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Graduation Equity for Undergraduate Black Men:
A Multilevel Analysis of Four-Year Institutional Outcomes

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Abstract

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This study examined the organizational and state factors related to graduation equity for undergraduate Black men at 1,242 public and not-for-profit four-year institutions across the United States in 2020. Using data from the National Center for Education Statistics Integrated Postsecondary Education Data System (IPEDS) and policy data from The Education Trust, this study used a multilevel modeling approach to analyze the extent to which organizational context (i.e., control, HBCU designation, and selectivity), student services spending, and state attainment policy and context factors were associated with both organizational and state graduation equity outcomes. Combining Wood and Palmer's (2015) model of institutional responsibility and Ray's (2019) racialized organizations theory, this study employed a critical lens to understand how the

distribution of organizational resources and alignment with race-conscious state attainment policy were associated with racial equity outcomes across the landscape of four-year higher education institutions. The findings of this study offer implications for policy and practice regarding resource distribution and policy effectiveness.

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CHAPTER 1: INTRODUCTION

Over the past 20 years, more Black men have been enrolling in postsecondary programs and slowly increasing in degree attainment. While some may interpret these gains as a sign of improvement at the institutional and state level (Strayhorn, 2022), such gains are not necessarily equivalent to advancements in education equity. Another look at national completion data reveals that Black males continue to face a persistent and pervasive gap in educational outcomes that spans both race and gender. More specifically, the National Center for Education Statistics (NCES) reports that the average six-year graduation rate for baccalaureate degree seekers starting in 2014 was 38.6 percent for Black men compared to the overall average of 60.5 percent (NCES, 2020a). Collectively, undergraduate Black men experience the lowest college completion rate and the widest completion gap of both sexes and all racial/ethnic groups in higher education.

Despite numerous studies of the association between institutional characteristics and poor graduation *rates* for undergraduate Black men, very few quantitative studies have explored which institutional factors are associated with the degree of racial *disparity* produced. Whereas inquiry into education equality looks at the provision of equal access to educational opportunity, inquiry into education equity focuses on the ability of organizations to provide the support and resources needed to move all students toward success. The literature suggests that organizational context—the location, size, history, and control of higher education institutions—shapes distinct educational barriers for Black males (Forbes, 2021; Hilton et al., 2012; Palmer & Wood, 2012), yet little is known about the racial disparities produced under these conditions. The literature also highlights how organizational action—particularly institutional student services spending on advising, mentoring, and extracurricular engagement—is a critical factor in Black male success

(Barker & Avery, 2012; Brooks et al., 2013; Harper & Harris, 2012; Martinez et al., 2021).

However, studies that investigate how such factors contribute to the disparities facing undergraduate Black men are few and far between.

Lastly, an emerging line of research bridging state education policy, policymaking, and critical race studies suggests that state context is an important dimension in advancing racial equity (Jones & Nichols, 2020; Rabovsky, 2012; Rodriguez et al., 2022). However, the influence of neighboring colleges and universities and the extent to which the enactment of state policies is associated with outcomes specific to Black men have been given little attention. This study sought to fill the knowledge gap situated between these areas of inquiry by using multilevel modeling to explore the relationships between organizational context, organizational action specific to student services spending, state context and policy, and the production of graduation equity specific to Black men.

Problem Statement

Racial inequity in degree attainment—albeit a long time in the making—is an urgent problem. Persistent racial disparity in higher education outcomes, particularly for Black students, has the power to reduce economic mobility (Bensimon, 2009; Chetty et al., 2017), social mobility (DeAngelo & Frank, 2016), and civic engagement (Hurtado, 2007). Chief among the benefits of a college education is the increased earning potential associated with a postsecondary degree. For example, Black males can expect to earn \$30,723 a year in the U.S. labor market with a high school diploma alone; however, with a bachelor's degree, their mean earnings rise to \$55,655 (Palmer et al., 2014).

Scholars and policymakers alike have noted that systemic credential inequities, coupled with growing demographic shifts, will lead to larger and more systemic challenges in the United

States (Cahalan et al., 2021; Nichols & Schak, 2019). In 2018, the Center for American Progress estimated that “if [B]lack and Hispanic graduates earned each degree type at the same rate as their [W]hite peers [from 2013 to 2015], more than 1 million more would have earned a bachelor’s degree in just those three years” (Labassi, 2018, p. 1). Additionally, the number of Black adults has increased by 25 percent in the last 20 years (Jones & Berger, 2019). As Black and Latino/a/x adults account for an increasingly bigger share of the working-age population, it has been estimated that the workforce-related benefit alone of closing the educational achievement gap would “result in an estimated \$2.3 trillion dollar benefit to the U.S. economy by 2050” (Turner, 2018, p. 3). The financial opportunities and social consequences related to graduation equity are staggering and beg the question of which factors are supporting or hindering equitable outcomes for undergraduate Black males.

While some have argued that differences in graduation rates are caused by differences in student preparation and ability, a growing body of research suggests that organizations may be large and significant contributors to graduation gaps and their persistence over time (Blom & Monnarez, 2020; Nichols, 2020). The proposed congressional College Equity Act (2021) went so far as to identify organizational actions as urgent barriers to marginalized student groups and to incentivize institutional audits of practice and policy to address persistent graduation inequities.

How colleges allocate limited financial resources is one important dimension of institutional action impacting graduation equity (Wood & Palmer, 2015). Every college or university dedicates some amount of funding to student services, and these funds are assigned to a wide range of expenses for activities that fall under admissions, advising, student life, and registrar activities. Student services typically reach beyond the classroom and provide students with the social, psychological, and personal support and resources to bridge academic

opportunity gaps. Prior research indicates that colleges that spent more on student services had lower odds of student dropout (Chen, 2012) and increased graduation and persistence rates (Webber & Erhenberg, 2010). Student service programs, supports, and resources are particularly important for Black men, who benefit from holistic academic advising, student groups, and the campus engagement opportunities that arise from such expenditures. However, student service offerings and expenditures vary widely across institutional types, and the implications of this variation for educational equity are ill-understood.

Another potential factor in higher education organizations' production of equitable outcomes for undergraduate Black men is the increasing influence of state context and policy. This study incorporates a state-level view of organizational composition and attainment policy that builds on prior research concerning higher education accountability measures (Conner & Rabovsky, 2011; Rabovsky, 2012; Volkwein & Tandberg, 2008). Higher education policies are increasingly understood as important levers in attempts to disrupt the status quo of racialized outcomes at postsecondary institutions. At the same time, a growing body of research that draws attention to how postsecondary systems have concentrated, and continue to concentrate, resources and opportunity along racial lines raises questions about the effectiveness of policies that are more concerned with organizational outputs than with organizational behavior.

At the heart of the persistent graduation gap for undergraduate Black men is a critical knowledge gap. Policymakers and institutional leaders seeking to narrow equity gaps in college graduation rates need to understand the extent of the disparity and the factors contributing to these gaps both within and across colleges. However, little is known about the relationship between institutional context, student services expenditure, state attainment policy, and graduation equity for undergraduate Black men. Given the vital contribution made by higher

education organizations to individual, social, and economic opportunity, research that explores, and contributes to an understanding of, the extent to which organizational context, actions, and policy are associated with disparate student outcomes is timely and warranted.

Purpose of the Study

The purpose of this study was to investigate the relationship between organizational context (e.g., public vs. private control, minority-serving mission, selectivity, and state membership), one dimension of organizational action (i.e., student services spending), state attainment policy, and six-year graduation equity outcomes for undergraduate Black men at four-year colleges and universities.

Research Questions

The substantive interest of this dissertation is to describe organizational differences in graduation equity and determine the extent to which those differences are related to organizational context and action. To this end, this investigation sought to answer seven overarching research questions:

- RQ1: What is the status of graduation equity for undergraduate Black men across four-year institutions?
- RQ2: What is the status of graduation equity for undergraduate Black men at four-year institutions by state?
- RQ3: To what extent does graduation equity for undergraduate Black men vary within and between states?
- RQ4: To what extent is graduation equity for undergraduate Black men associated with organizational factors (e.g., control, mission, selectivity, and student services spending), all else held constant?

RQ5: To what extent is graduation equity for undergraduate Black men associated with race-conscious state-level attainment policy?

