**Keeping the door open: The pressures of being a Black male doctoral student.** I have to be able to keep this door open. I've got to be able to succeed [Charles]. Though being a Black male motivated some of the participants, there were instances in which this very motivation turned into an intrinsic pressure to succeed and inhibited them. During both
interviews, Charles consistently mentioned that it was his job to “keep the door open” for other Black students. He describes an experience in which he struggled in a course and felt isolated because he felt that his academic struggles were amplified because he was a Black male:

While they could struggle with the material and just know that they were only struggling with the material, I was struggling with the material and struggling with the fact that I'm struggling with the material. As a Black male, I can't struggle with the material. I have to be able to keep this door open. I've got to be able to succeed. Not only succeed, I have to succeed in such a way they're going to want somebody else from A&T to come and follow in my footsteps.

Charles continued to describe this experience during a different part of our interview:

My struggles with the materials of the course were exacerbated. . . . They were multiplied by the fact that I also carried this intense pressure to do well and keep the door open for everybody else that was coming after me. Struggling in a course, for me, was just multiplied by a factor of a hundred, a factor of a thousand because of this internal pressure to do well.

One day, Charles was getting help with the course material from his professor. During this conversation, Charles’s professor stated, "I don't understand why you're struggling so much with the material and why you seem so frustrated that you're struggling, because it's something that I've never seen before." After learning about his internal pressures to succeed, Charles’s professor began to have a deeper understanding of his struggles. Charles mentioned
that his faculty became a resource for him during that time. Before then, Charles stated, “I was pretty much carrying the burden and the load on my own.”

Prior to being accepted into his doctoral program, Pete had to take pre-requisite courses and received a couple of rejection letters for graduate school. Pete described this process of getting into graduate school as a “weed out” experience. After going through it, he felt that he was under a microscope and began to feel the pressure to be successful so that other Black students could gain admission into graduate school:

“It was kind of weird because I didn’t necessarily realize how much under a microscope I was and how much was riding on me succeeding. I thought I was just working from my own ability to get into graduate school. I didn’t know my success meant other people behind me were getting into graduate school.”

Wally also talks about the compounding pressures of struggling, and doing so as a Black male doctoral student:

“I feel like if I were not at [this PWI in the Southeast] I would probably be more motivated because I might have something to prove, but sometimes it can double back and I’m like, there’s all these other people here, Black, doing well and I’m struggling. . . . Initially I wasn’t focused on being plugged in as a Black male. It was more the sense of I got to get it done. [Regional Technology Institute] adds this additional component for me in general because [I’m an] electrical and computer engineer who’s Black. There was this additional component of expectations,”
excellence and things that I placed on myself being at Regional Technology Institute. I don’t want to embarrass us Black folks, Black men engineers, I don’t…

Speaking about his experiences at a prestigious summer internship and experiences at his institution, Wally mentions that being a Black male has been both a liability and an asset:

That kind of goes back to getting to a certain point at least for me and my career comprisal of, ‘Look I’m Black,’ and kind of switching from it being a liability to an asset because there’s definitely times when it’s…more of a liability. I wasn’t as prepared, I wasn’t supposed to be here, my dad isn’t a doctor or whatever, like some other folks I talk to. . . . I mean, in one hand, I was expected to be here. . . . On the other hand, it’s kind of these environmental factors and things that I started paying attention to and that became more prevalent.

Some participants also felt inhibited by hearing grim statistics about doctoral program completion. While expressing his thoughts on feeling like a “rare breed” as a Black male, James states:

I remember when I was first at orientation, they were like, ‘Eight percent got their bachelor’s in the world, five percent have their doctorate degree.’ I thought to myself, ‘I don’t even want to know how many of those are Black men.’ You do feel as though like you are a select few.

Wally states a similar thought while answering a question about doctoral student expectations:
When I stop and try and think about the magnitude [air quote gesture] of what I’m doing, it becomes a bit overwhelming. I’m trying to get a PhD, what’s my motivation? For me actually hearing statistics demotivates me sometimes. It’s like only this many Black males get their PhD so it makes me feel like this process is so obscure or when in reality it’s just a choice. It’s okay, this is a choice, if you want to do it, do it. This is how you do it. I have to try and constantly focus on that because something that’s kind of been engrained in me was the magnitude of this which for me doesn’t really board well because there was no magnitude component to me in coming to [Regional Technology Institute]. There was no magnitude component to me when I was considering going to Stanford, those were expectations for me.

Several participants felt inhibited by the notion that they were considered to be representatives for all Black persons as they were often the only Black student in a class or doctoral program. Scott states the following when asked about the impact of his race and gender on his doctoral experience: “The elephant in the room is that I feel like I have to carry the torch for all Blacks. As I understand, this institution has only given one other Black a PhD in engineering in their 50-year history.” However, at times, Scott mentioned that he was “strangely relieved” by being the only Black male in his program:

The pressure of if there were other Blacks and they did something bad, then I don't have to speak for them or carry that burden. In that way, it's good that I feel that I sink or float on more of my individual merits as opposed to a whole racism merits.
Feeling like an imposter: “I feel like I have somehow snuck into this program and fooled everybody around me.” The participants talked about feeling like imposters in their programs. Individuals experience the imposter phenomenon when, despite their hard work and success, they feel that they have deceived others into thinking that they are more capable or smarter than what they actually are. Their success is attributed to factors unrelated to their intelligence and true ability such as working hard or knowing how to please others. Such individuals constantly fear that others would one day find out that they are frauds. I asked Melvin has he had to overcoming any obstacles in his graduate program and he said, “sometimes from the Imposter Syndrome. You ever heard of that?” He continues:

I have a real bad case of Imposter Syndrome and I really haven't figured out a way to get over it, other than just erasing it from my head. . .just taking that thought out of my head because I feel like if I'm here, that I got to be one of the best. Everybody can't do what I'm doing. Then again, I look at some people and feel like they're smarter than me sometimes, but still then I think, ‘Well I am here. My advisor, he brought me here for a reason.’ It's kind of like a personal pep talk I guess I can give myself.

Kurtis expresses his thoughts on being an imposter after confirming that he considered leaving his doctoral program:

I don’t know that I’m unique in that feeling. I think being challenged the way that we are as doctoral students of any race or any gender, I think is challenging and I guess for me, I questioned whether or not. . .I belonged. . . So I feel like I have somehow
snuck into this program and fooled everybody around me into thinking I deserve to be here, but in actuality I was feeling like, you know what, maybe I’m not. I think these other people around me may be smarter than me. Maybe they’re more capable than me, and so there were times when I definitely doubted myself and in those moments, I definitely questioned whether or not I should be here, whether or not I wanted to go and do something else.

Kurtis’s feelings of being an imposter made him question whether he should continue with his doctoral program or quit before he is recognized as a “fraud.” Walter mentioned that his feelings of being an imposter were invoked as a result of his experiences of living in the South as a Black male: “I think sometimes my prism being raised in the South makes me self-conscious about others, and it kind of makes me...think that I have to prove that I am adequate and that I belong.” Wally mentioned that his attending “a smaller HBCU” invoked feelings of being an imposter. He stated, “[I] keep them at a distance so they find out I snuck in or whatever or fake it till you make it almost.”

Persevering Despite Obstacles. “It’s been very rocky, very bumpy, very up and down, but I’ve just continued to move, to push forward...” Several of the participants talked about the importance of persevering. They were determined to succeed despite any difficulties they encountered. Kurtis explains:

I would say my experience has not been an easy one. It hasn’t been, and I think a lot of times people kind of look at you and they think that things are just coming easy for you, and you’re kind of zipping through life, you’re zipping through grad school or
whatever it is that you’re doing. And maybe you’re faced with the same thing where people are like, ‘Oh yeah you’re doing a PhD. Oh man that’s really cool.’ And they kind of just assume that it comes easy or it comes natural for you, and for me it hasn’t been that way. It hasn’t been just easy. It hasn’t been a breeze. It’s been extremely challenging for several reasons. There have been times where I wasn’t supposed to pass at least one of my courses. I can tell you there’s one course I bombed a couple of exams huge exams. . . . It’s been very rocky, very bumpy, very up and down, but I’ve just continued to move, to push forward, and it’s working for me, and so I think just doing was working for me, and trying to stay focused on that has helped me and has gotten me through so far.

When asked, “Have you ever considered leaving your doctoral program?”, Scott answered with an emphatic, “No.” He then explains why perseverance was key in staying in his program:

I think that for me, one of the qualities that my parents instilled in me was just, ‘Don't ever, ever give up. Be a man of your word and finish what you start.’ In my head there's really no option but to just, no matter how bad it is, stick in there and press through.

Pete talks about sacrificing and persevering in order to be successful. He also mentions how persevering through the doctoral process “changes who you are:”

I think people just say they want to be successful, but they don't really understand that you have to sacrifice a lot. . . . I think back when you go back to tell people, I don't
think they completely grasp what they are saying and what they say they want. They say, ‘I want to be successful.’ But, I don't think they really want to be successful because I don't know if they necessarily want to change who they are. When you go through this process, you don't come out the same as you came in because you have to sacrifice. You have to give up little pieces of yourself and you have to acquire different pieces. You have to change things. A lot of it is painful and I don't think people want to go through those pains and those struggles to actually be successful. They don't want to work twice as hard as the person next to them who just received the same thing. They are not willing to do that. I can see that when I talk to people. When I go into questions that they ask me, ‘How many hours a week do you work?’ Every day is a work day. I don't think they really completely grasp that concept, but some do. It's very rare, but when you're at that conference and you see that one Black dude on the other side of the room, that's the other person that understands it is tough. I don't think people realize how tough it is.

When asked how he navigates the institutional climate, Wally first responds, “I can’t say I’ve done exceptionally well at that.” However, he continues to explain that perseverance has been key in successfully navigating the institutional climate:

The probably truest and most correct answer to that question is not quitting. I can’t say I’ve done anything specifically that [I could] say, “Okay, these are my keys to success.” It’s definitely been a journey of perseverance, taking the punches, learning
as I go, dealing with the struggle and the challenges as they arise whether real or perceived.

Wally also mentions how perseverance is key when talking about his greatest accomplishment as a Black male doctoral student:

I would have never believed that I probably would have been still hanging in here after going through so much or maybe hearing other stories and thinking, ‘Oh my. I'm good, I'm good. I'm on top of my game.’ Coming out of undergrad, I'm going to do what I got to do and get out. Then [I] realized that, that road wasn't a straight line. It was curves and rocks and all of that other stuff. So, just the simple fact that I'm sitting here having this conversation.

When asked to describe what it takes to be a successful Black male doctoral student in his program, Walter stated:

Perseverance, man. You got to have determination. You have to be willing to accept the unacceptable. You have to be able to accept the fact that everyone's not going to like you. You have to be able to accept that everyone's not going to work with you or help you to be able to get through the program. You're going to have to be able to have self-determination.

**Taking Strategic Actions to be Successful**

In addition to reflecting on and making meaning of their experiences, agency requires that the participants take action toward advancing their goals of obtaining a PhD as Black
male doctoral students (O’Meara et al., 2012). Three subthemes emerged. The first subtheme is practicing self-care as an African American male. In order to be successful, the participants took action to take care of their physical, spiritual, and cognitive needs. Such actions included seeking spiritual guidance and therapy in addition to balancing their personal and work lives. Another subtheme that emerged was that participants relied on their savviness or “played the game” to be successful. Savviness involves understanding the institutional culture, politics, and the perspectives of others about them as Black males. In being savvy, the participants chose to pick their battles. They felt it was important to understand when to make a big deal out of an issue and when to speak up because of the potential consequences of them being Black males, and the participants found ways to learn and adapt to the culture and politics of their institutions and programs to be successful. The last subtheme that emerged was that the participants believed that building supportive relationships was important to their success as graduate students. The participants networked and developed meaningful relationships with others. In this section, I will provide passages reflecting the participants’ statements on taking action to be successful as a doctoral student.

**Practicing Self-Care as an African American Male**

*Seeking spiritual guidance.* Three participants explicitly detailed how connecting to a higher power was significant to their success as graduate students. Wally sought assistance from a higher power on his third attempt to pass his qualifying exams. After putting a great deal of effort into studying, he counted on prayer. Wally mentions how seeking assistance from a higher power increased his confidence:
Two semesters before, I took [my qualifiers] and I was trying to purely focus on that disaster. I came close the second time though. I think I missed it by like 5 or 10 points or so. But when I took it the third time, I did have to say a prayer in the middle... once I did that and regrouped, I knew when I left out of there, that I had passed the test. I didn't even wait for the results, I was like, ‘Yeah, I passed,’ Everybody was like, ‘What? You passed...’ ‘I passed.’ They was like, "But they..." ‘I passed.’ I was like, ‘I passed.’ We've been in school long enough, you know when you’ve passed a test. You know sometimes when you're questionable about a test. You know sometimes when you're like, ‘Lord going to have to see me thought because I don't know what I put down on that paper.’ And you get surprised...I knew I passed the prelim though.

After ending our first interview, Walter and I continued to talk. At one point, our conversation circled back to his doctoral student experiences. By that time, I had turned off the recorder and ended the interview. After asking his permission to restart my recording device, he stated the following regarding his spiritual guidance:

I used to call my grandmothers all the time for just encouragement and let them pray because I just needed it. . . . I became more spiritual in graduate school than I was at undergrad because you go through a lot more in graduate school than you did at undergrad. . . . I’m not going to say undergrad came easy, but math and science were my areas of studying that I always exceeded in as a child, so undergrad was easy. When I got to graduate school, it was so much difficult to deal with, I kind of got more spiritual. I started going to church more, reading my Bible more, I used to call
my grandmothers and have them pray for me and have them to read scriptures and words of encouragement that kind of helped me through what it is that I was going through which was something that I really didn’t do in undergrad because it wasn’t as much stress and wasn’t as much struggle.

Walter reemphasized the importance of prayer at the end of our second interview when asked, “What strategic actions have you taken to be successful as a black male doctoral student?” He replied:

Prayer. (Laughter) Like I said before prayer, faith, making sure you stay connected to family, positive influences. I think as a doctoral student everything is mental and part of the mental is making sure your spiritual is correct in order for you to have a sound mind to what it is you need to do. So for me it’s having faith that God is going to see me through everything that...that I’m going through.

When going through a stressful moment as a doctoral student, Charles sought spiritual guidance when other outlets were not working: “I talked with someone in the community and went to church. Normally, what I'd do is go to church and pray and...that helped me navigate the stress level that was in my life and helped me get over that.”

Balancing work and personal life. Several of the participants stated that it was important to balance their work and personal lives to be successful. Kurtis stated that he sought advice from others to “get over” the imposter syndrome. One of the pieces of advice he received and used was to “take a break:”
I would talk to them and just tell them how I was feeling, and a lot of times they would relate to me and give me advice [like], ‘Hey look, sometimes you have to take a break.’ Sometimes it’s good to take a little break, get your mind off the science and then come back to it, and when you come back refreshed, you can feel re-energized by taking that time off and then coming back to the science because it can be overwhelming at times.