RQ6: Does the relationship between student services spending per full-time equivalent (FTE) and graduation equity for undergraduate Black men vary by organizational context?

RQ7: Does the relationship between organizational factors (e.g., control, mission, selectivity, and student services spending) and graduation equity for undergraduate Black men vary by the enactment of race-conscious state-level attainment policy?

Significance of the Study

Although racial disparities certainly exist before students enter institutions of higher education, this study addresses the critical ways in which the latter may compound or mitigate these differences. Here, what is more important than attempting to prove widespread acts of racial prejudice against undergraduate Black men in higher education is examining the organizational actions and context that undergird the centrality, pervasiveness, and persistence of racial inequity across higher education institutions. This study examined the extent to which organizational student services spending, within and between state higher education systems, impacted the production of graduation equity.

The implications of this study serve as practical, conceptual, and methodological contributions to the field. First, findings from the study may be used to identify patterns in resource allocation that are associated with varying degrees of disparity. Resource allocation by way of student services expenditure is an actionable area of policy and process at the organizational level. Moreover, identifying relationships between state policy and organizational action may provide policymakers with additional insight to further incentivize specific resource

allocation or disincentivize processes that contribute to statewide educational outcomes. Second, this study contributes to a growing awareness of organizations as sites of racial stratification and is one of few analyses incorporating both a Black male-specific theoretical framework and organizational theory to explore organizational outcomes specific to Black men. The use of such a framework contributes to the broader conceptualization of how racialized outcomes are reproduced and challenged through recursive interactions of action and structure (Giddens, 1984).

Finally, the study uses advanced statistical methods to further illuminate the nested nature of organizational structures, actions, and outcomes in postsecondary education. As noted by Scott (2015) in his reflection on changes in organizational theory, “broader and more encompassing units of study have become ever more necessary to enable our scholarship to keep pace with the changing reality of organization structures and processes” (p. 69). Evidenced by the proliferation of state completion agendas and national-level achievement coalitions, the influence and impact of organizational collective sets that promote, constrain, and modify graduation equity may provide another important level of inquiry. Ultimately, this is a critical and timely analysis in that it calls for further investigation concerning why certain organizational actions, within different institutional types and across distinct policy landscapes, may or may not advance institutional change for racial equity.

Theoretical Framework Overview

To explore the relationship between organizational context, actions, and organizational outcomes, this study primarily draws from Wood and Palmer’s (2015) context, actions, and outcomes (CAO) model of institutional responsibility. The model is appropriate in that it theorizes how the outcomes of Black male collegians are derived from the “contextual aspects of

the institution [and] the institution's actions and ethos to support student success" (p. 55). The CAO model, which serves as the organizational-level guide in this study's framework, is reformulated to capture the influence of organizational actions on graduation equity for undergraduate Black men. The CAO model incorporates institutional context characteristics, such as enrollment size, selectivity, mission, and control, as institutional context factors impacting institutional actions. Institutional action, operationalized in the CAO model as eight distinct domains, illuminates the importance of resource allocation as one foundational domain of action in supporting programs and practices that foster organization outcomes concerning Black male success. This study operationalizes the CAO model by conceptualizing the factors important for Black male success and prioritizing organizational-level variables contributing to graduation parity.

This study extends the CAO model by employing racialized organizations theory (ROT) (Ray, 2019) to understand the extent to which organizational actions within and between organizational landscapes (e.g., the state) vary in relationship to equitable graduation outcomes. Ray (2019) argues that macro and meso levels of racial construction and conflict are often treated as analytically distinct, but their processes are very much intertwined. Furthermore, ROT identifies both state policy and state reliance as important stimuli for altering organizational practices and resource allocation that produce racial consequences, in this case, graduation disparity for Black men. ROT helps to shape the state level of this study's variable selection and analytical lens in two key ways.

First, this study incorporates a state-level variable concerning state attainment policies with and without race-specific goals to understand the extent to which organizations within different policy environments decouple formal commitments to graduation equity from practices

of resource allocation that could, in fact, advance racial equity. Second, ROT suggests that external factors can alter the racialization of organizations, key among such factors being “the degree and relative level of organizational reliance on the state” (Ray, 2019, p. 43). This study will, in addition to other contextual factors aligned with the CAO model, investigate the association between institutional control (i.e., public vs. not-for-profit) and graduation equity to examine whether state reliance is indeed an important factor in equity outcomes. These two theoretical models and their link to this study are described in greater detail in Chapter 2.

Definition of Terms

Black: In the relevant literature, the terms Black and African American are used

interchangeably. This study, however, uses the term Black as it encompasses a broader range of individuals with cultural ties to the larger African diaspora and remains consistent with other federally administered racial reporting standards. It is important to note that the IPEDS race data are self-reported and, in many regards, do little to capture the complex and fluid ways that racial identity is continuously constructed, accepted, rejected, and challenged through group membership and boundaries.

Four-year institution: Typically defined as any public or private institution that awards

baccalaureate degrees. However, this study further defines four-year institutions as those that award *primarily* baccalaureate or higher degrees. The growing number of colleges (many former community colleges) that award a limited number of baccalaureate degrees but still *primarily* award associate degrees does not fall under this definition. Although the terms “institution” and “organization” are often used interchangeably with reference to colleges and universities, they do mean different things (for more on this debate, see

Glatter (2015)). As this dissertation touches on the individual functions as well as the broader values of higher education, the term “institution” will primarily be used.

Graduation equity for Black men: The representation of Black men who graduate relative to the representation of Black men among the original adjusted cohort (e.g., Black men represented 30 percent of all first-time, full-time graduates in 2020 and originally represented 30 percent of the 2014 adjusted cohort).

Men: Sex and gender are two distinct concepts. Sex refers to the biological and physiological characteristics that are used to define men and women (e.g., male and female), while gender refers to the socially constructed set of roles, behaviors, and characteristics of women and men (RTI International, 2016). Unfortunately, many institutions use these concepts interchangeably, which has created much confusion and inconsistency when making sense of who “men” represent in the IPEDS data. In this study, men encompass those who may identify as male at birth or those who categorize their gender identity as “man.”

Race-conscious state attainment policy: A state-wide policy that sets goals for college completion (as opposed to just affordability or transfer (Cutler White, 2019)) and that explicitly addresses racial identity in the design and provision of higher education access, opportunity, or support (Jones & Nichols, 2020).

CHAPTER 2: LITERATURE REVIEW

The literature review is divided into three sections. The first section surveys completion factors specific to undergraduate Black men in higher education. The second section identifies the organizational and state characteristics that have been found—mainly through descriptive and regression-based studies—to have a relationship with graduation equity in general. The final section looks at theories that have driven existing completion research. The review concludes by combining prior research and theoretical works into a cohesive and comprehensive framework appropriate for this study.

Completion for Undergraduate Black Men in Higher Education

Educators, scholars, and policymakers have reported for many years that the postsecondary educational attainment of Black males is in a state of crisis (Brooms, 2018b; Cuyjet, 2009; Harper, 2012; Harper & Harris, 2012; Huerta et al., 2021). Although the number of Black male students receiving bachelor's degrees has increased since 1976, the overall proportion of degree recipients has declined (Gasman et al., 2012). In response to this crisis, there has been a proliferation of research on Black males in higher education over the last two decades (Bush & Lawson Bush, 2010; Harper, 2009; McElderry, 2022; Palmer et al., 2014; Palmer & Wood, 2012; Strayhorn, 2017; Wood & Turner, 2011; Wood et al., 2011). This ever-expanding field of research has helped to illuminate the common strengths, challenges, and supports that impact completion outcomes in this heterogeneous group.

Individual Factors

Although many Black males successfully navigate the terrain of under-resourced (Strayhorn, 2008; Reardon, 2016; Wyatt et al., 2012) and over-disciplined (Noguera, 2008; Brooms, 2018a) K-12 school environments, the racial consequences of racialized policies and

processes follow them into their college years (Merolla, 2018). While much of the literature points to the compounding effects of lower pre-college academic preparation as large and significant drivers of postsecondary attrition (Ciocca & DiPrete, 2018), some studies have noted the importance of sociocultural experiences in college and non-cognitive strengths as critical factors in undergraduate Black male success.