During our interviews, Pete often stated that it was viewed negatively if he were to devote any of his time to any activity that was not directly related to science. Though he often felt supported by his faculty advisor, he mentioned that he had to hide his involvement in extracurricular activities:

I have to do the work that is expected of me. It's really tough. It's really stressful. I do a lot of running around, sitting in meetings, and looking at my watch knowing that I have to be somewhere, but I can't tell him that I have to be somewhere…If I'm sitting at my desk and I have a meeting that I have to go to, I can't tell him that I have to go to a meeting because he would be like ‘What meeting?’ I could never tell him I'm doing all of these other things. All of his support is specifically science. He doesn't really think anything else is really important. After I finish [my PhD], I want to go into science policy, but I have yet to tell him because I think he wants me to go on to be…an academic scientist.
However, though stressful at times, Pete mentioned that it is important that he excels academically, but also makes time to be involved in extracurricular activities that are important to him:

I'm in a student leadership position. I have served on every single level of graduate student government. . . . Now, I'm president of a group. I'm the Vice President of the Honor's Society I just described. . . . I feel like I represent my peers and I advocate for graduate students. I'm a delegate [for a graduate student advocacy organization]. . . . I have been able to do things that no other graduate student has ever done before. It's not necessarily as far as my research is concerned, but I was able to [be a founder of] the science policy and advocacy group, which is a campus recognized organization.

Wally mentioned that he noticed a difference in his attitude and minimized his stress after balancing his work and personal life:

[I] joined the Student Government Association, and was on the executive for the Black Graduate Student Association. I took on all these different roles at once coming back in the fall of 2011 and that’s when I did my best. . . . Things just came together. I passed my PhD qualifiers that semester and so in that sense it kind of made me realize that I need a diversity of things in my life. That’s just how I function. I don’t function well with just a singular task. . . . I have [to have] things that are important to me in terms of pushing diversity, helping others, and so I have to have that healthy mix for me in terms of being successful. Something even as simple as doing this interview. That could double back on me because it’s something I really wanted to
do, but I told myself I didn’t really have time because I have to do blah, blah, blah. But when I’m doing blah, blah, blah I’m really not as efficient because I’m distracted by not doing what I really wanted to do.

When asked, “What strategic actions have you taken as a Black male to be successful as a doctoral student?” Melvin stated the following:

Trying to keep a balance of school and life because it is hard. I don't want to just get too burnt out…I have an agenda or a schedule that I go by. It's something that I'm actually dealing with now because I have never been that person to have a calendar full of stuff or just have an agenda of what I am going to do that day. It's hard if you don't do that while getting your PhD because there is just so much stuff going on.

When asked about the advice he would give himself when he began graduate school, Charles stated, “The thing that I would tell me is to start each day working hard with the right goals, but also to stay balanced.” Initially, he did not have this balance because he worked extremely hard to “keep the door open” for other Black graduate students. However, he realized that this pressure became stressful. He now has a different approach, “Normally, if I'm stressed from schoolwork, I'll just go play basketball or go play tennis or go lift weights. That's usually enough to get rid of that.” Charles also felt that it was important that others he worked with had a sense of balance. In addition to choosing his faculty advisor because of his interest in his researcher, Charles chose his faculty advisor because he felt he had a balanced life:
Graduate school is important, but he also has a family and kids. They go on vacations. They have this balance. He has this balance in his life that I could see as a balance that I would like to have in my life in the same way. I don't want to be so pressed in science to stop enjoying life and stop living life.

This was the total opposite of what Charles saw from advisors and students in other research rotations:

Whereas the other rotations that I had, I could see the guys are kind of workaholics. They just worked all the time. The only fun that they went out and had was fun with the lab. I was like that's cool and everything, but I don't want to be around you guys all the time. I have this clustering of what's work and what's work-related and what's my personal life. I like to keep a nice boundary between those two things. I don't want to go out and have fun all the time with my [lab mates]...I'm fine going out in the lunch and doing things every now and then, but I want to go and hang out with my friends.

**Seeking Therapy.** In addition to having a balanced work and personal life, three of the participants sought professional assistance from a counselor or therapist in order to be successful. Wally mentioned that his greatest support during his doctoral program was therapy, despite the “stigma” that came with it: “I have health insurance and [I’m] actually utilizing that because, especially...as an African American male, there’s a stigma. Even now being able to tell you I got a therapist that’s not something an African American does.”
Scott talked about a time in which he “feared success” and did not feel supported by his faculty advisor:

Right now, I have probably a calendar year or less until I defend, and... I'm having a lot of anxiety about it. Am I going to sabotage my future? Is the fear of success so great that I would do something stupid or not finish something or not do a journal entry or something like that. [My faculty advisor] is not very supportive in that aspect. He just says, ‘Well, I believe you can do it, so just go do it,’ and I needed more than that.

So, in addition to seeking support from a close friend, he talked to a therapist:

I went back to a therapist that I saw after I got divorced and laid out to him/her what I was feeling and I'm working with him/her now to get in touch with what's driving that feeling so that I can address that and not let it come up in some subconscious way that does a lot of harm that I can't fix.

When asked to talk about a stressful moment during his doctoral experience, Charles stated, “I had a series of stressful moments in my second year that weren't necessarily academic-related. My grandma passed away and my mom had gotten sick... all within a couple of months of each other.” He mentioned that usually when he is stressed, he works through it using physical activities such as tennis, basketball, or weightlifting. However, this situation was a bit more overwhelming. In addition to weightlifting and seeking spiritual guidance at church, Charles stated, “I went to a campus health facility, sat and talked with the psychologist for a little while, for a couple sessions”
Agency as Responsibility: Giving Back. *For me, giving back is everything. That's a big motivator for me, being able to help others [Wally].*

Most of the participants in this study felt that they had a responsibility to give back. This agentic perspective is called agency as responsibility (Meyer and Jepperson, 2000). This conceptualization of agency states that agency involves “being an agent for someone or something” (Meyer and Jepperson, 2000, p. 9). For several participants in this study, this agentic perspective led them to mentoring others and serving as a resource in other ways to Black persons as well as other underrepresented individuals. Kurtis mentioned how mentoring new graduate students who enrolled through a STEM diversity initiative at his institution and giving back helps him develop as a person:

Whenever I do run into younger. . .Black grad students, I just talk to them and try to tell them about my experience as honest as I can, and I try not to sugarcoat things and I let them know that my time, my process has not been smooth, but I just share with them my experience and how I got to where I am. I just kind of open myself up so that they can feel free to talk to me and to ask me questions. I’m very informal in the way that I try to help the younger grad students with their time here.

Kurtis felt that he had a responsibility to enlighten new graduate students about his doctoral experience. Similarly, James felt that giving back created a sense of accountability for him. He elaborated on this while speaking about giving back by producing creative videos featuring underrepresented students in STEM:
It creates an accountability for me. Because I'm telling people to try hard, work hard, don't give up, aim high. It sort of kind of puts in place an expectation for myself so that I don't end up doing a misrepresentation of the message that I'm trying to promote to others. So, because I tell others, ‘Hey, you can do it,’ then at the end of the day, I sit back and think to myself, ‘hey, I have to do it. Or what I just told a young brother isn't going to hold if I'm not doing the same thing that gentleman does.’ So it's kind of like small little soft contracts you put in place, almost, when you tell people not to give up, when you tell people to try and do their best, when you tell people to stand out and not settle for mediocrity but excellence. . . . You are putting those things in place and holding yourself accountable by those same standards.

Pete explains how seeing underrepresented minorities in custodial positions motivates him and presents a sense of responsibility:

I know when these janitors see me. I know they have kids. They tell them about me. One was like, ‘I was telling my son about you the other day.’ This lady I met, she had a son that played football and he was really good in science. He was about to go to college and she was telling me, ‘Yeah, I told my son about you the other day. You're always in there working late into the night. You're just working boy.’ I was like, ‘You know how we do. We got to work twice as hard as everybody else.’ They're like, ‘Yeah, I know.’ I can see it on their face that they appreciate that. That makes me feel really good in spite of the FedEx guy looking me over.
Scott serves as a mentor for students in the National Society for Black Engineers (NSBE). In his mentor role, Pete states, “I try and connect and relate to the students, to try to put a more human relationship side on engineering. It’s not just about numbers and grades.” Wally mentors a Black male student from his undergraduate institution:

I talk to him probably. . . at least, 3 to 4 times a month. If not, every other week.

Everything from his internship this summer. . . to him struggling [with his course material]. . . . Being able to reach back. . . is very rewarding. . . . I definitely get satisfaction being able to reach back, but also knowing that they look up to me. Not so much as me. . . . as a PhD [student]. But the fact that, ‘He got his PhD and he’s doing well.’ It's the fact that I went off to [this PWI in the Southeast]. Now they see that as a possibility for them too. Not just going somewhere, but saying, ‘Oh. I can go to THE top schools after I leave here. Not just to A school.’ or ‘I don't have to hope, this is a possibility for me.’ Whether I finish or not, just knowing that door feels open to them.

That they have a resource. They can say, ‘Okay, well, how did you go to [Regional Technology Institute]? How did you get into [Regional Technology Institute]?’ Just a whole other area that I feel that, people coming behind me from Jackson State are now exposed to.

Charles stated how giving back is an important part of his success as a Black male doctoral student:

It's something that I think about every day. Even if I'm not physically doing it that day, it never really leaves my mind to not being able to give back. . . . I'm finding time
now to speak to underrepresented undergraduate students whether that's going on recruitment trips. or sitting on panel discussions for. [State] colleges that are coming in. I find a little bit of time to do that now. Again, I still think for right now the best thing for me to do is to do well in my program and then to be able to reach out and mentor and just talk to students about what life is like outside of undergrad, [and] what can you do afterwards.

Melvin also expressed his excitement of being able to give back:

Helping out, giving advice, the same type of advice that helped me when I was maybe in their shoes. Just being supportive really whenever they needed it. That's something I have started to notice about me, the way I really am. I just support the people. I can give advice to now.

Walter believes that it’s important to mentor and give back, especially being a first-generation college graduate. He states, “Part of my struggle. . .is just proving to the next generation within my family like, ‘Look if I can do it you can do it because we came from the same place.’”

“Playing the Game”: Using Savviness to be Successful

Picking battles: Confronting or Walking Away. There were several instances in which the majority of the participants mentioned that they chose not to respond directly to others when offended. The participants felt it was critical that they understood when to address offensive comments or uncomfortable situations because of the consequences that may follow as a result of them being Black men. These comments often occurred during
conversations about race and politics. Kurtis talks about a moment in which he chose not to pick a battle:

There are times when we talk about personal things or political things or...philosophical...and I heard one of my lab mates who were all having a discussion and she said some kind of racially insensitive...She had some racially insensitive remarks and not even about Black people. It was about Asian people, but I took offense to it and because part of what I was hearing was that she could have applied the same thing to my race and so it was offensive to me in that way, but also it was just generally offensive. So, instead of making a big fuss about it, I went to the people who I related to most. I went to other Black grad students...I was able to vent about it. I was able to get advice about how to handle that situation the next time that I was in it.

As opposed to confronting the student who made the offensive comment, Kurtis chose to seek advice from and vent to other Black graduate students who he felt would understand his frustration. James mentioned that there is usually some resistance to passionately agree or disagree with others:

There are guys in my lab now that love Rush Limbaugh. They openly discuss stuff he says on the show. I think that guy’s one of the craziest guys out there, on the political scene. But hey, they love him. They can talk about him. I don’t feel as though I can be as passionate, as I would have been with the Trayvon Martin situation, or something like that without me getting a stigma. It’s kind of passive/aggressive,
though. It’s not even overt. . . . It’s almost like in a daring way, ‘Say something against this, while we’re talking about this. We’re talking so much about how much we hate Obamacare.’ They almost dare somebody to speak up and say what they think is good right now, because they’re so overt with it.

As opposed to expressing his opinion in this situation, James states that he is “good at ignoring stuff.” He continues:

I’m good at just saying, “All right, I’m just going to keep moving.” . . . A lot of it makes me want to say something. I’ll tell you, part of the biggest effect it has on me is, when it comes back to mind, at a later time, I’m kind of reoccurring, like ‘All right, if I would have said something, how would it have gone down?’ At that moment, I’m like, ‘All right, I’m not even saying nothing.’ Or I’ll leave. . . . I’ll go do something else, or I’ll probably throw one comment out and [leave]. . . . It’s almost like I know there’s probably a faint chance of [them] understanding why I disagree, so I’m not going to even try to get into [it].

One of the reasons James is careful about his actions is that he feels he has more to lose than his White counterparts who he feels are able to unreservedly express their opinions:

I guess I stand more to lose by being honest about what I’m thinking. Because I think that, at the end of the day, if I don’t disagree with them, they’ll find somebody else who agrees with them. If they disagree with me. . . . I’ll find my guy who agrees with me. I’ll find a smaller number of people to understand. . . . for the purpose of keeping the work moving forward.
Scott talked about picking his battles when considering how his race and gender has impacted his doctoral experience. Scott explains an instance in which being a Black male doctoral student was not such a great experience; specifically, a time in which his faculty advisor repeatedly called him another student’s name:

My advisor called me [“L”] off and on for two years because that was the only other Black PhD from the university. So he would mistakenly call me [“L”] and compare me to [“L”] on a regular for years until he finally realized that that was a little offensive and he needs to stop.

Scott mentioned that he chose not to speak up initially, but he garnered up some courage to do so. However he did not tell his faculty that it was offensive to him. He only stated to him, “My name is Scott.” He continues:

I think another colleague or two intervened and told him. Because I told him my name isn't [“L”] and he was like, ‘Yeah, yeah, yeah, but I really like [“L”] and I really like you and you know, so it's good.’ I still have mixed emotions about that today because I want to be Scott and he wanted me to be a star, his star student named Scott who's African American. My agenda was just a subset of his agenda.

Eventually, Scott’s faculty advisor stopped calling him “L,” perhaps because another student came to his defense:

I'm pretty sure a colleague of mine had a conversation with him because he said it and then they said something back and forth in Arabic and he was like, ‘Okay,’ and then it
never happened again. I just have a sense that they had talked about it and he reminded him not to do that.

Charles talked about an instance in which he was “berated” by an instructor during his first week of school as a doctoral student:

I had signed up to take a course in biochemistry. As an undergraduate, I didn't take any biochemistry. This was a course that I spoke to several people about before I signed up to take it. It was a course that many other biophysics students have taken in the past and done fine in. It was a course I was interested in... The instructor for the course just came out of nowhere and berated me for about 15, 20 minutes in the middle of the hallway about how I didn't have the background to take the course and that I was going to struggle. I should just drop it and not take it or go take all these other courses to get ready for it. The way s/he was doing was very abrasive and very disrespectful to me.

He chose not to speak up because he feared the consequences:

I remember just...standing there and thinking that I just want to go off on this lady and tell her to get out of my face, but I knew that if I did that, it was going to have a negative repercussion from that day forward in my program. That's something I had to keep in mind and really keep my emotions in check and just block her out. I don't even remember how I got through it. I just remember sitting there... why are you yelling? I didn't understand what I did wrong. Why are you yelling at me for signing up and taking this course that hasn't started? I sat there quietly and shook my head,
nodded my head, and I didn't say anything really bad to her and just let that go away from me.

By the next day, news spread to other about this encounter. He was approached by faculty and administers who tried to comfort him. At this time, he realized the brightness of the spotlight he was in:

Within a day, I was walking around campus, and these administrators were coming up to me. S/he said, ‘Yeah. I heard you had a run in with the chair.’ I didn't really do anything…I realized then that it's going to be impossible for me to do anything on campus; to do anything, to have any type of troubles without the entire community knowing about it. I thought, I'm glad I handled it the way I did. If I had said what I really wanted to say to her, then this negative light would have been cast on me instead of just her. . . . I'm always in the spotlight. This is just something I've grown to accept at this point, is just that I'm going to be in the spotlight whether I want to or not. I can't just fade into the background and disappear.

There were instances when participants chose to speak up about issues that were important to them. Pete talked about speaking with his classmates about a racial encounter he experience while riding the bus:

Nobody wants to sit next to me ever. I remember one time it was absolutely packed, standing room only, people still in the isle. The seat next to me was empty. I took a picture. I took it to school and I showed people because I’m always talking about
race. I'm not really scared to talk about race, but White people always just bring it up.

I don't care. I [have] to deal with it, so you should deal with it.

Though his classmates were in disbelief, Pete felt that it was important that the conversation occurred. Wally talked about a demanding experience in which he took on a heavy load of work because one of his colleagues was released from the research project by his faculty advisor. Unfortunately, Wally’s colleague was released as the project’s annual review was approaching. He stated, “I ended up carrying all of the load, trying to do two students’ work. . . . I’m staying up all night trying to get stuff done.” Though he worked hard to get complete his task, his faculty advisor was not pleased. During this time, Wally’s advisor sent him a “crazy. . .completely disrespectful email.” He provided the following response when asked how he handled that situation:

What have I done to be successful or ensure my success in this process? Well one of them was kind of striking a chord between just borderline cursing him out. . . .

[There is] no need to talk to anyone like that, period. I don’t care what the circumstance, you just get to a certain stage in your life where you just don’t talk to people like that especially when they’re also an adult too. I definitely had to kind of bite my tongue and navigate that.

Wally felt disrespected by his faculty advisor’s email, and he chose to respond to him:

I think I struck the proper chord though in dealing with that because I was kind of firm, but also in somewhat direct but try to be professional and cordial at the same time when I didn’t really feel like it. Because I was just like whatever, that was one of
those times where you could say whatever comes off email and then you wish you could get it back. I definitely could have had one of those moments.

Though choosing not to react in this situation with his faculty member, there was an instance in which Wally did choose to respond when there was a difference of opinion with a colleague. Wally encountered some resistance from a White colleague concerning his involvement in the National Society of Black Engineers (NSBE). His colleague stated “If we had a White institution for engineering people it would be an upheaval.” In this instance, Wally chose to explain to his colleague that most of the standard organizations on campus for engineers were predominantly White and NSBE was formed to support Black students who may have different experiences than White counterparts. Wally stated, “We have to let you know we are a Black organization, not because that’s the predominant force, but because that’s something that ties us together.”

**Understanding the university’s culture.** The participants also found ways to learn and adapt to the culture and politics of their institutions and programs to be successful. James stated that this process is “pretty much... trial and error.” He described a lesson he learned from a seasoned graduate student regarding a seemingly minuscule task such as sending an email:

> It’s probably second nature to [me]. . . now, but . . . the way you send out the e-mails, cc people, respond all, that good stuff. That’s not natural stuff we do growing up... We don’t naturally say ‘regards.’ We don’t naturally do stuff like that. But if you see enough e-mails come to you in certain languages at the top, you start saying, ‘Oh,
OK,’ this is the way you say I’m too busy without saying ‘I’m too busy.’ This is the way you say, ‘sorry for the delay in getting to this, instead of, ‘No, I didn’t do it yet.’ You find ways to say things more professionally. . . . I learned some of that stuff from him. There’s kind of more to being a graduate student.

James continued stating that you have to “speak the language”

First of all, you first actually do mimic it, just straight out. Then, as you begin to kind of learn the nuances of what certain things mean, you start choosing certain phrases or whatever, intentionally. You kind of understand what certain things mean.

James also mentioned that he adapted to his university’s culture in another way, by going to lunch to get best out of relationships with those around him:

I try to go out to lunch, that kind of stuff. A lot of people say, ‘Let’s go to lunch, . . . That’s another part of the culture. Don’t say ‘no’ all the time. Even if you don’t necessarily want to, sometimes you’ve got to, for the sake of the relationship, go ahead and go to this spot that I ain’t really interested in eating at. . . . So yes, I go to lunch. Just really try to go to the events that you do know about, outside of work.

Agreeing with James, Pete mentioned that a great deal of learning and networking takes place outside of the university. When talking about the norms and expectations of graduate students, such as publishing and funding, he talked about some of the “unspoken” things you need to know to be successful as a doctoral student:

I think that a lot of things that people, for instance, White graduate students could potentially take advantage of that Black graduate won't necessarily take advantage of.
[Such as] the likelihood that a PI embraces that graduate student into their home. . . . I think a lot of training happens outside the lab surroundings. There have been situations where I have gone to the bar and I see the Chair of the Department having a beer, or something, with the other graduate students. ‘I know a lot of stuff happens right here. I know a lot of education happens right here.’ I'm not being facetious. I'm actually being very literal. I know that over a beer more education happens and career development happens than probably would happen in the classroom. A lot of the things that...are unspoken are spoken under social situations that a lot of Black people aren't invited to. I think that does definitely take place.

Kurtis mentioned that he understands the role he plays as a doctoral student at a research-intensive university:

The area we're in, grad students we're kind of workhorses for our PIs or . . . faculty advisers. So most faculty advisers are doing bench work. They're writing grants and they're not even necessarily designing experiments. They're looking at the big picture and as grad students we're the ones carrying out the work.

Kurtis also understands that though he is a “workhorse,” his faculty advisor “needs [him] to do well” both as a doctoral student and an underrepresented minority:

If there's no one carrying out the work then there is no data, [no grants], and there's no publications, right? You need the publications to get grant money. You need grant money to fund the research to get the publications, right? So, s/he needs me... I would say that because s/he needs me in order to produce data for him/her so that s/he can
do well. Also, if I'm not doing well in the department, if I'm not successful then her colleagues will see that and that would also be reflective of her and her mentoring so I think it's just kind of the nature of the beast. . . . Sometimes when doctoral students especially of color are admitted into programs there's a sense that we need to make sure that this Black student or this insert whatever racial student this is or Black female for that matter to do well because if that student doesn't do well, it's a reflection of that mentor, but it's also a reflection of the department that they may not be able to handle these types of students. . . . I feel like the department is thirsty for more Black students and I think they want their Black students to do well

Pete has a similar understanding as Kurtis. He understood that he was going to put in a great deal of work as a doctoral student for his research advisor, but he also understood that he could make those situations work for him as well:

At the end of the day, I don't really care what race you are, even though if you are Black it is harder. I don't care what race you are, they are going to use you, so you use them. I need to do cutting edge research that is interesting to me. I need to work in a situation where I can get publications. With that said, I just do my work. At the same time, I have to do this other leadership stuff so I do that too. Like I said, at the end of the day, I don't have it all figured out. I'm still in it now. One day, and this day is approaching, I have to tell her/him that I'm not who you think I am.

Charles stated that his introverted personality has been useful in navigating his institution’s culture as a Black male doctoral student:
The biggest advantage I have with navigating the culture at a PWI and research-intensive university and environment is that I'm an extreme introvert. I stood around and just observed things for a long time before I actually get engaged. It's very difficult for me to just blindly engage someone without observing them first. Because I have this innate desire to observe and make sure everything's okay first, I'm really able to filter out people and situations that I know would be a little bit to my detriment or not to my advantage. Navigating that culture, when we had those first opportunities when we first arrived on campus to sit through our departmental talks and listen to what their departments are asking and their requirements were. I used that time to identify faculty members who I thought would be good people for me to know and also eliminate faculty members who I knew just off their first interaction that they just wouldn't get it. They just wouldn't understand. Being a black male, I spend more time observing things before I even think about getting involved with them. It just gives me a little filter and also helps me develop a plan to get from point A to point B without just blindly going up and asking people that would throw me on the wrong track.

Walter made a strategic choice to get involved with the graduate advisory boards for both his department and the university. He talks about his involvement in the following passage:

I sat in. . .our student advisory committee in our department, and I became president. . . . What that position does is sit in on major professors meetings. They have a meeting about once a month, and they sit there and talk about the different things. . .
coming up in the department. . . It took for me to become more political to be able to better navigate through those obstacles.

**Seeking Supportive Relationships**

The participants felt that building and maintaining supportive relationships with others was important to their success as graduate students. Specifically, the participants mentioned networking; developing meaningful relationships with non-minority or non-AA peers, faculty, etc., and developing intentional, meaningful relationships with minorities.

**Networking Towards Success.** Several of the participants stated that they used networking to navigate the campus as a Black male doctoral student. Kurtis spoke about integrating himself within the community through networking:

I try to meet people and I just try to get involved with things that are interesting to me that . . . are outside of the sciences. . . . I try to look for opportunities to volunteer. . . . [Whether] it’s something non-science related or social. . . . I try to put myself out there and meet people. . . . I'm invited to an event, I try to show up so I can meet more people and just kind of be a part of the community. . . . The way I kind of navigate is to integrate myself, is to just get involved, meet new people and just try to be exposed to new experiences. . . . I think it helps. . . . me broaden me as a person. . . .broaden my overall experience. . . . I think connecting with people is the best way to live life.

On several occasions, James mentioned that it’s important to network and find out “who’s on your team.” The following passage is his response when asked the final question in our first
Interview, “What does it take to be successful as a Black male doctoral student?” James explained:

You’ve got to know how to network, obviously. You’ve got to know who those people are. If you don’t have go-to people, on certain things… you definitely would feel like a fish out of water.

Melvin talked about networking as an important part of navigating the institutional climate at his institution. He stated that he received advice from his advisor that being successful as doctoral student requires more than intellect. Melvin stated, “Getting your PhD, it really doesn’t matter how smart you are. . . . It’s about how hard you work and networking.” Melvin believed that it was important not only to network to help himself, but also to help others, “I’m networking as much as I can with [faculty], students, whoever. People that I feel that I could either help or could even help me at any time in my life.”

**Developing meaningful relationships.** Several participants mentioned the importance of forming genuine relationships with others, specifically with non-underrepresented minorities. Kurtis often mentioned that he sought out genuine relationships with others. He explains how he tries to form relationships despite feeling isolated, at times, in the following passage:

I definitely feel a little bit left out in a sense at times, but I would say the way that I navigate through that is that I consciously made efforts to just connect with other people in the department, with people who I might not normally connect with, non-underrepresented minorities and my White counterparts and so I have developed
really good relationships with them and that has helped me to enjoy my time with the department even though I do wish there were more Black people in the department and more Black males in the department.

Several participants engaged others by finding common ground with individuals that they would not have normally connected with. Kurtis continues:

I just use my personality and just connect with people on some level. A lot of times it's not [about] science. . . . Most of my connections with people in my department have been non-science related. We don't talk about our science a lot, but we relate on something with sports. I talk about sports with one group. I talk about traveling with another group. I talk about some philosophy with another group and so just some way that I could connect with the people in my department that I have some type of relationship to other students specifically the students in our department.

Scott took a similar approach with one of his colleagues.

On the Formula SAE team, there is an engineer who is a master at electronic fuel injection and he's done all kinds of projects. He's a key person to their team. In my personal life, I'm thinking about converting one of my older vehicles from corroboration to a fuel injection, so I come to him. I bounced ideas off of him. He gets excited. I get excited. I say, ‘I'm thinking about doing this. . . . Do I need to add this sensor or in the real world, will it not make a difference?’ And he'll say, ‘Oh, don't worry about this sensor, but this other sensor is more important,’ and that he could contribute to me for my personal goals and our relationship is deepened
because it's a mutual beneficial experience. . . . I think that what I'm developing the relationship is kind of the application person who takes the theoretical part that they know and have seen and applies it to something that they are interested in or in their life. That's the bridge that I find that I enjoy the most.

In another instance, Scott mentioned how he forms relationships with others to overcome feelings of isolation:

My preference is to try and find something that I'm productive on, and so I can be productive at school and then that will make that connection kind of a by-product to that in the mediate mode. I think sometimes I will just engage them in the conversation about what they're doing whether it's school related or not. I'm thinking about one of my colleagues and we have this unofficial project that we've been talking about, combining his skills and my skill set in doing, and I think we both realized we're never ever going to do this and it’s totally pie in the sky. But we will stand, sometimes hours, talking about it and doing research and meeting other people.

It's just a way to connect.

Walter used food and sports to spark conversations, which eventually assisted in forming relationships with his colleagues.

I kind of just tried to find an avenue in which to connect with a particular person. You know, for one of the White students that I did not really get along with, after a while I found out, okay, well, he likes football. He's from New Orleans, so I used to just spark up conversations about New Orleans and about the Saints,…I'm a Falcons fan,
so the Saints are the Falcon's rival. We used to talk about that and that kind of broke the ice. [I was in the band in college], and, I come to find out, another student was in the band in college. Our conversations used to be centered around band and that was our way to kind of like break the ice. With the Chinese students, a lot times, we would just talk about food. They would ask me about American cuisine, and I would ask them about stuff they eat in China…You basically try to find ways or some usual interest that both parties have to kind of break the ice to be able to communicate, as well as work with those individuals.

Though it was important to form general relationships with others, all of the participants mentioned that it was important that they formed intentional, meaningful relationships with minorities. Although Kurtis appreciated and took advantage of the opportunity to form relationships with a diverse group of individuals, he talked about the significance of being in the presence of and forming relationships with individuals who looked like him:

I think it's extremely important. If I had to rate that on a scale from one to 10, like 10 being the most important thing and one being not important at all, I will probably rank it eight and a half and nine so up there close to 10. I think it's just something that you kind of need people to relate to. As much as I think it's important to broaden your experience and to be exposed to people that have different experiences from you I think it is just as important. For me personally, I could say it's as important to connect with other who have a similar experience as me and look like me who might feel the
same way I feel. It's something that's just necessary I think for going through this process and being successful in this process.

Pete mentioned that he considered his PIs racial background when selecting him:

My PI is Mexican. That played into one of the big reasons why I picked him. Like, wow, there is a man of color right here. I've never seen a Mexican PI. He is one of the best, but at the same time I felt like I connected with him a little bit. He's not Black, but still he's a man of color.