Once on the college or university campus, undergraduate Black men experience several common challenges. Scholars have documented how experiences for undergraduate men of color (MoC) often include being hyper-visible and invisible at the same time (Allen, 2020; Martinez et al., 2021); feeling undue pressure to prove themselves academically (Strayhorn, 2008); and having cultural values and behaviors that are often problematized or dismissed by the campus community (Bragg & Durham, 2012; Forbes, 2021). Specifically, Black men at predominantly White institutions (PWIs)—which make up the majority of colleges in the United States—have described such environments as unsupportive, unsympathetic, and hostile at times (Lott & Love, 2020; Palmer & Gasman, 2008). Harper and his colleagues (2011) suggest there is a common experience of “onlyness” among undergraduate Black men that can be defined as “the psycho-emotional burden of having to strategically navigate a racially politicized space occupied by few peers, role models, and guardians from one’s same racial or ethnic group” (p. 190). The cumulative effect of these simultaneously racialized and gendered experiences on college campuses can be fear, anger, anxiety, and hopelessness (Harper, 2009; Smith et al., 2007). In the face of these challenges, some scholars suggest that Black men are less inclined to seek help for their personal and academic problems (Harper, 2013; Palmer, 2015) and that the psychological and emotional toll experienced by many men of color experience results in a greater likelihood of attrition.

In light of these barriers, prior research points to positive support from families (Sledge, 2012), guidance from institutional agents (Briscoe et al., 2020), and relationships with peers (Brooms et al., 2015) as critical factors in the success of undergraduate Black men (Harper, 2009; Luedke 2017; Strayhorn 2008). The literature details a variety of non-cognitive factors contributing to the positive completion outcomes of some Black males, including purposeful engagement (Flowers, 2012), motivation (Griffin, 2006), leadership (Hotchkins, 2014), and positive racial identity (Bridges, 2010).

Institutional Factors

Many institutional leaders and researchers have argued that differences in graduation rates are caused by differences in student preparation and other factors that are outside an institution's control (Astin & Oseguera, 2004; Bailey & Xu, 2012; Flores et al., 2017). However, similar colleges serving similar students can—and do—produce different outcomes (Chetty et al., 2017; Nichols & Evans-Bell, 2017; Wood & Williams, 2013). A growing number of studies that account for student characteristics demonstrates how variance in graduation parity may be attributable to institutional control, mission, practice, and resources (see Horn, 2006; Scott et al., 2006).

Control

Higher education institutions are typically categorized by three different control types: public, not-for-profit private, and for-profit private. In 2020, there were distinct differences between six-year attainment rates for undergraduate Black males at private not-for-profit institutions (39.7%), public four-year institutions (38.4%), and for-profit institutions (19.4%) (NCES, 2021b). Previous studies have demonstrated that institutional control may be an important predictor of completion rates for students of color (Ishitani, 2006; Oseguera, 2005; Yi,

2008). In the edited volume *Black Males in Postsecondary Education: Examining Their Experience in Diverse Institutional Contexts* (Hilton et al., 2012), authors provide numerous references of how public, not-for-profit (Marks et al., 2012), and for-profit institutions (Fountaine, 2012) present their own unique challenges to and opportunities for undergraduate Black men. For example, in one chapter concerning Black males at private institutions, Marks and colleagues (2012) noted that private-sector institutions are typically more tuition-fee-driven but have greater autonomy in providing school-specific supports (both social and academic) that may be restricted for their public counterparts. Although higher tuition fees can translate into a greater financial burden on Black males at private colleges, the authors suggest that this group may simultaneously benefit from custom supports and programs that help them to complete.

Historically Black Colleges and Universities

Since their inception in the late 19th century, historically Black colleges and universities (HBCUs) have been key points of postsecondary access for Black students, and even more importantly, producers of Black graduates (Allen et al., 2007). Although the extant literature on HBCUs reveals a long and robust debate concerning their political, economic, and cultural purpose, many have long provided a unique and culturally responsive learning environment to racially marginalized and low-income students (Gasman et al., 2007; Gasman et al., 2010; Kim & Conrad, 2006). Despite their important contributions to racial equality in higher education, HBCUs are known to be significantly underfunded and under-resourced relative to their historically White counterparts (Lee & Keys, 2013).

Although research has shown that HBCUs have long provided a supportive and affirming environment for Black males (Palmer & Gasman, 2008; Harper, 2012), many of these institutions experience similar struggles with Black male retention and completion as those seen

at other institutions (Palmer et al., 2010; Palmer et al., 2009). In 2020, the average six-year graduation rate for Black males at four-year HBCUs was 30.8 percent compared to the average 40.8 percent across non-HBCU institutions (NCES, 2022a). In a qualitative study of 11 Black male graduates at one public doctoral HBCU, Palmer and his colleagues (2009) identified a lack of financial support, personal pride, and disconnection with community and family as common challenges that threatened to impede the success of undergraduate Black men. More importantly, the study stressed how many undergraduate Black men, with a high reliance on financial aid and resistance to help-seeking behaviors, were particularly sensitive to rising costs at HBCUs (many of which are private) and concluded that—despite the supportive and affirming environment—“cost is a major contributor in preventing Black males from persisting to graduation” (p. 441). Palmer et al. (2009) identified additional financial support and advising (services typically encompassed under student services expenditures) as potential responses to the study’s findings.

Student Services and Programs

Black male completion success is not only influenced by what institutions are (e.g., control, minority-serving mission, and classification) but also by what they do. Prior studies have shown how focusing on the needs of Black men in campus programs (Clark & Brooms, 2018; Brooms, 2018a) and practices (Harper, 2010; Wood & Harper, 2011) is essential to disrupt institutional racism and increase student success. Studies of institutional practice suggest that support services that focus on mentorship (Brooms & Davis, 2017; Strayhorn & Terrell, 2007), proactive advising (Johnson et al., 2019; Wood & Williams, 2013), and identity development (Huerta et al., 2021) may be particularly important for Black men. In one study focused on academic advising for undergraduate Black men, Johnson and colleagues (2019) described proactive advising as an approach whereby advisors take responsibility for connecting students

with the relevant and timely resources they need to succeed. The authors deemed this type of student support service a critical element in helping Black males achieve academic success and an intentional approach of organizations serving marginalized student populations well.

One important trend in campus-level student support is the development of MoC programs. Over the last two decades, many colleges and universities have distilled promising practices and institutional resources into MoC programs, many of which are specifically designed for Black men, in order to increase retention and completion success (Brooms, 2018b; Palmer et al., 2014; Wimer & Bloom, 2014). MoC programs are thought to improve persistence and completion for Black males (see Brooks et al., 2013) by offering culturally appropriate retention/support programming, coordinating holistic advising, providing financial aid and on-campus employment opportunities, and developing peer, family, and mentor networks to help students stay connected and engaged (Barker & Avery, 2012; Keflezighi et al., 2016; Martinez et al., 2021). A program analysis by Lott et al. (2022) revealed that there were at least 177 programs at 166 public four-year institutions across the United States in 2018, that is, nearly 30 percent of all public four-year institutions. The number of programs suggests an increasing awareness that access to student services for men of color is critical (Huerta et al., 2021) and at the same time draws attention to the many ways in which traditional student services have continued to inadequately support this group.

State Factors

The completion literature is not limited to investigations of students and institutions. State higher education systems differ in terms of the number of institutions, overall selectivity, diversity, affordability, and geographic dispersion of institutional offerings (McLendon et al., 2009). Over the last 25 years, state governments have increasingly implemented their own

unique performance-accountability measures, reforms in state governance of higher education, attainment policies, and postsecondary financing programs to increase college enrollment and degree completion (Volkwein & Tandberg, 2008). State attainment policies and their relationship to racial equity have important implications for this study.

State Attainment Goals

In recent years, nearly every state has set, revised, or adopted a post-secondary education attainment goal. An attainment goal refers to the educational levels of a state's population, and reaching that goal ultimately requires the collaboration of all educational institutions in addition to K-12 and workforce partners. Many of these goals began with the Obama Administration's College Completion Initiative in 2009, which set a goal of 60 percent postsecondary degree attainment rate among 25- to 34-year-olds by 2020 (U.S. Department of Education, n.d.). Although 2020 has come and gone, the initiative helped to shift federal and state attention from simply increasing college enrollment to ensuring that "all students who started a degree program should complete" (Kelderman, 2020, para. 5).