Wally formed close relationships with other Black graduate students during orientation:

When I came in we have an orientation specific to minority students at [Regional Technology Institute]. There, I pretty much met every other Black graduate student at [Regional Technology Institute]. . . . There were a total of four of us who were entering the PhD program at the same time. I know these folks pretty well, we went through the struggle together. The PhD qualifier. . . . The adjusting to [the PWI in the Southeast]. . . . We all had a common background, we were all from HBCUs. . . . Usually it was more of a diversity thing but all of us had come from an HBCU so we had that common experience.

**Summary of Chapter**

The findings from this study suggest that the participants generally felt prepared by their HBCUs for graduate study at a PWI. The participants also expected graduate school to be challenging both socially and academically. Though the participants felt inhibited by the pressures of being Black male doctoral students at PWIs and felt like imposters, they often
persevered and stayed focused on their goal of completing their doctoral degrees. Overall, the participants described the climate at their PWIs as “chilly.” They often mentioned being one of few Black graduate students within their environments and also felt isolated. Encounters with racism and perceived notions of inadequacy by their faculty and colleagues also contributed to the chilly climate.

The participants took several actions successful as Black male doctoral students. One of the actions the participants took was making their physical, cognitive, and spiritual needs a priority in their lives. They exercised, sought therapy, and solicited spiritual guidance from family and church members. Another action the participants took was being observant and understanding the culture of their PWIs. The participants also formed supportive relationships with faculty, staff, and colleagues on campus. Though using commonalties to bond and form relationships with their White counterparts, the participants were intentional in forming relationships with other Black persons as a means to feel supported and have colleagues that they could relate to culturally.
CHAPTER SIX. DISCUSSION, IMPLICATIONS, & CONCLUSION

Introduction and Background

The purpose of this study was to explore the experiences of Black male HBCU graduates pursuing a doctoral degree in a STEM discipline at a PWI. Specifically, two research questions were examined.

1) What are the experiences of African American male HBCU graduates in STEM doctoral programs at PWIs?

2) What hinders and facilitates the success of African American male HBCU graduates in STEM doctoral programs at PWIs?

3) How do African American male HBCU graduates take action to successfully navigate the college environment toward doctoral degree completion in a STEM discipline at PWIs?

The study employed narrative inquiry to gain insight on the participants’ doctoral experiences. Several themes emerged from the participants’ narratives, which were useful in making meaning of their experiences.

Overall, most participants felt academically and socially prepared by their HBCUs for their STEM doctoral programs at PWIs. The participants mentioned that their research experiences, the advice they received from faculty, and intangible skills gained such as navigating politics were helpful as doctoral students. However, though generally feeling prepared, a few participants expressed that they wanted a more rigorous academic experience in their undergraduate educations. In fact, one participant believed that he was pushed to
succeed rather than supported to finish. He felt that some individuals at his HBCU were focused on him completing his degree, and not being a statistic, as opposed to gaining marketable skills that would be useful in his future. The participants also expressed their expectations of graduate school.

All of the participants expected to be challenged as doctoral students. They anticipated high expectations from their faculty, intense research assignments, and they expected to experience a learning curve as they transitioned from an HBCU to a PWI. In addition to being challenged academically, the participants also anticipated social challenges. For example, the participants expected their race and academic preparation at an HBCU to play a role in their doctoral experiences. The participants felt they would have to prove themselves worthy of being accepted into their doctoral programs as a result of being Black males and transitioning to PWIs from HBCUs. Overall, the participants expected to enter a different academic and social culture than what they experienced at their HBCUs.

The participants also provided their thoughts regarding their doctoral experiences as Black males in PWI doctoral programs. One participant expressed that he “felt Black” on campus. The other participants agreed. One of the reasons the participants felt Black on campus was because of the lack of other Black persons on campus. Though the participants recognized they entered a campus on which they were the minority, they often expressed their concern with increasing the number of Black persons on campus. They often mentioned how they rarely encountered other Black faculty and graduate students at their institutions. The participants were also equally, if not more, disappointed with the lack of Black male
graduate students on their campuses. In some instances, they were the only Black male or Black graduate student in their programs, departments, or classes.

The participants also felt isolated as Black males. Being one of the only or very few Black individuals on campus or within a program, each participant felt that the absence of a sense of community and having different cultural perspectives than his colleagues contributed to their isolation. Further, the participants talked about having to live two separate lives as Black males at PWIs. The participants often felt that they had to code switch and abandon or conceal meaningful parts of their identity completely (Myers-Scooton & Ury, 1977). They felt the need to have dual identities within their academic and social environments. In some instances, the participants behaved differently around their White colleagues than they would with their Black colleagues. Further, several of the participants mentioned that they felt their White counterparts were able to express themselves unreservedly in academic or professional environments and behave in other ways they felt would draw more attention if displayed by a Black male. One participant recalled an experience of being publicly reprimanded by a faculty member for registering for a course in which the faculty member felt he should not have enrolled. As opposed to responding and taking the same tone as the faculty member, the participant chose to stand, listen, and nod his head. He, and other participants in similar situations, chose to respond in this manner because they feared the consequences that would follow them as a Black males if they were to react differently.
In addition to feeling like they could not be themselves, the participants also encountered racism and believed that they were perceived as inadequate by others. Such experiences contributed to their feelings of a chilly climate. The notion of a chilly climate is used to describe the experiences of graduate students, faculty, and administrators in academic work environments. The participants were in academic disciplines at PWIs that have been described as “chilly” for Black persons as a result of the overwhelming White population and historical context which has been geared towards the success of that population (Herzig, 2004; Joseph, 2007). In this study, the occurrence of racism contributed to the participants’ feelings of a chilly climate as nearly all of the participants had racial encounters.

Pete was frustrated that others often did not sit next to him on the bus, even at times when there was only standing room available. He was also upset that his colleagues criticized his feelings when he told them about his experiences. Charles mentioned that he believed one of his faculty viewed Black persons as an inferior race. Wally described a conversation in which a White colleague challenged the purpose of organizations created to support minority students and Walter talked about perceived racism he felt he experienced from a faculty member. In addition to these perceived experiences of racism, the participants also felt that others perceived them as academically inadequate.

In some instances, the participants felt that these perceptions were invoked as a result of their being Black males and were compounded as a result of them attending an HBCU, which may not considered to be as reputable as a PWI. Several of the participants recalled experiences in which their peers were hesitant or unwilling to include them in study groups.
or collaborate on assignments. Assistantship experiences also contributed to the participants’ perceptions. In fact, one participant reminisced about an experience in which he felt a student in a course he was teaching deliberately questioned his ability because he was a Black instructor. Though the participants felt that they were intellectually adequate, these experiences proved to be challenging.

In addition to the aforementioned extrinsic factors, there were also internal feelings that impacted the participants’ experiences. For instance, though the participants were academically sufficient, there were times when they questioned their academic capacity to be successful. The participants were restrained by their self-consciousness by feeling like frauds in their academic environments, feeling pressured to be successful so that other Black students could follow in their footsteps, and feeling inhibited because they felt they had to be representatives for their entire race. Though they experienced these internal battles, the participants were also encouraged by their internal aspirations to succeed. The participants were resilient and often mentioned that it was important that they stay focused on their goals to ensure their success. In fact, when asked what it takes to be a successful Black male doctoral student in a STEM field at a PWI, some of the participants mentioned that perseverance was key. The participants were committed to succeeding despite any difficulty they encountered.

One of the foci of this study was to explore what actions the participants took to be successful as doctoral students. One action that the participants exhibited was taking care of their spiritual, physical, and cognitive needs as Black graduate students. The participants
sought out spiritual guidance from their family members, obtained professional therapy, and were intentional about balancing their work and personal priorities. Additionally, the participants found ways to learn and adapt to the culture of their institutions. They were often observant and deliberate in navigating the environment. Finally, the participants felt that it was important that they built and maintained supportive relationships with others. The participants networked and purposely integrated themselves into academic and professional communities. Further, though they felt isolated at times because of their race, the participants used commonalities such as food, sports, and hobbies to socialize and form relationships with their colleagues. Though it was important to form general relationships with their White colleagues, each participant also expressed the importance of forming intentional, meaningful relationships with minorities.

The participants’ stories provide a deeper understanding of the experiences of Black male HBCU graduates currently pursuing doctoral degrees in STEM disciplines at PWIs. A discussion of how the aforementioned findings relate to the literature will be discussed in the next section.

**Discussion**

This research was framed using Weidman, Twale, and Stein’s (2001) graduate student socialization framework with O’Meara, Campbell, and Terosky’s (2012) notions of agency. Weidman et al.’s framework recognizes that graduate student socialization is a multifaceted process influenced by organizational and individual factors. According to Weidman et al.’s (2001) framework, a student enters a graduate program with prior skills
learned from their undergraduate institution and a perception of what is required to complete their academic program and pursue a career upon graduating. Next, students are socialized through their experiences, primarily those that occur within the normative context of their academic program. By the time a student completes his degree, he or she should have gained the necessary skills that are valued within his or her field (Weidman, 2010).

**Backgrounds and Predispositions**

One of the four significant components of graduate student socialization is the participant’s background (i.e., race, ethnicity, undergraduate institution, etc.) and predispositions (i.e., values, beliefs, aspirations, etc.) (Weidman et al., 2001). Two aspects of the aforementioned components that emerged from the data were the participants’ preparation for graduate study at an HBCU and their expectations of graduate school at a PWI as a Black male HBCU graduate. These areas are meaningful as they influenced the participants’ agential behaviors to make meaning of their graduate experiences and take action to finish their doctoral programs (O’Meara et. al, 2012).

Research has acknowledged that HBCUs have been successful in preparing and graduating Black male STEM students (Palmer & Gasman, 2008; Pearson & Pearson, 1985; Solorzano, 1995). In fact, Black male STEM students from HBCUS are often intellectually competitive and earn their acceptance into prestigious graduate programs (Palmer & Gasman; Pearson & Pearson; Solorzano). In this study, all of the participants talked about their preparation for graduate school at an HBCU. Aligning with the research, the participants generally agreed they felt prepared for graduate school as a result of their attending an
HBCU. In fact, one participant stated that his HBCU experience “was the best preparation” and gave him an advantage over others. Collectively, the participants mentioned that several aspects of their HBCU experiences were helpful in their transition to graduate school including having hands-on research experiences, receiving practical advice from faculty, and learning some intangible skills.

Research suggests that Black males benefit from supportive relationships with faculty at HBCUs (Fisher, 2007; Gasman, 2012; Palmer & Young, 2011; Palmer & Gasman, 2012). In examining the experiences of Black males at an HBCU, Palmer and Young (2011) found that student success was increased when they perceived their faculty to be concerned about both their academic and personal success. Additionally, Gasman et al. (2012) noted that faculty at HBCUs “[teach] to maximize students’ potential because they [know] students [are] both capable and competent” (p. 81). Further, research has reinforced the claim that the supportive climates of STEM departments at HBCUs play a major role in graduating Black students (Seymour and Hewitt, 1997). Concurrent to the research, the participants expressed how faculty mentorship, both personally and academically impacted their HBCU experiences and assisted in their preparation for graduate study; however, though generally favorable of their graduate school preparation, some participants expressed dissatisfaction.

Some participants questioned the academic rigor of their HBCU experiences when compared to their PWI colleagues, and felt inferior at times. Additionally, although having the opportunity to research with faculty both within their institution and across the country, the participants still feared the “unknown” regarding graduate-level research. Further, as one
participant mentioned, he wished that he would have been “pushed to succeed and not supported to finish” at his institution. Though not as common from the participants, this notion contradicts Gasman et al.’s (2012) notion that HBCUs seek to maximize students’ potential. Instead, this participant believed that his institution sent a message to him that completing his undergraduate degree was more important than increasing his intellectual capacity in a way that would be most beneficial to him as a graduate student. However, the participant’s comment suggested that he understood the relationship between his academic preparation and life after completing his undergraduate degree, specifically in reference to attending graduate school and seeking employment (Gasman et al., 2012; Kimbrough & Harper, 2006).

Doctoral PWI Experiences: “We definitely feel Black…”

The organizational climate impacts the experiences of those immersed involved within it (Weidman et al. 2001; O’Meara et al., 2012). In this study, the organizational climate was framed within the context of higher education, specifically PWIs. As organizations, colleges and universities “frame, limit, dominate, form, and shape” (Giddens, 1979 as cited in O’Meara et al., 2012) how the participants make meaning of their experience and take action to achieve a goal (p. 17).

Melvin’s comment, “[We] definitely feel Black” sets the context for the participants’ experiences as Black males enrolled as doctoral students in STEM doctoral programs at PWIs, as others unanimously agreed with his sentiments. This perspective also helps to answer the first research question guiding this study: What are the experiences of African
American male HBCU graduates in STEM doctoral programs at PWIs? There were several subthemes that emerged from the data that assisted in shaping the participants’ views. The first was that there was a lack of Black graduate students and faculty on campus.

**Lack of reflection on campus.** Research suggests that PWIs have not created welcoming campus environments for students of color (Curry, 1992; Fleming, 1984). A significant component of having a healthy campus environment is having a diverse population (Dovidio, Gaertner, Kawakami & Hudson, 2002). A PWI, by definition, implies that White students are typically the majority on campus. The participants often stated that the lack of Black graduate students on campus was their greatest disappointment as Black male graduate students. The participants were usually the only Black graduate student or Black male graduate student in a class, lab, or department. One participant mentioned that he felt like an “endangered species” on campus because of the lack of other Black persons, and specifically Black male graduate students. In fact, the participants often were able to count the number of Black persons in their programs or departments. This is rather significant as each of them attended fairly large research-intensive institutions.

In addition to the lack of Black graduate students, the participants were adamant about their concerns regarding the lack of Black faculty on campus. In fact, most of the participants mentioned that the presence of Black faculty was noticeably missing in their programs and were aware that this was an issue at other research intensive PWIs across the country. Patterson-Stewart et al. (1997) determined that students of color struggled to establish relationships with “non-minority faculty members” (p. 41). The participants in this
study felt that it was important for faculty to relate to them as Black students on campus.

Pete’s sentiments provided some context for this notion when he stated, “I've never encountered a Black academic scientist that’s a faculty member that [I] could [relate to].”

Most of the participants felt that faculty relatability was important. They also felt that it was both empowering and inspiring to see Black faculty in academia. As one participant stated, Black faculty serve as “visual cues” to guide other Black male graduate students. While the participants felt that it was important to see and interact with Black faculty, they also expressed the significance of seeing Black faculty in leadership positions such as department heads and principal investigators. The participants suggested that seeing and interacting with Black faculty made their idea of success more attainable because they would have role models in their academic spaces. Research suggests that an increased number of minority faculty creates a more supportive environment for Black males (Kimbrough & Harper, 2006; Palmer & Gasman, 2008). As acknowledged by the participants, this support helps reduce feelings of inadequacy, isolation, and being an outsider while enhancing their self-efficacy, leaving Black males feeling that they have the ability to rise to the ranks of faculty and other positions in STEM fields (Perna et al., 2010; Seymour & Hewitt, 1997).

**Isolation.** The participants also described feeling isolated from their White counterparts on campus as they were often one of few if not the only Black graduate students or Black male graduates student within their academic environments. Research indicates that PWIs have been shown to be unsupportive to the cultural and social desires of Black students and contributing to their feelings of isolation (Cleveland, 2009; Fleming, 1984). The
participants felt that their cultural, political, and academic perspectives were often different than their White counterparts. In some instances, the participants described their feelings of isolation as the most stressful or frustrating experiences as doctoral students.  

**Code switching: Living two separate lives.** The participants also felt that they had to live two separate lives as Black male doctoral students. At times, they were uncomfortable with being themselves and believed that if they were to do so, negative consequences may follow. The idea of New Institutionalism theory suggests that institutions of higher education have distinct rules, power associations or structures, systems, processes, and practices (Meyer & Rowan, 1977). The participants had to decide whether they were going to conform to, resist, and/or negotiate the norms and expectations or institutional controls within their institutions, colleges, and academic departments (Gold & Dore, 2001; Lawrence, 2008; MacLachlan 2006; O’Meara et al., 2012). Institutional controls consist of the culture, policies, and other daily practices that shape one’s perspectives and actions toward the goals, patterns, and practices of an organization (Lawrence, 2008). O’Meara et al. extend the discussion of institutional controls to include Powell and Colyvas’s (2008) reference of “institutional scripts.” Institutional scripts refer to those behaviors that are deemed to be appropriate within the culture of a college or university. These scripts are frequently-repeated, widely-recognized expressions and understandings within the institutions.  

In this study, the participants didn’t feel like they could be themselves. They often mentioned having to “live two separate lives” as a Black male doctoral student. Essentially, the participants learned to code switch, or simply abandoned or hid significant parts of their
identities altogether in academic, social, and professional environments. Code-switching is described as “the use of two or more linguistic varieties in the same conversation or interaction” (Myers-Scooton & Ury, 1977, p. 7). Code switching is a meaningful and intentional tool used by African Americans “to identify what language is acceptable in different situations and modify their speech to the appropriate style” (Hecht, Collier, & Ribeau, 1993, p. 89).

Black students encounter unique challenges when integrating into PWIs as a result of the contrasting norms and values embedded in the culture (Tinto, 1993). One of those unique challenges is adapting to the language and recognizing context cues that are considered appropriate in their environment (Greene & Walker, 2004). Thus, social integration and language adoption become important to the success of Black students at PWIs, as “Black English” is believed to be inferior when compared to “Mainstream American English” (Greene & Walker, 2004). In this study, the participants had to rewrite their institutional scripts to conform to the behaviors that were considered appropriate within their environment. The participants behaved in one manner around their Black colleagues, and often adjusted their language and behaved differently around others because they feared what others would think of them as Black males.

**Chilly climate.** The institutional climate may have an impact on how one takes action to be successful. O’Meara et al. (2012) state, “Unlike norms and scripts that are derived from specific acts and practices in an institution, organizational climates are a broad and pervasive sense of an institution or department” (p. 18). The climate at PWIs can be perceived to be
hostile by Black students (Fleming, 1984). Dovidio et al (2002) assert that this may be the result of failed attempts by the administration as well as faculty, staff, and students to critically assess their internal perceptions of other races and ethnicities. In this study, the participants felt that the institutional climate was “chilly.” They attributed this to their perceived experiences of racism and being perceived as inadequate by faculty, students, and other campus members. The findings in this study are similar in scope to those of Joseph’s (2007) study using acculturation theory to explore the transitions of HBCU graduates into PWIs. Joseph (2007) found that students felt the racial climate at HBCUs was hospitable and there was a high sense of cultural pride; however, they perceived the racial climate at PWIs to be unwelcoming.

Similarly, the participants in this study were in academic disciplines at institutions that have been described as “chilly” for Black persons as a result of the overwhelming White population and historical context which has been geared towards the success of that population (Herzig, 2004; Joseph, 2007). The idea of a chilly climate is used to describe the challenging experiences of underrepresented students and faculty and administrators in academic work environments (Sadler, 1982, 1984). The participants adamantly expressed how they felt they were on the receiving end of racism from when interacting with their peers and faculty or having a night out with friends.

In addition to racism, the participants felt that others perceived them as being academically inadequate by their peers and faculty members. Although the participants worked hard and possessed the academic capability to succeed, they were sometimes
frustrated that their peers were reluctant to include them in study groups or collaborate with them on homework assignments. Further, the participants’ feelings of a chilly climate were compounded as a result of attending an HBCU, which was not considered as prestigious as a PWI (St. John, 2000). The participants in this study felt that the perceived notions of inadequacy they received from their colleagues was partially because of their HBCU undergraduate experiences.

Graduate programs are designed to be challenging and appeal to the academic aspirations of the students enrolled. Though academically-challenging, underrepresented students’ challenges are compounded as a result of a chilly institutional climate (Johnson-Bailey, Valentine, Cervero, & Bowles, 2008; Nettles, 1998; Nettles & Millett, 2006). The data that emerged from the participants’ narratives support this notion.

The participants in this study were academically sufficient and consistently persevered despite the challenges they encountered. However, the participants still questioned their academic capability as Black male doctoral students. Thus, in this section, the discussion of the themes that emerged from the data are useful in answering the second research question: What hinders and facilitates the success of African American male HBCU graduates in STEM doctoral programs at PWIs?

**Intrinsic Inhibitors of Success**

Research suggests that these internal battles decrease the chances of Black males completing their degrees (Gasman et al., 2012). At times, the participants were restrained by self-conscious thoughts that were derived from the pressures of being a Black male doctoral
student and “keeping the door open” for Black students who wished to follow in their footsteps. Though the participants were motivated by these same concepts, they also emerged as inhibitors. A significant theme that emerged from the data was that the participants felt like imposters within their programs, departments, and institution.

**Imposter phenomena.** The notion of the imposter phenomena is supported by Harvey and Katz’s (1985) research on underrepresented graduate students wherein they assert that one may experience the imposter phenomena when, despite their success, they feel that they have deceived others in thinking that they are more capable or smarter than what they actually are. Thus, individuals experiencing the imposter phenomena believe that their success is attributed to factors unrelated to their intelligence and true ability such as working hard or knowing how to please others. Those experiencing the imposter phenomena constantly fear that others will one day find out that they are frauds.

The participants in this study talked about constantly battling their feelings of being an imposter. In one instance, a participant contemplated dropping out of school before his colleagues recognized him as a fraud. Ewing et al. (1996) suggests that the imposter syndrome is most prevalent with Black students who are in the early stages of their Black identity development and have low academic self-concept. Though relevant, this concept was unable to be explored within the scope of this study. However, feelings of isolation, perceived experiences of racism and inadequacy, and lack of support were found to be noteworthy in the students’ doctoral experiences. Such experiences may have contributed to the participants’ impostor feelings (Kador & Lewis, 2007; Taylor & Antony, 2000).
Persevering Despite Obstacles

Strayhorn (2012) asserts, “Sustained effort and hard work over time, despite setback or failure, is, in part, the formula for Black males’ academic success in college” (p. 8). The participants in this study were determined to succeed despite any difficulty they encountered. This perspective was often revealed when the participants were asked whether they had considered leaving their doctoral programs. Though some of the participants considered this option, most of them attributed their persistence to their drive to succeed. One participant stated, “[I] realized that, that road wasn't a straight line. It was curves and rocks and all of that other stuff.” He and other participants were excited to have “hung in there” and not dropped out of school. This is significant as nearly 70% of Black males admitted into college leave prior to completing their degree (Strayhorn, 2013).

Research has shown that perseverance or “grit” plays a role in explaining the success of Black male students (Duckworth & Quinn, 2009; Strayhorn, 2013). Grit is described as a non-cognitive trait that focuses on one’s perseverance and passion. In evaluating the data of approximately 1,300 students in a military academy, Duckworth and Quinn (2009) found that grit was a better predictor of program completion than other factors used for admission such as high school rank and involvement, SAT scores, and scores from physical evaluations. More analogous to this study, Strayhorn (2013) used statistics to test the importance of grit in predicting the academic success of 140 Black males attending PWIs. A third of the participants in this study were enrolled in STEM fields. Strayhorn (2013) found that grit, in addition to other background traits and academic factors, was positively related to the college
grades of Blacks males. In fact, Strayhorn (2013) asserts, “Grit added incremental predictive validity over and beyond traditional measures of academic success such as high school grade point average and American College Test scores” (p. 1). The findings from this study align with the research, as perseverance was key in the participants’ ability to successfully navigate the institutional climate. However, Black males often encounter internal struggles as students which may inhibit their success (Palmer, Davis, & Hilton, 2009). With these internal battles comes the diminished probability of the participants completing their degrees (Gasman et al., 2012).

**Taking Action to be Successful**

While it is important that the participants make meaning of their circumstances as Black males in PWIs, agency is not exhibited until one takes strategic actions to advance their goals (Campbell, 2012; O’Meara et al, 2012). The goal of O’Meara’s (2012) and Weidman et al.’s (2001) research is to provide an understanding of how individuals “navigate, negotiate, reframe, and act” in PWIs (O’Meara et al, 2012, p. 3). This study extends O’Meara et al.’s work to include the agential behaviors of Black male graduate students at PWIs. In this section, the data that emerged concerning O’Meara et al.’s second requirement of agency, taking strategic actions, will be discussed.

Another significant component guiding this research was Harper’s (2010) anti-deficit approach. Informed by 30 years of research concerning the experiences of Black males in higher education and society, the anti-deficit perspective focuses on the more encouraging experiences of Black males (Harper, 2010). For example, instead of asking “Why do so few
Black males continue on to graduate school?,” the anti-deficit perspective asks, “What compels Black males to enroll in graduate school?” Thus, in this section, the discussion of the themes which emerged from the data is useful in answering the third research question: How do Black male HBCU graduates take action to successfully navigate the college environment toward doctoral degree completion in a STEM discipline at a PWI?

Specifically, the participants took action in three major ways: 1) they took action to take care of their physical, spiritual, and cognitive needs; 2) they relied on their savviness or “played the game” to be successful; and 3) they built supportive relationships, understanding that doing so was important to their success as graduate students.

Self-Care

Brim (1981) asserts that individuals are producers of their development. As humans develop, their ability to act on the world and mold themselves increases. As the participants in this study experienced the intrinsic pressures of being a Black male at a PWI or had encounters that made the institutional climate feel “chilly,” they began to make decisions to take care of their personal needs. Such decisions are evidence of a practice described as self-care (Myers et al., 2012), which is defined as “engagement in behaviors that maintain and promote physical and emotional well-being” (pp. 56-57). Several factors make up self-care including exercise, sleep, regulating emotions, and having present-moment awareness (Bishop et al., 2004; Gross, 2007; Lund et al., 2010). In this study, the participants took action by practicing self-care. Such actions included seeking spiritual guidance and therapy, balancing their personal and work lives, and giving back to their communities.
Research has shown that Black students seek support through their spiritual beliefs and from family and cultural organizations (Joseph, 2007; Ross, 1998). Several of the participants mentioned that they either sought spiritual guidance independently or asked family members to pray for them in order to increase their faith and find spiritual guidance. Additionally, some of the participants sought out professional help from therapists when their normal stress-relieving approaches (i.e., physical activities, taking to friends) were not as favorable although this method was considered taboo in their community. As one participant mentioned, “As an African American male, there’s a stigma. Even now being able to tell you I got a therapist [is] not something an African American does.” This perception is an illustration of agency in loss coupling (Elder, 1994,1997).

Agency in loose coupling exemplifies an individual who may be constrained by the social context, but wants to be an individual and deviate from the norm (Elder, 1997). The participants felt that they were constrained by the culture of the Black community of not seeking therapy for difficulties they may be experiencing in life. Elder also perceives that agency may be necessary for one to exhibit behaviors that are considered to be outside of the socially structured boundaries as defined by Marshall (2005). Thus, agency is not exemplified when one conforms to the social norms, only when they deviate from them (Elder, 1997). In this study, the participants exhibited agency when they chose to deviate from the norms of the Black community and seek therapy as a resource to help them be successful as Black male doctoral students at PWIs.
Agency as responsibility. The participants were adamant about their feelings of giving back to others. This perspective is described as agency as responsibility (Meyer & Jepperson, 2000). Through this concept, one may be an agent for other individuals, an existing or potential organization, or intangible principles (Meyer & Jepperson; Marshall, 2005). For several participants in this study, this agentic perspective led them to mentor younger undergraduate and graduate students of color. Giving back created a sense of accountability for the participants. James described mentoring as making “small contracts.” When he tells a student to stand out and not settle for mediocrity, he holds himself accountable to not do the same. Black male collegians often rely on intrinsic motivators to graduate (Gasman et al., 2012). As a result of feeling personally responsible for their success, research suggests that Black males take the initiative to give back and be more involved on campus (Palmer & Young, 2008).

“Playing the Game”: Using Savviness to be Successful

The participants also used their savviness to navigate their institutions. Savviness involves understanding the institutional culture, politics, and the perspectives of others about them as Black males. In being savvy, the participants chose to pick their battles and quickly adjust when they encountered conflict. They felt it was important to understand when to make a major concern out of an issue and when to address it because of the potential penalties they may accrue as a result of them being Black males, and the participants found ways to learn and adapt to the culture and politics of their institutions and programs to be
successful. In being savvy, they also had to make decisions and adapt based on their environment.

In this sense, the participants exhibited agency as environmental proactivity or adaptation (Lawson, 1989). The participants’ agential actions were shaped by their environment as they chose to adapt to the environment in order to navigate it successfully. The participants felt that it was important to understand the role they played as doctoral students at a research intensive institution, the unspoken norms and expectations within their institution, and which conflicts to address in the context of them being Black males.

**Seeking Supportive Relationships**

Research has shown that isolation and chilly climates are often experienced by underrepresented students in higher education (Joseph, 2007). The participants in this study experienced isolation, racism, and perceived inadequacy by others which contributed to the feeling of a chilly climate at their institutions. Weidman et al. (2001) note the importance of feeling connected to others both outside and within the institution to ensure successful socialization as a graduate student; they also showed that personal communities (i.e., the graduate student’s family, friends, and employers) and professional communities impact the experiences of graduate students. Aligning with the research, the participants felt that building and maintaining supportive relationships with others was important to their success as graduate students.

Additional research also supports the notion that Black graduate students rely on personal relationships with other Black faculty and students to successfully navigate their
institutional climate (Johnson-Bailey et al., 2008). When underrepresented students feel unsupported by their peers and faculty within their academic programs and on campus, they seek support elsewhere (Golde & Dore, 2001; Winkle-Wagner et al., 2010). O’Meara et al. (2012) state:

A person will feel less encouraged to pursue his/her goals in a social context where he/she feels some aspect of his/her identity is not welcomed or understood. Whereas a person who feels like his/her identity “fits” well within the social setting and is welcomed is more likely to feel that he/she can pursue his/her goals. (p. 16)

In this study, when the participants’ needs were unmet, they sought the assistance of other underrepresented minorities, when available, whom they felt would understand and relate to their experiences as Black males. The participants felt that these relationships were vital to their success.