State attainment goals vary in their focus, timeline, and specificity as well as their commitment to and plan for closing racial attainment gaps. In one widely-circulated analysis of statewide attainment goals, Jones and Berger (2019) found that of the 43 existing statewide attainment goals in 2019, 37 feature some mention of race and 29 include data showing the extent racial gaps; moreover, 30 states set a goal to close racial equity gaps or improve outcomes for students of color, and 18 states supported their racial equity goals with additional numerical targets, goals, benchmarks, and/or data analysis. In their analysis, the authors also highlighted how states with equity-driven goals have worked to identify, promote, and often fund campus-based strategies aimed specifically at closing racial attainment gaps. For example, Texas' goals

for increasing the number of Hispanic and African American students completing a certificate or degree by 2030 was coupled with grants for Minority Male Initiatives across the state. Such findings suggest the possible link between the role of race-conscious attainment policies and organizational programs and practices that may increase graduation equity for undergraduate Black men.

Racial Equity in Public Policy

State policymaking is an important mechanism in addressing racial inequities and improving outcomes in higher education (Perna & Finney, 2014). However, there is little consensus on how race and racial equity should be included in education policies. In a critical quantitative study of the California Student Equity Policy, Felix and Trinidad (2019) found that policymakers continuously diluted the role of race and missed opportunities to address racial disparities in legislative mandates. In a mixed-method analysis of statewide transfer policies, George Mwangi and her colleagues (2023) found that policies using proxies for race (e.g., underserved) helped to ignore race-specific barriers and resulted in disproportionately disqualifying racially minoritized students from transfer incentives. Some scholars contend that race-evasive policies aid in maintaining or masking racialized structures or processes while race-conscious policies can work to name and address structural racism (Chase et al., 2014; Felix et al., 2022).

Systemic Factors

Graduation outcomes for undergraduate Black men are influenced not only by organizational structures and behaviors but also by historical, systemic, and social contexts. The nation's colleges and universities exist as a part of, not apart from, the interconnected matrix of organizations and institutions and economic and political forces that comprise the racial

structures of the United States (Harvey, 2002). As a part of this matrix, colleges and universities have played an important role in maintaining the material benefits—and inherent consequences—of racism.

Structural Racism

As a part of what Bonilla-Silva (2021) defines as the “new American racism,” the burden for Black men is often and intentionally subtle and difficult to recognize. As opposed to Jim Crow racism, which was direct and explicit in its racial intentions, new racism works quietly through “systems, social forces, institutions, ideologies, and processes that interact with one another to generate and reinforce inequities among racial and ethnic groups” (Gee & Ford, 2011, p. 116). Similarly, structural racism—the policies, institutional practices, and societal norms that privilege Whiteness at the expense of people of color—negatively impacts the lives of undergraduate Black men in compounding and intersecting ways.

Higher education institutions enact structural racism through formal and informal organizational stratification, for example, standardized testing (Posselt et al., 2012), course placement (Ching et al., 2020), and prioritization of cultural knowledge (Chapman-Hilliard & Beasley, 2018), that ultimately impact the educational opportunities and academic success of racially minoritized students in general and Black men specifically. What is important to note here is that structural racism does not require explicit racial intent to achieve disparate racial impact. Higher education systems and organizations often enact structural racism through race-neutral and race-evasive strategies. Ultimately, structural racism diminishes the education received by MoC, as well as their employment and economic opportunities, mental and physical health outcomes, political standing, and power, and it affects the way they are treated in our systems of law and justice. Structural racism is the backbone of the school-to-prison pipeline and

perpetuates the racial wealth gap that makes it harder for Black men to enroll in college, stay in college, and afford to complete college (Carnevale et al., 2010).

Antiblack Racism

As many critical race scholars have noted, the underlying historical and philosophical foundation of higher education has produced and continues to reproduce the racial disparities seen in education to this day (Dancy, 2018; Dumas, 2016; Stewart, 2020). Many of these scholars note how the nation's oldest and most prestigious institutions were originally modeled to attract and advance the slavers and slaveholders of the time. As Stewart (2020) describes, traditions of enslavement and stolen labor "have not only made U.S. higher education possible, but have also made White students, faculty, and administrators its permanent beneficiaries" (p. 15). Although the demographics of higher education continue to change, some critical race scholars assert that the *why* and the *how* of White supremacy in higher education have not (Wilder, 2013).

Antiblackness in higher education is rooted in the perception that the Black student is "inherently uneducable, or at very least, unworthy of education" (Dumas, 2016, p. 16). Antiblack racism as a barrier to Black male success manifests in a number of ways. Prior research has noted how antiblackness justifies the extraction of labor from Black male athletes in college athletics without acknowledging or engaging them as critical laborers in generating institutional wealth; negates the relevance of the intellectual traditions and contributions of Black male students in teaching programs (Josiah Thomas, 2023); and dismisses the presence of Black students as unfair beneficiaries of affirmative action (Gusa, 2010). Antiblackness, or antiblack racism, frames the systemic Black disparity produced in higher education not as a byproduct of poor practice or policy but as a core function of colleges and universities that were designed to

advance White supremacy. Although this study does not fully engage with the principles of antiblackness theory or the antiblack literature, it does acknowledge and approach institutional outcomes—and the Black disparity that has come to define them—as a product of organizational design and deliberate action.

Graduation Equity in Higher Education

Within the completion literature that investigates factors related to completion rates, several studies have sought to shed light on the factors that impact graduation parity across race, gender, and socioeconomic status. This is a particularly important line of inquiry considering that “in spite of Blacks and Latinos increasing their bachelor’s degree attainment rates by 83 percent and 96 percent, respectively, the achievement rate gap between them and Whites has actually grown since 1980” (Carnevale et al., 2018, p. 15). Recent studies have demonstrated how, in addition to student characteristics, institutional expenditures and revenues (Chen, 2012; Gansemer-Topf & Schuh, 2006; Ryan, 2004; Titus, 2006), selectivity (Titus, 2004), and student composition (Scott et al., 2006) have a significant impact on overall graduation rates and, to some extent, the magnitude of graduation rate disparities themselves.

Some research suggests that completion disparities are associated with key institutional characteristics (Astin & Oseguera, 2012; Goenner & Snaith, 2004). In a descriptive study comparing six-year graduation rates across 1,301 doctoral, master’s, and baccalaureate colleges and universities, Horn (2006) illuminated how distinct gender differences in graduation may, in fact, be nested within institutional categories. The findings of the study were particularly insightful in that they pointed to completion gaps that persisted despite similar student inputs and institutional mission. In a study examining raw and adjusted graduation gaps in the states of Virginia and Connecticut, Blom and Monnarez (2020) found that “schools with larger shares of

minority students have smaller graduation gaps” (p. 7). Similarly, Bowman and Denson (2022) found that “equity gaps were virtually nonexistent at institutions in which minoritized students’ own racial/ethnic group comprised at least half of undergraduates” and that “the Black-White gap was three-quarters of a percentage point at institutions in which at least half of the instructors were Black” (p. 414).

The unequal distribution of fiscal resources across higher education organizations may be another important factor impacting graduation equity. For example, in an analysis of Black student success and institutional characteristics, Nichols and Evans-Bell (2017) found that, in comparison to their White freshmen peers (40%), fewer Black freshmen (25%) are admitted to selective four-year institutions, which tend to have more resources and good completion rates. The authors assert that Black–White graduation gaps are as much a product of institutional investment as they are of student preparation. Not only do White graduates receive their credentials from institutions that are better resourced, but “a quarter of white credential holders leaving school in 2015 attended an institution that spent at least \$16,000 per student, whereas the top quarter of [B]lack and Hispanic graduates finished at institutions spending at least \$13,000–\$14,000 per student, a difference in spending of 16 percent to 20 percent” (Labassi, 2018, p. 5). From an anti-deficit perspective (Harper, 2010), the inequitable outcomes experienced by Black students in general may, in fact, be coproduced by the institutions that underinvest in their success and inadequately serve their needs (Wood & Harris, 2015).

Conceptual Framework

Theorizing Student Attrition & Success

The college completion literature has employed multiple theoretical lenses to reflect the economic, psychological, political, and sociological dimensions of student attrition and

organizational performance (Perna & Thomas, 2008). The use of multiple perspectives has produced many families of student attrition models of which those that are student-centered and context-informed are of particular interest in this study.