Who am I? Linking Findings to STEM Identities and African American Males

Throughout this study, I sought to understand the experiences of African American male HBCU graduates in STEM fields at PWIs as well as the actions they took to be successful. It was apparent that the participants’ race and gender impacted their experiences in STEM fields at PWIs and how they chose to navigate the environment to be successful. Some of the findings emerging from this study are applicable to other diverse populations matriculating through PWIs (i.e., isolation, experiences, of racism, seeking supportive relationships from similar racial or gender groups). So, how does this study contribute
specifically to the experiences of African American male HBCU graduates in STEM fields at PWIs? The answer to this question is identity and environment.

There were several notable instances for which identity played a large role in the participants’ experiences in STEM fields at PWIs. Throughout the study, it seemed as if the participants’ racial and gender identities, African American and male, were more salient to them than their STEM identity (i.e., scientist, mathematician, chemist, etc.). Though the participants recognized their standing as STEM students and were academically capable of achieving the goals of becoming scientist, their race and gender as African American males tended to outweigh their STEM identity at their PWIs.

As posited by Carlone and Johnson (2007), “One’s gender, racial, and ethnic identities affect one’s science identity” (p. 1191). In examining women of color in STEM fields, Carlone and Johnson’s science identity model suggests that three overlapping dimensions impact one’s identity: competence, performance, and recognition. One needs to be competent and understand science knowledge, which is derived from their performance in various situations. Then, their performance must be recognized as being a scientist and be meaningful by others. Additionally, Carlone and Johnson recognized there was some exchange between agency and structure with regards to one’s science identity. Most pertinent the current study, they suggest that although the culture of science is derived of majority white males, individuals who may not fit the majority identity of a scientist may take intentional actions to persist and be successful despite their differences. Thus, social interactions and structure are significant contributors to the way in which one perceives their
science identity. Based on their research, Carlone and Johnson suggested that there are three types of science identities: research scientist, altruistic scientist, and disrupted scientist.

The participants in this study may be considered as both research and altruistic scientists because they enjoyed the subject matter, practices, and potential career opportunities that may result from completing their PhDs in STEM fields. Pete was excited about the possibility of finding a cure for AIDS, Charles enjoyed learning about how the world worked in a quantitative way, and Melvin spoke positively about his lab experiences. However, in their efforts to receive recognition as scientists in their fields, the participants in this study may have experienced disrupted recognition which may have impacted their science identities.

While research and altruistic science identities are phenomena in which one receives positive recognition as being competent as a scientist, a disrupted scientist is most recognized for being a member of a stigmatized group (Carlone & Johnson, 2007). When describing a disruptive identity, Carlone and Johnson assert that one represented by this identity “could not form science identities, but rather that, when they talked about themselves as science students, they focused on experiences where they felt overlooked, neglected, or discriminated against by meaningful others within science” (p. 1202).

In some instances, the race and gender of the African American males in this study were perceived to be more relevant than their academic ability or standing. Charles mentioned how a faculty member suggested that his race was inferior, Pete mentioned several instances in which visitors passed him to search for “real scientist,” and several
participants mentioned that it was difficult for them to be included in study groups and work with others because of their race and gender. The participants’ disrupted identities suggest that one’s science identity and the recognition thereof “may be more shaped by race and ethnicity than we would like to admit” (Carlone & Johnson, 2007, p. 1207).

In addition to the environment impacting the identity of the participants, the participants’ intrinsic feelings may have contributed to their racial identities being more salient than their science identities. In some instances, the participants’ intrinsic feelings or perceptions regarding their identities tended to impact their experiences and how they enacted agency to navigate their experiences. There were times when the participants suggested that it was more important that they recognize the significance of being successful as an African American male in a STEM fields rather than merely being successful in their STEM fields. For example, Charles often mentioned the idea of “keeping the door open” for other African American STEM students who wished to follow in his footsteps. Though not specifically describing their perspectives as “keeping the door open,” nearly all of the participants shared Charles’ understanding of doing things right and not making mistakes that may keep other minorities from reaching their goals of completing PhDs in STEM fields at their respective institutions. Thus, the pressure and responsibility they placed on themselves to be successful, combined with the environmental factors (e.g., structural makeup of majority white male scientists) at their institutions may have contributed to their racial identities being more salient than their science identities.
Implications for Higher Education

The findings from this study have several significant implications for policy and practice. The results from this study can be a useful resource for higher education professionals aiming to increase the number and enhance the experiences of Black males in STEM doctoral programs at PWIs. Administrators and graduate faculty are generally aware that most students encounter challenges or experience a learning curve during their transition from undergraduate to graduate level courses. However, this transition may be more complex and challenging for Black males entering a PWI graduate program from an HBCU. In this study, the participants generally felt prepared for the academic and social challenges of their doctoral programs by their HBCUs. However, the participants expected to encounter racism, intensive research assignments, and be perceived as inadequate by others as a result of their race and undergraduate preparation at an HBCU. It may be useful for PWIs to more intentionally assist these students in their transition to graduate school by creating summer transitional programs or dedicating segments during student orientation for these students to acclimate before they are completely immersed into their new environments. Such experiences would allow participants to initiate and build relationships with faculty, staff, and peers; learn expectations of their programs; and become familiar with the environment.

Second, PWIs must take on the responsibility of increasing the numbers of Black males in graduate school. While college campuses are more diverse than they were twenty years ago, concerns of “chilly” racial climates continue to exist and institutional leaders must remain engaged in a concerted effort to ensure that students of all races and ethnicities are
comfortable on campus (Smith & Wolf-Wendel, 2006). One common theme expressed by all participants was the lack of Black persons at their institution. The participants were adamant about the need to increase the amount of Black graduate students, Black male graduate students, and Black faculty on campus. It is important that administrators at PWIs actively seek to recruit Black graduates. It may be helpful for PWIs to provide support services focusing on Black males and strategically reconstruct recruitment and retention plans to enhance the experiences and increase the success of Black male doctoral students. It may also be useful for PWIs to actively recruit and support Black faculty. Black faculty members, especially those in influential positions, provide visual cues of success for Black doctoral students. The participants reported that seeing and interacting with Black faculty on both a personal and professional level could be both empowering and inspiring. Though faculty were not the focus of this study, it was clear that the visibility racial makeup of faculty impacted the participants’ experiences.

When examining institutional hiring practices and policies, it may be beneficial for campus leaders to consider applicants that may not have followed traditional career paths (Evans & Chun, 2007). This allows more underrepresented minorities to be included in the hiring pool and increases the probability of a campus employing individuals who have diverse, yet valuable backgrounds and experiences (APA, 1996). At the same time, when recruiting and hiring more racial and ethnic minority employees it is important that these employees are not tokenized. Rather, they should be afforded opportunities to contribute to the institution in areas beyond diversity (Park & Denson, 2009). It is important, however, to
note that such recommendations, though critical, are long-term suggestions and may not be easily implemented.

Third, it is important to support the self-care efforts of graduate students. The participants in this study used self-care practices as a means to ensure their success as Black male doctoral students. Stress can negatively impact the academic performance and personal well-being of graduate students (Myers et al., 2012). However, in addition to the normal rigors of graduate school, the participants in this study were also impacted by the chilly climate of their institutions and the internal pressure to be successful and “keep the door” open for others. The participants took steps such as balancing their personal and work lives, seeking spiritual guidance, and, although considered taboo in the Black community, seeking therapy. Administrators, faculty, and staff at PWIs should seek to incorporate programs that increase the awareness of and assist students in modeling self-care. An example of this is the Professional Opportunities for Wellness Education and Revitalization (POWER) program developed by graduate students at Arizona State University (Dittman, 2005; Myers et al., 2012). This program includes several elements such as trainings, mentoring, and social events aimed at encouraging self-care to graduate students. Additionally, counselors at PWIs must be aware of the taboo of seeking therapy in the Black community. Though the participants mentioned that therapy was helpful, they often prefaced their narratives with the notion that therapy was not a practice often used in the Black community. It may be helpful for counselors to educate underrepresented minorities about process of and potential positive impact of therapy.
Limitations

While the study presented has presented some interesting findings, there are limitations that should be addressed. Though precautions were taken such as member checking, peer debriefing, journaling, and conducting follow-up interviews, the first set of limitations pertaining to the methodology must be acknowledged. I served as the primary research instrument in the study, thus the research was limited by my subjectivity and positionality. Additionally, the primary form of data collection was interviews. The participants self-reported their stories as they remembered them and may have left out details either purposely or unconsciously.

An additional and recognizable limitation of this study was the number of participants. Though the participants’ stories were powerful, the sample size was small. Thus, precautions should be taken when generalizing the research to populations. Another limitation was the time span of the study. Though I focused on the participants’ experiences from undergraduate to graduate school, the research was only a glimpse of the participants’ experiences at a moment’s time. There were also theoretical limitations. Though the research pertaining to Black males has increased, research focusing on their experiences on the graduate level is lacking. Increased theoretical knowledge of the experiences of Black males in doctoral programs would have improved the study.

Recommendations for Future Research

Framed in an anti-deficit perspective, this research used agency and graduate socialization research to explore the experiences of Black male HBCU graduates in STEM
doctoral programs at PWIs and the actions they took to be successful. Recommendations for future research are relevant and the following suggestions could guide such research. First, more time on the study may provide a deeper understanding of the participants’ experience. Thus, I recommend a longitudinal study examining participants throughout their undergraduate HBCU experience and following them to the completion of their STEM doctoral programs at PWIs. A research study of this caliber would also better address the backgrounds and predispositions of students prior to entering their doctoral programs. Further, such research would permit the participants to report their experiences over a longer period of time and provide a better understanding of their strategic perspectives as well as the actions taken to be successful.

Future research should also examine policies in higher education. The participants consistently expressed their dissatisfaction with being one of few Black graduate students on campus, and often, the only Black male graduate student in their programs. Additionally, some participants suggested that minority representation on campus was purely for propaganda purposes and questioned the genuineness of minority recruitment and involvement within their academic environment (i.e., labs and grants). Thus, research focusing on the policies of access, recruitment, retention, and support of underrepresented students in higher education, and specifically, in STEM fields, should be addressed. Such research should explore the experiences of underrepresented students over a span of time from being recruited into a PWI to graduation to determine the students’ perceptions of support during their doctoral experiences.
Further, much of the research used in this study was based on the experiences of undergraduate males. However, it is important that we have a better understanding of Black male doctoral students on the graduate level. In order to enhance the experiences of Black male doctoral students, more research must be conducted on this population on the graduate level. Additionally, we must take alternative approaches in exploring the positive experiences of Black males (Harper, 2012). As stated by Garibaldi, “Too much of our time has been devoted to discussing the plight of African American males rather than developing potential solutions to mitigate this crisis” (p. 4). Though it is important to know their issues, it is equally, or even more important to know how they successfully navigate their environments. More research using the anti-deficit approach will provide us with a unique understanding of the experiences of Black males in higher education.

Finally, I propose a preliminary framework for graduate student agency. In an effort to explore the experiences of Black male HBCU graduates in STEM programs at PWIs and understand what actions these students take to succeed, the study employed Harper’s (2010, 2012) anti-deficit achievement framework; Weidman, Twale, and Stein’s (2001) conceptualization of the graduate student socialization process; O’Meara, Campbell, and Terosky’s (2012) notions of agency and other significant pieces of the literature concerning the experiences of Black males and underrepresented students in higher education. Using the aforementioned concepts, I propose a preliminary framework for graduate student agency.

O’Meara et al. (2012) explicitly mentioned that their framework “should not be construed as applicable to students, administrators, or people in other roles, internal or
external to higher education . . . [however] . . . in some ways it might be applicable” (p. 5).

Being aware of this consideration, I suggest that this framework can be employed to explore the experiences of graduate students by incorporating Weidman et al.’s (2001) widely-used and extensively-examined graduate student socialization framework. I contend that the process of agency is similar for both graduate students and faculty because they both have a goal, are influenced by several factors, make-meaning of their situations, and then take actions to achieve their goal.

Although I contend that this framework can be used to examine graduate student experiences, there is one area of distinction in which I believe O’Meara et al. (2012) base their concerns—factors that influence agential behavior. Though there are similarities in the factors that influence graduate students and faculty members (O’Meara et al., 2012; Weidman et al., 2001), it is inappropriate to impose those faculty influences on graduate students as O’Meara et al. intentionally explored the literature to find what factors influence faculty members in the academic profession (e.g., resources, leadership, and identity). I suggest that the faculty influences be replaced with factors that have been shown to be significant in graduate degree attainment (see Figure 3).
These influences found in the literature and in Weidman et al.’s (2001) graduate socialization framework include individual influences, personal communities, and college and university influences. Individual influences include students’ background and predispositions. In this study, the participants’ backgrounds including their race, ethnicity, and gender as well as his experience at his undergraduate institution, an HBCU, may have influenced their agential experiences. The study specifically focused on Black males who attended an HBCU for their undergraduate study. The participants’ predispositions may be used to understand their aspirations to pursue a doctoral degree in a STEM field. Though the participants in this study expected to have academic and social challenges, they generally felt prepared by their HBCUs for graduate study in a STEM field at a PWI. However, they were
aware of and anticipated that their race and gender as Black males and the perceptions of
their undergraduate HBCU institutions could impact their doctoral experiences at PWIs.

Further, as suggested by the findings from this research, the participants’ identities
may require increased attention in the agency framework. Though O’Meara et al. recognized
one’s identity to be significant in their agential behavior, the findings here (or in this study)
suggest that the participant’s racial and gender identities outweighed their identities as
scientist. Thus, future research should examine the interplay of STEM, racial, and gender
identity theories in agency.

Personal communities are also influential in graduate student socialization and
success. Personal communities may include family, friends, and others outside of the
university environment. In this study, the participants counted on their personal communities
for spiritual, academic, and social support. The final influences relevant to graduate
socialization are those within the participants’ institution. These include the institutional
climate, academic program, peer climate, resources, and norms and expectations. In this
study, the participants often described the institutional climate as chilly as a result of feeling
isolation, perceived racism encounters, and the lack of Black persons on their campuses.
Replacing O’Meara et al.’s faculty influences with the aforementioned set of graduate
student socialization influences may be useful in understanding how the how graduate
students make meaning of and take action to navigate their doctoral experiences. However,
there is much research that needs to be explored before an actual model is suggested. Such
research will be acknowledged in the discussion of future research.
The present study explored some fundamental influences of graduate students’ success such as backgrounds, predisposition, and institutional climates as well as the actions the participants took to be successful. However, there are other unique components of agency that were unclear in the study and worthy of additional research such as strategic perspectives in making meaning of one’s experiences. O’Meara et al.’s (2012) agency framework is guided by Marshall’s (2005) constructs of agency. After an extensive review of the literature, O’Meara et al. (2012) incorporated an additional component of agency, agency as perspective (O’Meara et al.; McAdams, de St. Aubin, & Logan, 1993; Schutz, 1967).