Student-Centered Frameworks

Since the 1970s, education scholars have been investigating what factors contribute to student completion. Early works by William Spady (*Undergraduate Dropout Process Model*; 1971), Vincent Tinto (*Student Model of Institutional Departure*; 1975), and Ernest Pascarella (*Student-Faculty Informal Contact Model*; 1980) theorized how student attributes and campus interactions drove completion outcomes. When enrollment rates stagnated in the 1980s, researchers took an even greater interest in the role played by institutions in student satisfaction (*Student Attrition Model*; Bean, 1980) and involvement (*Student Involvement Model*; Astin, 1984). By the 1990s, early models that focused on a limited set of student attributes and organizational characteristics had been both synthesized (*Integrated Model of Student Retention*; Cabrera et al., 1993) and expanded (Astin, 1993; Tinto, 1993).

Tailored specifically to the experiences and trajectories of racially marginalized students, newer completion theories and models are becoming increasingly available and operationalized in education research (*Validation Theory*, Rendon, 1994; *Community Cultural Wealth*, Yosso, 2005). When it comes to Black men, these theories are ideal alternatives to previous frameworks that employed a deficit framework to blame students and their families for enrollment and graduation outcomes (Wood & Essien-Wood, 2012). However, given its similarity in conceptual roots to the old completion scholarship, much of the new work has maintained the centrality of student pre-college characteristics in understanding organizational outcomes rather than interrogating seemingly race-neutral institutional factors. Due to the unique role that institutions

play in reproducing disparity, there remains an urgent need for more research that draws less from past interactionist theories and continues to embrace the broad family of organizational theories.

Context-Informed Frameworks

Since the 1970s, organizational behavior scholars have sought to explain how and why organizational norms, traditions, hierarchy, climate, symbols, and structures mediate and moderate organizational performance and outcomes. In recent decades, several models that attempt to theorize individual student outcomes within the context of organizational structures and behavior have created new insight into what colleges and universities can do and should be doing to advance student success (see Astin, 1993; Berger & Milem, 2000; Hurtado et al., 1999; Kuh, 2001; Milem et al., 2005; Pascarella & Terenzini, 1991). One widely used model is Berger and Milem's (2000) Campus Impact Model, which uses theories of organizational behavior to suggest the nature of the relationship between institutional structural-demographic characteristics (e.g., institutional size and control) and student outcomes. Like earlier attrition theories, the model also acknowledges how student experiences (e.g., academic and social integration) and background characteristics (e.g., gender, ethnicity, and socioeconomic status) influence student outcomes. The Campus Impact Model (2000) diverges from previous models by extending the role of institutions and suggesting that student experiences do not just interact with the campus environment but that the environment shapes the experience of the student. The model is useful in that it combines the organizational behavior literature and the completion literature, but, like many of its context-informed predecessors, it does little to address the role of race and racism in education organizations.

Despite the popularity of Berger and Milem's (2000) model, other models and frameworks have helped to bring clarity to how postsecondary institutions shape experiences and outcomes specifically for racially marginalized students (i.e., *Diverse Learning Environments*; Hurtado et al., 2012; i.e., *Culturally Engaging Campus Environment Model*; Museus, 2014). Within the last two decades, there has been an increasing number of models specific to Black males that can help guide educational researchers in making sense of student outcomes and organizational performance (i.e., *Black Male Adult Learner Success Theory*, Goings, 2021; i.e., *The Five Domains Conceptual Model for Black Male Student Success*, Wood & Harris, 2014). For example, the Model of Retention and Persistence for Black men at HBCUs (Palmer et al., 2015) takes into account three important points in the student life cycle (i.e., pre-entry; enrollment and persistence; success) to illuminate what HBCUs could be doing to increase Black male success. While the model covers a wide range of institutional practices, it includes significant discussion on the importance of accessible and relevant support resources, particularly financial and academic resources. Similar in structure to the Model of Retention and Persistence for Black men at HBCUs, but distinct in its considerations, the Socio-Ecological Outcomes (SEO) model (Harris & Wood, 2016) accounts for the primary factors affecting the success of men of color in community colleges, highlighting interactions between societal, environmental, intrapersonal, and campus-based factors that influence outcomes for men of color this group. Despite the importance of these models, they are limited to specific institutional contexts (e.g., HBCU, community college, PWI), rendering them ineffective for inquiry that spans institutional mission, sector, and classification.

CAO Institutional Responsibility Model

How should organizational outcomes related to undergraduate Black men be theorized? Luke Wood and Robert Palmer, authors of *Black Men in Higher Education* (2014), assert that “researchers have largely ignored extant frameworks, models, and theories that were designed for Black male (or male of color) populations in exchange for more predominant higher education theories” (p. 38). Specifically, they cite Astin’s (1993) widely used Inputs-Environment-Outputs (IEO) model as erroneously placing “the onus of student success on the student” and assuming that it is the responsibility of the students to adapt to the campus environment and expectations (p. 55). In response, the authors proposed a framework specific to Black males that provides “a comprehensive (though likely not exhaustive) account of the myriad of institutional domains affecting students’ success from the institutions’ locus of control” (p. 52). Stemming from the organizational cognitive framework of Estella Bensimon (2005), the CAO model proposes institutional responsibility for Black male success by drawing attention to its three namesake organizational dimensions and eight core domains of “action”.

Within the model, contextual factors (e.g., location, size, and type) serve to define the institution’s mode of operation. After context is considered, institutional “action” is the second and central dimension of the model. Actions are categorized by Wood and Palmer (2015) as eight domains through which institutions foster affective development and cognitive development for Black men, namely, structures, practices, policies, climate, partnerships, programs, resources, and inquiry. When the eight domains are employed in ways that affirm and center Black male experiences—in light of the constraints and opportunities of institutional context—student success and outcome parity are produced. Identified in the model and related to the extant literature, organizational resource allocation is a critical domain that determines the

scale and scope of other institutional actions. The amount and proportion of resources allocated to different institutional areas is particularly interesting because—unlike unique programs or local policies—these metrics are comparable across institutional contexts.

Ultimately, Wood and Palmer (2015) present the CAO model as a correction to the “mis-specified” IEO model that “resituates the burden of student success on organizations, not individual students” (p. 67). Although it remains largely untested in the literature, the CAO model provides a general framework for examining the influence of organizational attributes on outcomes for Black male students. Institutional resources devoted to holistic student services and programs have been considered an important strategy for increasing Black male success (Clark & Brooms, 2018; Brooms, 2018a; Johnson et al., 2019) and the CAO model suggests that organizational resource allocation and prioritization that supports access to critical campus services will contribute to outcome parity for Black men. This study draws from the CAO model by focusing on how student services expenditures contribute specifically to graduation parity for Black men.

The CAO model is valuable in many respects; however, like other models derived from traditional notions of organizational theory and behavior, it inadequately addresses the role of racism in education organizations. Like its theoretical peers, the CAO model maintains race as a social identity rather than identifying how racialized structures within and between organizations contribute to the production of racial consequences. This collectively race-conscious, but organizationally race-neutral, approach to organizational inquiry promises only half the story of how organizational structures and routines maintain and reproduce inequity.

Racialized Organizations Theory

Some scholars have noted that higher education research has not done enough to explore the systemic ways in which race and class define patterns of postsecondary access and attainment (Horvat, 2001). To this end, there is a growing body of scholarship that draws on many theories to explore how the system of higher education maintains and perpetuates race and class inequality. One such theory that is helping to inform the connection between macro-, meso-, and micro-level racial dynamics is ROT (Ray, 2019).

Traditional organizational theory typically makes sense of “organizational formation, hierarchies, and processes as race-neutral and operationalizes race as a personal identity” (Ray, 2019, p. 26). Developed by sociologist and critical race scholar Victor Ray (2019), ROT rejects a race-neutral approach to organizational inquiry and effectively extends the social systems thinking of prior scholarship (Jung, 2015; Bonilla-Silva, 1997; Sewell, 1992) to argue that organizations are active participants in the maintenance and reproduction of the racialization process. Ray asserts that “in isolation, individual prejudice and racial animus may matter little,” but when these prejudices are “empowered by their connection to meso-level organizational resources,” they help shape the larger racial order (p. 27). The core argument is that racial inequality depends not on one single thing but on multiple mechanisms and collective responses at the organizational level.

ROT builds on critical race theory by extending the nature of race and racism into the theoretical sphere of organizational theory and behavior. Ray (2019) operationalizes the theory through four tenets: (1) racialized organizations enhance or diminish the agency of racial groups; (2) racialized organizations legitimate the unequal distribution of resources; (3) Whiteness is a credential; and (4) decoupling organizational rules from practice is racialized. The ways in which

organizational collective sets in higher education legitimate the unequal distribution of financial resources (e.g., the normalization of large endowments for private selective schools and the underfunding for public minority-serving institutions (MSIs)); the mechanisms that organizations adopt to decouple race from existing inequalities (e.g., standardized test scores and application fees that systematically disadvantage students of color); and practices that allow the agency of racial groups to be enhanced or diminished (e.g., student racial representation, faculty racial representation) are among the ways in which race is challenged, rewarded, and reproduced in all racialized higher education organizations.

More than a mere “link” between macro- and micro-level processes, higher education organizations are key to the production and reproduction of racial order and contestation. At the macro level, race-conscious attainment policy within a particular state higher education system may legitimate the reallocation and strategic use of resources that address racial inequities. Meso-level organizational processes—specifically, resource prioritization and allocation that enhance education supports and opportunities—serve as measurable ways in which organizations “contribute to the mundane reproduction of racial stratification” (Ray, 2019, p. 33).

This study draws from the tenets and assumptions of ROT to evaluate the extent that race-neutral student services expenditures (by FTE and overall budget proportion) were associated with the systemic racial consequences of graduation equity for Black males from 2014-2020. Furthermore, ROT suggests that although organizations tend to decouple formal policies that attempt to address practices that serve to reinforce racial consequence, the extent of this decoupling may, in fact, be dependent on the “degree and relative level of organizational reliance on the state” (Ray, 2019, p. 43). To this end, the study examined not only the moderating effect of state attainment policy on the relationship between student services

spending and graduation equity but also the relationship between institutional control (public vs. not-for-profit), graduation equity, and state policy.

Summary

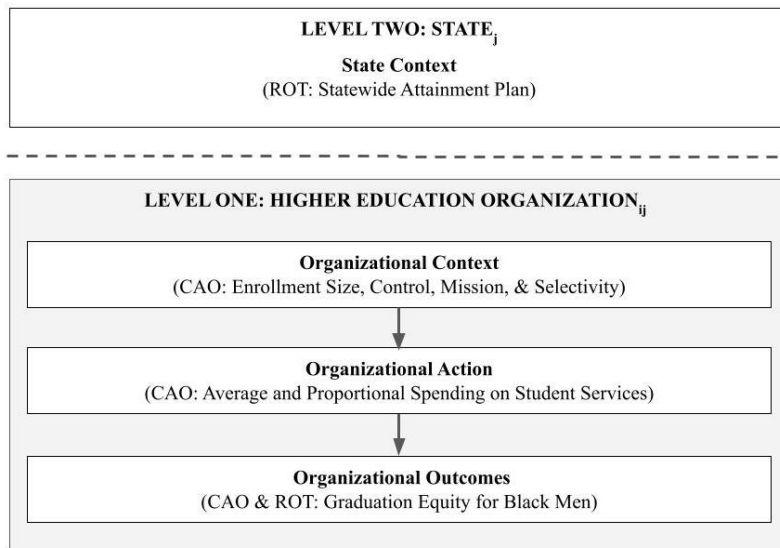
Despite the breadth and depth of the completion literature, a few things are missing, both conceptually and methodologically. First, most existing completion studies provide insight on race or gender but rarely the intersection of the two. Such a view cannot offer a comprehensive picture of graduation equity specific to undergraduate Black men, considered one of the most marginalized groups in higher education. Constrained by the previous availability of advanced statistical techniques, the influence of institutional and/or state context on graduation for Black students, in general, and equity for Black men, specifically, has not been systematically explored in multi-institution studies. Lastly, there remains a noticeable absence of quantitative research that considers disparate racialized outcomes as a product of organizations, as opposed to students, suggesting that there is much work to do in strengthening the link between organizational theory, critical inquiry, and racial equity.

Whereas the CAO model serves as a sharp conceptual lens for analyzing organizational actions and their connection to organizational hierarchies, it neglects “the mediating role of organizations in the distribution of resources along racial lines, and organizational influences on state policy” (Ray, 2019, p. 37). Extending the CAO institutional responsibility model through the tenets of ROT was an attempt to redefine race-specific graduation parity not as the byproduct of organizational performance but as the main product of “meso-level racial structures central to contestation over racial meaning, the social construction of race, and stability and change in the racial order” (p. 46). Incorporating both ROT and CAO, the present study’s framework (see Figure 1) hypothesizes that the nature of the variables associated with organization context (e.g.,

control, minority serving mission, and selectivity) and one dimension of organizational action (e.g., resource allocation via student services spending) in light of unique organizational landscapes (e.g., states) is predictive of graduation equity for undergraduate Black men.

Figure 1

Theoretical Framework for Black Male Graduation Equity



CHAPTER 3: METHODOLOGY

Dataset

To examine the relationship between organizational factors, state factors, and disparities in organizational outcomes for undergraduate Black men, the current study used data publicly available from the Integrated Postsecondary Database System (IPEDS) (U.S. Department of Education, n.d.) and state policy data reported by the Lumina Foundation and The Education Trust (The Ed Trust). The IPEDS is a comprehensive census of all postsecondary education institutions in the United States (50 states and the District of Columbia) and other jurisdictions. IPEDS surveys are administered by the U.S. Department of Education's National Center for Education Statistics. Data are collected annually from 7,500 degree- and non-degree-granting institutions that participate in any of the federal student aid programs authorized by Title IV of the Higher Education Act of 1965. IPEDS consists of nine survey components (e.g., completions, student aid, academic libraries, and enrollment) collected over three time periods (i.e., fall, winter, and spring) each year.

The Lumina Foundation is a private foundation “committed to making opportunities for learning beyond high school available to all” (Lumina Foundation, n.d., para. 3). Since 2009, the Foundation has helped to promote, support, and fund efforts behind the nationwide goal of 60 percent of post-high school educational attainment for Americans aged 25 to 64. As a part of this work, the Lumina Foundation provides extensive tracking and progress reports related to policy and attainment goals in all 50 states. The Lumina Foundation provides information on when and where state attainment policies are adopted.

The Ed Trust is a nonprofit agency “committed to advancing policies and practices to dismantle the racial and economic barriers embedded in the American education system” (The

Education Trust, n.d., para. 1). The Ed Trust regularly produces in-depth policy reporting and data analysis related to education equity issues in order to advocate for state and national policy changes. Specifically, a report by Ed Trust analysts Jones and Berger (2019) provides the data concerning race-conscious policy for this study.

Sample

The sample for the study includes all degree-granting, primarily baccalaureate or above, Title IV-participating institutions within the 50 states of the United States. Like previous parity analyses (Nichols & Evans-Bell, 2017), this study only includes institutions classified as public or private not-for-profit that enroll first-time, full-time undergraduates. The exclusion of for-profit institutions stems from the fact that they use a distinct financial reporting system that makes comparison of student services spending across institutional types unreliable. Non-degree-granting institutions and institutions without Black male enrollments in 2014 were excluded given the study's focus on degree disparities specific to Black males. Institutions with fewer than 100 undergraduate students were also excluded, as these institutions are typically specialized religious or vocational institutions. After filtering for Black male and overall enrollment, there were 1,242 four-year institutions across the United States that were considered appropriate for this study.

Timeframe

The study period is the academic year 2019–2020 with independent continuous variables reflecting academic years 2014–2015 through 2019–2020. By using six-year averages, this study sought to describe the organizational conditions for the freshman cohort entering in fall 2014 and exiting by spring 2020. This study uses the most recent complete graduation dataset in the IPEDS database (NCES, 2022a) and encompasses an important period of state and institutional

activity after the launch of President Obama’s My Brother’s Keeper Initiative (White House, 2017) and the national launch of the Black Lives Matters Movement (Library of Congress, 2015), both initiated in 2014. Although the impact of the coronavirus 2019 (COVID-19) pandemic led many campuses to transition to online learning in March of 2020—and undoubtedly impacted enrollment and graduation for years to come—graduation rates for baccalaureate degree earners in 2019–2020 did not see a major decline (Karamarkovich et al., 2022). As such, no COVID-19- related institutional response variables or adjustments for dependent variable impact were considered in this analysis.