Instead of focusing on the suggestion that agency involves intentional and choice-making behaviors, agency as perspective emphasizes the reflection associated with the agentic process (Campbell, 2012). Thus, Campbell asserts, “Agency is the ability to make meaning of human experiences, to reflect upon them, and to re-construct them internally” (p. 41). Using this perspective as a guide and focusing on the perspective of one’s lived experiences, O’Meara et al. define agency as “taking strategic and intentional views or actions toward goals that matter to [oneself]” (p. 2). O’Meara et al.’s model of agency requires a person to do two things: 1) make meaning of their circumstances and the context in which their circumstances exist, and 2) exhibit behaviors and take actions toward advancing their goals (O’Meara et al., 2012). The agency literature shows that when an individual goes through an experience and is in the process of making a decision, he or she has internal conversations that assist him or her in making the decision in the most strategic way to meet his or her personal goals (Kahn, 2009).
In this study, parsing out strategic perspectives which may have assisted the participants in making meaning of their lived experiences was not a focus, nor were the strategic perspectives key in the findings. Thus, if a graduate student model is formed, the strategic perspectives of graduate students must be addressed. I suggest that future research seeks an understanding of how Black male doctoral students reflect upon and make meaning of their experiences.

**Conclusion**

This study explored the experiences of Black male HBCU graduates enrolled in STEM doctoral programs at PWIs. The study used narrative inquiry, which gave the participants an opportunity to freely express their perspectives of their doctoral experiences. It is extremely important that we recognize the experiences of underrepresented students in higher education, and specifically those in STEM fields so that we may enhance their experiences and remain globally competitive with other countries in STEM related initiatives.

The participants in this study felt like minorities on their PWI campuses. They were disappointed and disheartened by the lack of Black persons on campus, often felt isolated, and believed that they were the recipients of racism at times. The participants were inhibited by the internal pressures of succeeding as Black men and keeping the door open for others. Further, though having the academic capacity to be successful and earning their status as doctoral students, the participants were constrained as a result of feeling like they were imposters at their intuitions. They were afraid of being revealed as academic frauds.
camouflaged amongst high achievers. However, the participants persevered and stayed focused on their goal of completing their degrees. A significant focus of this study is how the participants took action to be successful.

The participants’ spiritual, health, and personal lives were vital to their success. The participants often mentioned that they prayed or sought prayer from others, balanced their personal and work lives, and sought professional guidance as doctoral students. In addition to prioritizing their self-care, the participants believed that it was important to be savvy as Black males. In some instances, this meant that they would have to hold in their feelings despite being in uncomfortable situations in which they wanted to tell others how they felt. This also meant that they had to understand how to navigate the politics of their programs and institutions. Lastly, the participants’ systems of support were meaningful to their success. The participants networked and developed meaningful relationships with others to ensure their success as Black males.

In concluding the study, there are three important ideas that the reader should take away from this research. First, perseverance was key for the participants in navigating their experiences as Black males at PWIs. The participants continually endured because they felt that their success was not only about what they could achieve, but how their success could benefit other minorities. Thus, though obtaining a degree was important, recognizing the importance of the journey was just as significant. Second, the research gave voice to hidden struggles that the participants masked in order to be successful. The participants’ success was hindered at times by their feelings of being an imposter and the intrinsic pressure to be
successful and represent an entire race of people while doing so. Finally, the participants’
race and gender as African American males outweighed their science identities. The
participants’ identities were impacted both by environmental factors at their PWIs as well as
their internal feelings.
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APPENDIX A: DEMOGRAPHIC QUESTIONS

Q1 Name

Q2 Email

Q3 A pseudonym, or fictitious name, will be used to ensure that your data is anonymous. In the case that one is taken, please indicate two pseudonyms you would like to use.

Q4 What is your gender?
   Male (1)
   Female (2)

Q5 What is your race?

Q6 How old are you?

Q7 Where are you from (i.e., city, state)?

Q8 From which HBCU did you complete your undergraduate degree?

Q9 Did you attend any other undergraduate institutions?
   Yes (1)
   No (2)

   Answer If Did you attend any other undergraduate institutions (incl... Yes Is Selected

Q10 Which other undergraduate institutions did you attend?

Q11 What was your undergraduate major and department?

Q12 Which institution are you enrolled in for your doctoral degree?

Q12 Did you attend any other institutions while working on your doctorate degree?
   Yes (1)
   No (2)

   Answer If Did you attend any other institutions while working on yo... Yes Is Selected

Q14 Which other institution(s) did you attend?

Q15 What is your doctoral degree major and department?
Q16 When you entered your doctoral program, were you funded?
Yes (1)
No (2)

Answer If When you entered your doctoral program, were you funded? Yes Is Selected

Q17 What type of assistantship was this?
Teaching Assistantship (1)
Research Assistantship (2)
Other (3) ____________________

Answer If When you entered your doctoral program, were you funded? Yes Is Selected

Q18 How long was this funding guaranteed?

Answer If When you entered your doctoral program, were you funded? No Is Selected

Q19 Do you currently have an assistantship?
Yes (1)
No (2)

Q20 What type of assistantship do you currently have?
Teaching Assistantship (1)
Research Assistantship (2)
Other (3) ____________________

Q21 Please describe your family structure?
Married-couple or two-parent family (1)
Guardian(s) (i.e., grandparents, foster parents) (2)
Family with female householder, no spouse present (3)
Family with male householder, no spouse present (4)
Other: (5) ____________________

Q22 What was the highest educational attainment of your mother?
Professional degree (e.g., M.D., D.D.S., J.D., D.V.M.) (1)
Doctoral degree (e.g., Ph.D., Ed.D.) (2)
Master's degree (3)
Bachelor's degree (4-year degree) (4)
Associate's degree (2-year degree) (5)
Some College (6)
High School diploma or GED (7)
no diploma or degree (8)
I don't know (9)

Q23 What is your mother's occupation?
Q24 What was the highest educational attainment of your father?
- Professional degree (e.g., M.D., D.D.S., J.D., D.V.M.) (1)
- Doctoral degree (e.g., Ph.D., Ed.D.) (2)
- Master's degree (3)
- Bachelor's degree (4-year degree) (4)
- Associate's degree (2-year degree) (5)
- Some College (6)
- High School diploma or GED (7)
- No diploma or degree (8)
- I don't know (9)

Q25 What is your father's occupation?

Q26 How would you describe your socioeconomic status growing up?
- Low-income (1)
- Working Class (2)
- Middle Class (3)
- Wealthy/Affluent (4)
APPENDIX B: REFLECTION WORKSHEET

The purpose of this worksheet is to encourage you to reflect on your undergraduate and doctoral experiences. In the spaces provided below, please describe any significant events, experiences, and/or relationships that have impacted the way that you view your doctoral experiences and contributed to the decisions you've made to be successful as a doctoral student. Please feel free to use as much space as you need.

Undergraduate Experiences

Doctoral Experiences

Adapted from Tullos (2011) Timeline of Significant Events
APPENDIX C: INTERVIEW PROTOCOL

Participant’s Pseudonym: ______________________________
Place: _____________________
Researcher/Interviewer: Antonio Bush
Scheduled Time: ________________
Date: ___________________
Start time ________End time ________

1. What are the experiences of African American male HBCU graduates in STEM doctoral programs?

2. How do African American male HBCU graduates take action to successfully navigate the college environment toward doctoral degree completion in a STEM discipline?

A. Individual Influences

Background: HBCU Undergraduate Experience
1. Describe your undergraduate experiences as an African American male at [undergraduate institution]?
   a. Tell me about your experiences as an African American male [academic STEM major] student in [academic STEM program]?
   b. Tell me about your experiences with the curriculum.
2. Tell me about the relationships you formed while you were in [academic STEM program].
   a. Peers?
   b. Faculty, staff, administration?

Pre-dispositions
3. Were you encouraged to attend graduate school?
   a. If so, how?
4. Was [current graduate institution] your first choice?
5. Tell me about your expectations of [academic STEM program] prior to your enrollment?
   a. Faculty?
   b. Peers?
   c. Curriculum?
6. How do you feel your undergraduate academic program at prepared you for your current doctoral program?
   a. Academically?
   b. Socially

B. Graduate School Experiences (College/University)
Institutional Climate
7. Tell me what it’s like to be an African American male doctoral student on campus?
   a. How would you describe the campus culture?
8. How has the institutional culture impacted your academic success as an African American male doctoral student?
9. Do you feel welcomed and supported on campus as an African American male?
   b. Talk to me about this.
   c. Why? Or why not?
10. Tell me about the steps you’ve taken to navigate the institutional climate to help you complete your degree.

Academic Program
11. Describe your experience as an African American male in your academic program.
12. What have been some of the most stressful moments for you in your academic program?
   a. What did you do to overcome those moments?
13. Tell me about the diversity in your program.
   a. Faculty? Peers?
   b. How has this impacted your experience?

Norms and Expectations
14. Tell me about the expectations of your program (i.e., publishing requirements, time-to-degree boundaries, and funding levels)
15. How did you learn about the norms, requirements, and expectations of your program?
16. Tell me about a time when the norms and expectations were unclear.
   a. Talk to me about the strategic actions you took to understand those norms and expectations.
17. How has understanding the requirements and expectations of your program impacted your experience?

Curriculum
18. Talk to me about the curriculum in your program.
   a. Tell me about the diversity of your curriculum.
19. Talk to me about any gatekeeper courses you’ve taken.
20. Tell me what actions you’ve taken to get the best experience out the curriculum.

Faculty Advisor
21. Did you choose your advisor or was your advisor assigned to you?
   a. Why did you choose this particular faculty advisor?
22. Tell me about your relationship with your faculty advisor.
23. Tell me about the support you receive from your faculty advisor.
   a. Any challenges? If so what did you do to overcome them?
b. Was there ever a time you did not feel supported? If so, what did you do to get the support you needed?

24. Are you satisfied with your faculty advisor?

Probe: Why? Or why not?

25. Tell me about the actions you’ve taken to get the most of out this relationship?

Peer Climate

26. Tell me about your relationships with your peers

27. Tell me about the support you receive from your peers

28. Talk to me about the challenges you have with your peers.
   a. Tell me what you did to overcome these challenges.

29. Have you ever felt isolated by your peers?
   a. If not, why not? What contributed to this feeling?
   b. If yes, describe your feelings of isolation

Resources

30. Tell me about your funding for your doctoral degree.

31. How did you obtain your assistantship?
   a. How has your assistantship experience contributed to your graduate school experience?

Other

32. As an African American male doctoral student, how has your race and gender impacted your doctoral experience?

33. Describe what it takes to be successful as an African American male doctoral student?

34. Any other stories you would like to tell me regarding your doctoral student experience?

Interview 2

1. Describe your greatest accomplishment or triumph as an African American male doctoral student?

2. Describe your greatest disappointment or challenge as an African American male doctoral student?

3. Have you ever considered leaving your doctoral program?
   a. Why or why not?
   b. What influenced your decision?

4. As an African American male, what do you feel is missing from your program?
   a. What are you doing to make your program better for African American males?

5. Any other stories you would like to tell me regarding your doctoral student experience?
Probes (Bogdan & Biklen, 2003)
What do you mean? What were you thinking at the time? I’m not sure that I am following you.
Give me an example. Would you explain that? Tell me about it.
What did you say then? Take me through the experience.
APPENDIX D: E-JOURNAL PROMPTS

1. What goals do you have as a doctoral student?
Describe the steps you’ve taken to achieve those goals.

2. What challenges have you had as a doctoral student?
Describe how you overcame these challenges?
APPENDIX E: IRB APPLICATION

North Carolina State University
Institutional Review Board for the Use of Human Subjects in Research

SUBMISSION FOR NEW STUDIES

GENERAL INFORMATION

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<table>
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<tbody>
<tr>
<td>1. Date Submitted:</td>
<td>N/A</td>
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<tr>
<td>1a. Revised Date:</td>
<td>N/A</td>
</tr>
<tr>
<td>2. Title of Project: The Experiences of African American Male HBCU Graduates in STEM Doctoral Programs</td>
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<tr>
<td>3. Principal Investigator:</td>
<td>Antonio Bush</td>
</tr>
<tr>
<td>4. Department:</td>
<td>Leadership, Policy, Adult, and Higher Education</td>
</tr>
<tr>
<td>5. Campus Box Number:</td>
<td>N/A</td>
</tr>
<tr>
<td>6. Email:</td>
<td><a href="mailto:abush@ncsu.edu">abush@ncsu.edu</a></td>
</tr>
<tr>
<td>7. Phone Number:</td>
<td>706-615-2595</td>
</tr>
<tr>
<td>8. Fax Number:</td>
<td>N/A</td>
</tr>
<tr>
<td>9. Faculty Sponsor Name and Email Address if Student Submission:</td>
<td>Joy Gayles (<a href="mailto:joy_gayles@ncsu.edu">joy_gayles@ncsu.edu</a>) and Audrey Jaeger (<a href="mailto:audrey_jaeger@ncsu.edu">audrey_jaeger@ncsu.edu</a>)</td>
</tr>
<tr>
<td>10. Source of Funding? (required information):</td>
<td>College of Education Dissertation Grant ($1,500) and personal funds</td>
</tr>
<tr>
<td>11. Is this research receiving federal funding?:</td>
<td>N/A</td>
</tr>
<tr>
<td>12. If Externally funded, include sponsor name and university account number:</td>
<td>N/A</td>
</tr>
<tr>
<td>13. RANK:</td>
<td>Faculty</td>
</tr>
<tr>
<td></td>
<td>Student: Undergraduate; Masters; or PhD</td>
</tr>
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<td></td>
<td>Other (specify):</td>
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</table>

As the principal investigator, my signature testifies that I have read and understood the University Policy and Procedures for the Use of Human Subjects in Research. I assure the Committee that all procedures performed under this project will be conducted exactly as outlined in the Proposal Narrative and that any modification to this protocol will be submitted to the Committee in the form of an amendment for its approval prior to implementation.

Principal Investigator:
Antonio Bush
(typed/printed name) (signature)

As the faculty sponsor, my signature testifies that I have reviewed this application thoroughly and will oversee the research in its entirety. I hereby acknowledge my role as the principal investigator of record.

Faculty Sponsor:
(typed/printed name) (signature)

*Electronic submissions to the IRB are considered signed via an electronic signature. For student submissions this means that the faculty sponsor has reviewed the proposal prior to it being submitted and is copied on the submission.

Please complete this application and email as an attachment to: debra_paxton@ncsu.edu, or send by mail to: Institutional Review Board, Box 7514, NCSU Campus (Administrative Services III). Please include consent forms and other study documents with your application and submit as one document.

***************************************************************************
In your narrative, address each of the topics outlined below. Every application for IRB review must contain a proposal narrative, and failure to follow these directions will result in delays in reviewing/processing the protocol.

A. INTRODUCTION
   1. Briefly describe in lay language the purpose of the proposed research and why it is important.

   The purpose of this study is to discover and understand the experiences of African American males who completed their undergraduate study at a historically Black college or university (HBCU) and are pursuing a doctoral degree in a Science, Technology, Engineering, or Mathematics (STEM) discipline at a predominantly White institution (PWI). This study examines the following research questions: 1. What are the experiences of African American male HBCU graduates in STEM doctoral programs? And 2) How do African American male HBCU graduates take action to successfully navigate their experiences toward doctoral degree completion in a STEM discipline?

   There are several benefits of this study. First, the study adds to the current literature base. There is a need for scholarship that counters often negative characterizations of Black students, especially Black males. Further, the study has the potential to inform policy, practice, and theory in higher education as it contributes to the progressing agenda to enhance the doctoral experiences of students of color in STEM fields. Findings from this study can be used to create departmental and institutional policies at both HBCUs and PWIs and implement practical solutions to increase the success of Black male doctoral students.

   2. If student research, indicate whether for a course, thesis, dissertation, or independent research.

   Dissertation

B. SUBJECT POPULATION
   1. How many subjects will be involved in the research? Estimates or ranges are acceptable. Please be aware that if you recruit over 10% more participants than originally requested, you will need to submit a request to modify your recruitment numbers.

   8-10 participants

   2. Describe how subjects will be recruited.

   Snowball sampling will be used to recruit participants. I will recruit participants with the assistance of individuals such as university faculty, graduate school administrators and staff, and diversity officers. An introductory letter/email will be sent to these gatekeepers asking for their assistance. After gatekeepers identify potential participants, I will contact the participants and provide them with a detailed introductory letter and an informed consent form.

   3. List specific eligibility requirements for subjects (or describe screening procedures), including those criteria that would exclude otherwise acceptable subjects.

   The criteria for the participants include the following: a) identify as being an African American or Black male, b) completed undergraduate study at an HBCU, and c) currently enrolled as a third year student in a STEM doctoral degree program at a PWI.

   4. Explain any sampling procedure that might exclude specific populations.

   The proposed study has pre-determined criteria (see question 3). Students who do not meet these criteria will be excluded from the study.
5. Disclose any relationship between researcher and subjects - such as, teacher/student; employer/employee.

There is no pre-existing relationship between the researcher and participants.

6. Check any vulnerable populations included in study:
- minors (under age 18) - if so, have you included a line on the consent form for the parent/guardian signature
- fetuses
- pregnant women
- persons with mental, psychiatric or emotional disabilities
- persons with physical disabilities
- economically or educationally disadvantaged
- prisoners
- elderly
- students from a class taught by principal investigator
- other vulnerable population.

7. If any of the above are used, state the necessity for doing so. Please indicate the approximate age range of the minors to be involved.

N/A

C. PROCEDURES TO BE FOLLOWED

1. In lay language, describe completely all procedures to be followed during the course of the experimentation. Provide sufficient detail so that the Committee is able to assess potential risks to human subjects. In order for the IRB to completely understand the experience of the subjects in your project, please provide a detailed outline of everything subjects will experience as a result of participating in your project. Please be specific and include information on all aspects of the research, through subject recruitment and ending when the subject's role in the project is complete. All descriptions should include the informed consent process, interactions between the subjects and the researcher, and any tasks, tests, etc. that involve subjects. If the project involves more than one group of subjects (e.g. teachers and students, employees and supervisors), please make sure to provide descriptions for each subject group.

After receiving IRB approval, I will recruit participants with the assistance of individuals such as university faculty, graduate school administrators and staff, and diversity officers. I will only be getting contact information of students from these individuals. They will not be responsible for reaching out to students. An introductory letter/email will be sent to these individuals asking for their assistance. After they identify potential participants, I will contact the participants and provide them with a detailed introductory letter and an informed consent form. After participants have confirmed their participation, I will begin data collection. A demographic questionnaire, biographical timeline, and a series of semi-structured interviews will be used to collect data (see attached). Prior to the first interview, participants will have the opportunity to complete a biographical timeline and a demographic questionnaire. The timeline will allow them to reflect on and describe any significant events, experiences, or relationships that have contributed to their decision to pursue a doctoral degree in a STEM field. The demographic questionnaire, in which the participants will be able to select pseudonyms, will be used to understand the background of the participants. Next, I will conduct semi-structured, individual interviews. Interviews may be in person, through telephone, or electronic media. All interviews will be audio recorded. The interviews will be guided by an interview protocol including predetermined, open-ended questions. In the first interview, I will ask the participants about their personal backgrounds and have them reconstruct their undergraduate experiences at HBCUs. Additionally, I will explore the
participants’ lived experiences as they transitioned into graduate school at a PWI from a HBCU. Furthermore, I will seek an understanding of how the participants make meaning of and take action to successfully navigate their doctoral experiences. I will conduct all interviews and the same protocol will be used for each interview. Interviews are scheduled to last about 90-minutes to provide a suitable amount of time for the participants to reconstruct their lived experiences. Interviews will be scheduled from three to seven days apart. This spacing allows both the participant and researcher to reflect on previous interviews.

A second interview will be scheduled to clarify previously gathered information. Furthermore, participants will be given the opportunity to reflect on their experiences and provide any additional information they feel is pertinent to their lived experiences. Interviews will be audio recorded and transcribed by a third party transcriptionist for data analysis within seven days of each interview. The audio recordings and transcripts will be stored on a password protected external hard drive in the home of the principal investigator.

Member checks and a dependability audit will be used to increase the study’s trustworthiness. I will remove all identifiers from the transcript and then send that transcript to the participants using a generic email template so that no one can connect the recipient of the email to the person in the transcript. The participants will be given the transcripts in addition to an outline of the themes found in the study. I will consider making corrections as identified by the participants. I will be use a journal to track every step of the data collection process, serving as a record.

2. How much time will be required of each subject?

I anticipate that participants will commit to approximately 3-4 hours. This includes time to complete the demographic questionnaire, biographical timeline, and multiple interviews.

D. POTENTIAL RISKS

1. State the potential risks (psychological, social, physical, financial, legal or other) connected with the proposed procedures and explain the steps taken to minimize these risks.

There will be minimal discomfort or stress from the interviews, reflection worksheet, journals or demographic questionnaires. Any discomfort or stress that a participant may experience is not expected to exceed that in which they experience in everyday life.

2. Will there be a request for information that subjects might consider to be personal or sensitive (e.g. private behavior, economic status, sexual issues, religious beliefs, or other matters that if made public might impair their self-esteem or reputation or could reasonably place the subjects at risk of criminal or civil liability)?

Participants will answer questions relating to their family background and personal background in the demographic questionnaire (see attached). Information from the questionnaire include: socioeconomic status, parent’s education, parent’s occupation, and family structure. Further while filling out the biographical timeline and responding to interview questions, the participants will be sharing their lived experiences of their doctoral program.

a. If yes, please describe and explain the steps taken to minimize these risks.

Participants can choose what questions they want to answer and how they want to answer each question. Participants will be reminded throughout the process that the information they provide is optional. Measures such as using pseudonyms so that the participants’ real names are not including in documents or the dissertation and keeping a master list of the steps I take in the process will be used to minimize risk including

3. Could any of the study procedures produce stress or anxiety, or be considered offensive, threatening, or degrading? If yes, please describe why they are important and what arrangements have been made for handling an emotional reaction from the subject.
Participation in this study may produce minor stress. During the interview process, participants will be asked questions about their undergraduate and doctoral experiences. This may produce some stress or anxiety depending on a participant’s experiences. However, the goal of the study is to understand how the participants take action to be successful in their doctoral programs. As opposed to dwelling on those negative experiences, I will focus on how the participants acted to overcome these experiences.

4. How will data be recorded and stored?

Data from the demographic questionnaire and biographical timeline will be recorded using Qualtrics. Surveys will be unique to each participant. Interviews will be recorded using digital voice recorders. All digital files will be stored on a hard drive or password-protected computer.

a. How will identifiers be used in study notes and other materials?

Participants will select their own pseudonyms. Information containing their true identifiers will remain separated from the information containing pseudonyms.

b. How will reports will be written, in aggregate terms, or will individual responses be described?

The reports will be written in aggregate terms. When direct quotes are used, the participants’ pseudonyms will be used in the written report of the study.

5. If audio or video recordings are collected, will you retain or destroy the recordings? How will recordings be stored during the project and after, as per your destruction/retention plans?

Digital audio recordings will be stored on a hard drive or password-protected computer. The audio recordings will be destroyed no later than 1 year after the completion of the study.

6. Is there any deception of the human subjects involved in this study? If yes, please describe why it is necessary and describe the debriefing procedures that have been arranged.

No.

E. POTENTIAL BENEFITS

This does not include any form of compensation for participation.

1. What, if any, direct benefit is to be gained by the subject? If no direct benefit is expected, but indirect benefit may be expected (knowledge may be gained that could help others), please explain.

The proposed research offers the individual benefit of giving the participants voice to break down negative stereotypes and offer an alternative perspective of their experiences. Although there are consistent gaps in the academic achievement of Black males when compared to their peers, these men have a historical legacy of defeating the odds and breaking down barriers in higher education. Thus, Black males that have succeeded in college separate themselves from the often negatives images of Black men in media and the frequently negative depictions of Black men in higher education.

F. COMPENSATION

Please keep in mind that the logistics of providing compensation to your subjects (e.g., if your business office requires names of subjects who received compensation) may compromise anonymity or complicate confidentiality protections. If, while arranging for subject compensation, you must make changes to the anonymity or confidentiality provisions for your research, you must contact the IRB office prior to implementing those changes.

1. Describe compensation

At the end of the second interview, participants will receive $20 cash.
2. **Explain compensation provisions if the subject withdraws prior to completion of the study.**
   Participants will not receive compensation if they withdraw from the study prior to completion.

3. **If class credit will be given, list the amount and alternative ways to earn the same amount of credit.**
   N/A

**G COLLABORATORS**
1. If you anticipate that additional investigators (other than those named on Cover Page) may be involved in this research, list them here indicating their institution, department and phone number.
   N/A

2. Will anyone besides the PI or the research team have access to the data (including completed surveys) from the moment they are collected until they are destroyed.
   N/A

**H. CONFLICT OF INTEREST**
1. Do you have a significant financial interest or other conflict of interest in the sponsor of this project? **No**
2. Does your current conflicts of interest management plan include this relationship and is it being properly followed? **No**

**I. ADDITIONAL INFORMATION**
1. If a questionnaire, survey or interview instrument is to be used, attach a copy to this proposal.
2. Attach a copy of the informed consent form to this proposal.
3. Please provide any additional materials that may aid the IRB in making its decision.

**J. HUMAN SUBJECT ETHICS TRAINING**
*Please consider taking the Collaborative Institutional Training Initiative (CITI), a free, comprehensive ethics training program for researchers conducting research with human subjects. Just click on the underlined link.*
North Carolina State University
INFORMED CONSENT FORM for RESEARCH

Title of Study: African American Male Doctoral Student Experiences
Principal Investigator: Antonio Bush                         Faculty Sponsors: Joy Gayles and Audrey Jaeger

What are some general things you should know about research studies?
You are being asked to take part in a research study. Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time without penalty. The purpose of research studies is to gain a better understanding of a certain topic or issue. You are not guaranteed any personal benefits from being in a study. Research studies also may pose risks to those that participate. In this consent form you will find specific details about the research in which you are being asked to participate. If you do not understand something in this form it is your right to ask the researcher for clarification or more information. A copy of this consent form will be provided to you. If at any time you have questions about your participation, do not hesitate to contact the researcher(s) named above.

What is the purpose of this study?
The purpose of this study is to discover and understand the experiences of African American males who completed their undergraduate study at a historically Black college or university (HBCU) and are pursuing a doctoral degree in a Science, Technology, Engineering, or Mathematics (STEM) discipline at a predominantly White institution (PWI). This study examines the following research questions: 1. What are the experiences of African American male HBCU graduates in STEM doctoral programs? And 2) How do African American male HBCU graduates take action to successfully navigate their experiences toward doctoral degree completion in a STEM discipline?

What will happen if you take part in the study?
If you agree to participate in this study, you will be asked to:

- Fill out a demographic questionnaire (approximately 15 minutes)
- Fill out a biographical timeline (approximately 30 minutes)
- Participate in two in-depth interviews. Interviews may be in person, through telephone, or electronic media. The first interview will last approximately 1.5 hours. The second interview, a follow-up, will last 30 minutes to 1 hour. Interviews will take place at a location with limited interruption. Each interview will be recorded with a digital audio recorder. After each interview is completed, it will be sent to a transcriptionist.
- Review the interview transcriptions and themes created by the researcher and make suggestions to amend the data. Suggestions will be discussed with the researcher who will decide if changes will be made or if the data will remain unchanged.

Risks
There will be minimal discomfort or stress due to participation. Further, I understand that while the researcher will exhaust all measures to ensure confidentiality, it is possible that confidentiality may be lost during the study because of the small amount of African American males in STEM doctoral programs. However, minimal risks are expected as a result of my participation in this study. You are encouraged to inform the researcher at any time if you would like to withdraw from the study. You do not have to answer any question if it makes you feel uncomfortable.

Benefits
The proposed research offers me the individual benefit of telling my lived experience. My lived experience may assist in breaking down negative stereotypes of African American males and offer an alternative perspective of their experiences. Further, the study adds to the current literature base. Additionally, the study has the potential to inform policy, practice, and theory in higher education as it contributes to the progressing agenda to enhance the doctoral experiences of students of color in STEM fields. Findings from this study can be used to create departmental and institutional policies at both HBCUs and PWIs and implement practical solutions to increase the success of Black male doctoral students.
Confidentiality
The information in the study records will be kept confidential to the full extent allowed by law. Data will be stored securely on a hard drive or password-protected computer. No reference will be made in oral or written reports which could link you to the study. You will be asked to write your name on the demographic questionnaire, but you will also choose a pseudonym. Therefore, no one except for the researcher can match your identity to the answers that you provide. The data collected will be published in the researcher’s doctoral dissertation for North Carolina State University.

Compensation
For participating in this study you will receive $20 in cash after your second interview is complete. If you withdraw from the study prior to its completion, you will receive compensation.

What if you are a NCSU student?
Participation in this study is not a course requirement and your participation or lack thereof, will not affect your class standing or grades at NC State.

What if you are an employee or have an assistantship at NCSU?
Participation in this study is not a requirement of your employment at NCSU, and your participation or lack thereof, will not affect your job.

What if you have questions about this study?
If you have questions at any time about the study or the procedures, you may contact the researcher, Antonio Bush, at abush@ncsu.edu, or 919856-5196.

What if you have questions about your rights as a research participant?
If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919/515-4514).

Consent To Participate
“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may choose not to participate or to stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.”

Subject’s signature_______________________________________ Date _________________

Investigator’s signature____________________________________ Date _________________