Variables

The choice of variables included in any statistical model is important. Too many or too few variables can lead to a model that is not informative or leads to bias (Raudenbush & Bryk, 2002). The CAO model, ROT, and prior research are all important guides in informing the selection of the study variables. These variables required additional tests of outliers, correlation, and collinearity to determine the most appropriate variables for the final model. A full list of the study variables and definitions is presented in Table 1.

Dependent Variable

In most completion studies, the main dependent variable would be the six-year graduation rate for the group of interest. While a graduation rate is one of the most commonly used measures of college success because of its comparability, availability, and interpretability (DeAngelo et al., 2011), prior research suggests that this rate may be as reflective of the individual compounding effects of racism, classism, and sexism as it is of the unique structures, requirements, and actions of the institution (Archibald & Feldman, 2008).

The proposed analysis leverages the concept of Academic Equity Indices (AEIs) developed by Bensimon and colleagues (2003) to define organizational graduation equity as the proportional representation of Black graduates in 2020 with respect to the composition of the entire adjusted first-time full-time freshman cohort of 2014 (*eqindex*). The authors developed AEIs as a set of equity indicators that could be included in state higher education accountability reports and that could be combined to produce an Academic Equity Scorecard. The AEI metrics have been used to explore enrollment and graduation equity in studies led by Laura Perna (Perna et al., 2006; Perna et al., 2007; Perna et al., 2010) and Deryl Hatch (2016).

This study used the approach developed by Bensimon and colleagues (2003) in assessing graduation equity for several reasons. First, the results of the equity index calculation is easy to interpret and provides a clear benchmark. Equity is achieved when the index is equal to one. An index that is less than one is below equity, while an index that is greater than one is above equity (Bensimon et al., 2003). Second, because of the way in which it is calculated, the and equity index score provides a mechanism for comparing equity across racial/ethnic groups and states and at different points in time (see Perna et al., 2006, for an example).

As a standardized score, the equity index score allows simple comparisons across groups for a given outcome based on their proportion of a given population (Bensimon et al., 2003). For this study, the Black male graduation equity index score was calculated as described in Equation (1).

$$\text{Black Male Graduation Equity Index} = \frac{\text{Black Male Graduates} / \text{Total Graduates}}{\text{Black Male FT/FT Students} / \text{All FT/FT Students}} \quad (1)$$

The numerator in Equation (1) is the number of first-time, full-time Black male bachelor's degree graduates divided by the total number of first-time, full-time graduates for that institution. The denominator in Equation (1) is the number of first-time, full-time Black males

enrolled in fall 2014 divided by the total number of bachelor's degree-seeking undergraduates enrolled in fall 2014. Both numbers in the denominator are adjusted for any allowable exclusions.

It is important to note that graduation rates for bachelor's degree attainment can be calculated at the four-year (100%), five-year (125%), and six-year (150%) milestones. IPEDS graduation counts are characterized in sub-cohorts, so the six-year graduation rate for the year 2020 is calculated based on students entering the 2014 cohort. Additionally, cohort numbers only include students who are first-time, full-time students who graduate from the institution they enrolled in as freshmen (IPEDS, 2016). Not included in this analysis are transfer students, part-time students, students that stopped out at one institution and resumed at another, or students who took longer than six years to complete their degree.

Independent Variables

Level 1 Organizational Context

Building on the findings of previous completion research, this study investigated the dimensions of organizational control, classification, mission, and selectivity as they pertained to completion disparities. As regards institutional control, prior studies suggest that the severity of disparities for men of color may look different at public vs. private institutions (Astin & Oseguera, 2012; Titus, 2004). For example, the 2010 cohort completion data from NCES demonstrated that the Black completion rate was 19 percentage points lower than average across public colleges and universities but grew to 23 percentage points lower across not-for-profit institutions (IPEDS, 2019). Keeping in mind that public colleges and universities enroll the largest percentage (almost 80 percent) of college students and that a high proportion of minority students attend public institutions, more research on the variance of racial disparity at public

institutions and how that differs from private institutions is warranted (Santos & Haycock, 2016; Shapiro et al., 2017). Whether or not an institution has a minority-serving mission (i.e., mission) designation as an HBCU has also been an important factor considered in completion research. Prior research has suggested that not only do HBCUs enroll a substantial number of Black males (even amid the decline in recent years), but their culturally affirming mission has been considered a key factor in producing comparable, if not positive, graduation outcomes in prior studies (Gordon et al., 2021; Richards & Awokoya, 2012).

In addition to control and mission, selectivity (*select*) is an important structural factor to include in the model. Institutional selectivity generally represents the percentage of admissions applications accepted and has been found to be a strong predictor of completion in numerous studies (Astin & Oseguera, 2012; Hamrick et al., 2004). Prior research suggests that both public and private colleges enrolling students with higher SAT scores can effectively increase six-year completion rates by between 9 and 11 percentage points for every 100-point increase in median SAT scores (DeAngelo et al., 2011; Ober et al., 2018). Selectivity as a model variable has been used in previous studies to control for pre-college academic disparities (Blom & Monnarez, 2020) and as a predictor of racial enrollment stratification (Posselt et al., 2012). As more institutions move away from relying only on standardized tests for selective admissions, more research has begun to operationalize selectivity as the percentage of students admitted in a given year (see Hillman, 2016; Wagner, 2015). Following this approach, this study defines selectivity using the admission threshold categories defined by NCES. Finally, the study includes a variable for institutional size (*size*), as this institutional context characteristic has been found in previous research to influence completion rates or the magnitude of completion disparity (Oseguera, 2005; Ryan 2004; Scott et al., 2006).

Level 1: Organizational Action via Student Services Spending

While higher spending levels do not necessarily guarantee organizational quality, recent research has established that increased spending has positive effects on both enrollment and completion, with a 10 percent increase in overall spending raising the number of degrees awarded from 2 percent to 9 percent (Deming & Walters, 2017). Using an approach similar to Scott and colleagues (2006) and Gansemer-Topf and Schuh (2006), this study operationalized one dimension of organizational behavior as measured by the proportion of total institutional expenditures spent on student services (*stserv_prop*) and the average dollar amount spent per student on student services (*stserv_average*). Examining both spending per FTE and the proportion of expenditures attempts to level the playing field between affluent and less affluent institutions. For example, a wealthy institution that can spend \$5,000 per FTE on student services may have the ability to accomplish more than an institution that spends \$2,500 per student. However, institutions with fewer financial resources might be able to achieve similar, if not better, outcomes if they were able to strategically dedicate their limited resources. Though it is not clear how these spending habits impact graduation parity, a few studies suggest that an increase in a university's student services expenditures should lead to an increase in the university's graduation rates (Chen, 2012; Goenner & Snaith, 2004; Webber & Ehrenberg, 2010).

Level 2: State Context

As Perna and her colleagues (2014) note in their book entitled *The Attainment Agenda: State Policy in Higher Education*, states have a critical role in addressing inequity in higher education attainment. A state's composition of college types, higher education governance structure, funding policies and metrics, historical connection with higher education institutions,

and policy context are all important factors impacting education equity outcomes. For example, reliance on public colleges and universities to deliver higher education and contribute to statewide goals varies across states and regions (Perna et al., 2014). Western states tend to have substantial proportions of their overall enrollments concentrated in public colleges and universities, while many northeastern states experience significantly higher system-wide enrollments in private colleges.

ROT suggests that the configuration of a state's higher education system—by way of public reliance and accountability—may influence the effectiveness of public policies that promote system-wide racial equity. ROT also questions the extent to which broad-sweeping equity-oriented policies ultimately impact organizational practices (e.g., unequal resource distribution) that undergird racial inequities. ROT informs the study model by incorporating variables for level-1 aggregates (i.e., *control_agg*, *select_agg*, *mission_agg*, *size_agg*, *stserv_FTE_agg*, *stserv_prop_agg*) and statewide race-conscious attainment policies (*plan_state*) in analyzing the within- and between-state variance in graduation equity for undergraduate Black men. Like prior studies that have explored the connection between institutional practices, state policy systems, and equity outcomes (Heck et al., 2014; Moore & Schullock, 2010; Volkwein & Tandberg, 2008), this study looks to clarify meso- and macro-level associations.

Table 1*Proposed Model Variables*

Variable Name	Abbr.	Source	Variable Description
Dependent Variable			
Graduation Equity Index	<i>eqindex</i>	IPEDS Graduation Survey	Continuous: The proportional representation of Black male graduates in academic year 2019–2020 with respect to the composition of the entire adjusted first-time full-time freshman cohort of 2014. (see Equation 1, p. 36)
Level 1: Institutional Variables			
Size	<i>size</i>	IPEDS Enrollment	Continuous: The log of the average count of undergraduate full-time equivalent fall enrollment fall 2014–fall 2019.
Selectivity	<i>select</i>	IPEDS Institutional Characteristics	Categorical: The average percent of admitted applicants from academic year 2014–2015 through 2019–2020. Selectivity is coded as (1) highly selective (admitting fewer than 40% of applicants); (2) selective (admitting 40% to 60%); (0) moderately selective (admitting 60% to 80%); and (3) broad-access (admitting 80% or more).
Control	<i>control</i>	IPEDS Institutional Characteristics	Categorical: (0) Not-for-profit Private (1) Public
Minority Serving Mission	<i>mission</i>	IPEDS Institutional Characteristics	Categorical: (0) not HBCU (1) HBCU
Student Services Spending	<i>stserv_avg</i>	IPEDS Finance	Continuous: The average amount of student services spending per FTE from 2014–2015 through 2019–2020 (in constant 2020 dollars).
Student Services Proportion	<i>stserv_prop</i>	IPEDS Finance	Continuous: Average proportion of institutional student services spending from 2014–2015 through 2019–2020 (in constant 2020 dollars).
Level 2: State Variables			
Statewide Attainment Plan	<i>plan_state</i>	The Education Trust	Categorical: Implementation of a race-conscious state attainment plan. Coded as (0) No Plan (1) Racial-Conscious Plan
Level 1 Aggregate Variables	<i>control_agg,</i> <i>select_agg,</i> <i>mission_agg,</i> <i>size_agg,</i> <i>stserv_FTE_agg,</i> <i>stserv_prop_agg</i>	IPEDS (various)	Statewide proportion or mean of Level-1 variable (see above).

Analytical Plan

Although the field is rapidly changing, much of the existing research on college completion relies on single-level statistics (Kim, 2001; Reilley, 2019). This is concerning in that the most obvious and best-known consequence of failing to model the nested nature of data

(particularly in multi-institution studies) is the violation of the independence assumption and its impact on estimated standard errors (Raudenbush & Bryk, 2002). Ignoring the nested nature of the data creates modeling conditions in which the errors are no longer uncorrelated, degrees of freedom are overrepresented, and standard errors are incorrect (Snijders & Bosker, 2011).

Patrick (2001) notes that underestimating standard errors results in a higher chance of significance tests that readily reject the null hypothesis than if the nested data were appropriately modeled.

As demonstrated in previous completion studies (Chen, 2012; Titus, 2004, 2006; Yi, 2008), multilevel modeling techniques can account for the nested nature of multi-institution data and address many of the issues that arise from the use of single-level models. Given that higher education institutions (level 1) in the data are nested within states (level 2), one might assume that there is a greater similarity in their characteristics within states due to different educational policies, resources, and economies as well as organizational and student populations. Though the focus of this study is on the organizational factors that can account for variation in graduation equity, a multilevel analysis allows for the decomposition of within- and between-state relationships (Raudenbush & Bryk, 2002) and further investigates how aggregate state-level factors may moderate institution-level effects (i.e., context effects).

This study applied the two-level model testing and specification process outlined by Snijders and Bosker (2011). For the purposes of the study, the model includes the Black male graduation equity index measure as the dependent variable, level 1 as organizational covariates, and level 2 as state-level variables of interest. All data cleaning and manipulation were completed in R. Data was downloaded from IPEDS and from Jones and Berger's (2019) state attainment policy report. Initial data cleaning included evaluating the extent of missing

information, checking for potential data errors, and recoding the data. Cases that did not meet the sample criteria were removed from the dataset. The remaining analysis was carried out in three consecutive steps, namely, univariate, bivariate, and multivariate analysis.

Univariate Analysis

The first step of the data analysis was to produce descriptive statistics of the full sample, including means and standard deviations. The univariate distribution of each was examined for normality. Univariate outliers ($|SD| > 6$) were examined for potential data collection and report errors although none were removed. Although HLM is amenable to missing data in the dependent variable, no data were missing in either the dependent or independent variables, so processes to address missing data were not needed.

Data construction included calculating means across time (2014–2020) for select variables (*size*, *select*, *stserv_avg*, *stserv_prop*, & *size_state*) as well as the derived equity index score variable (*eqindex*; see Equation 1). Financial indicators were computed into constant 2020 dollars and then averaged across the six-year time period. The variables were then reexamined to test for normality, a basic assumption of parametric tests. To address severe skew or kurtosis, transformations were employed with guidance from Field and colleagues (2012).

Bivariate Analysis

The correlations between variables included in the study—within each level—were examined for collinearity. When two variables are very highly correlated, they fail to add distinct information to the model and can result in unstable coefficients (Field et al., 2012). Pearson, Spearman's rho, Phi Coefficient, and Cramer's V Correlation analyses were used to determine the severity of collinearity between continuous and categorical variables. Variables with very strong correlations were reevaluated for consideration in the analysis. In addition to collinearity,

multicollinearity (via variance inflation factor (VIF) analysis) was tested to identify additional variables that were highly correlated and to limit inflation of the variance of coefficients that can cause type II error. Although there is no one threshold for VIF values, values of more than 10 are commonly considered concerning (Field et al., 2012; James et al., 2013).

Multivariate Analysis

Variable Transformation, Coding, and Standardization

Parametric modeling assumptions of linearity and normality were examined for all model variables. Transformations were considered for variables with significant skew: student services spending per FTE ($W = 0.9, p = <.001$), proportion of student services spending ($W = 1.0, p = <.001$), and institutional size ($W = 0.7, p = <.001$). Although transformations can normalize data in ways that may lead to more valid probability statements, the benefits of transformation do not always outweigh the consequences of increased complexity in interpretation or model fit (Field et al., 2012). With this in mind, logarithmic transformation was only applied to the institutional size variable to correct for the severe positive skew of its distribution and allow for nonlinear impact on the outcome. Both student services spending variables remained untransformed. To ensure that the analysis was robust to this violation of normality, model results were evaluated for heteroscedasticity and compared to the results of a robust standard errors estimation.

As part of the multivariate analysis stage, level-1 predictors that are dichotomous or multi-categorical were effect-coded. Effect-coded dichotomous variables included *control* (-1 = private nonprofit and 1 = public), *hbcu* (-1 = Not HBCU and 1 = HBCU), and race-conscious state attainment plan (-1 = Not Plan and 1 = Plan). The effect-coded multi-categorical variable included three selectivity variables (i.e., *select_ba*, *select_s*, and *select_hs*) with “moderately selective” as the reference category (see Table 2). The effect-coded variables enabled the model

to compare the outcome in a given category to the unweighted mean of the outcome across all categories, thus aiding the interpretation of results.

Table 2

Effect Coding Scheme for Multi-Categorical Variables

Variable Categories	Effect-Coded Variables		
	<i>select_ba</i>	<i>select_s</i>	<i>select_hs</i>
Selectivity			
Moderately Selective	-1	-1	-1
Broad Access	1	0	0
Selective	0	1	0
Highly Selective	0	0	1

Continuous level-1 predictors (i.e., *size*, *stuserv_avg*, and *stuserve_prop*) were cluster-mean-centered, and aggregates of those predictors were grand-mean-centered for level 2. Categorical variables (i.e., *control*, *hbcu*, and *selectivity*) were effect-coded for level 1 and grand-mean-centered for level 2. In general, centering includes the rescaling of a predictor so that 0 becomes meaningful; it is a useful approach for avoiding collinearity caused by highly correlated random intercepts and slopes in MLMs and may ease the interpretation of results (Hoffman & Walters, 2022; Wooldridge, 2004). Cluster-mean-centering level-1 predictors is critical when there is non-independence because it helps to address the potential for biased level-1 slopes in the model by decomposing the within- and between-cluster effects (Sanders & Konold, 2023; Snijders & Bosker, 2011). Including grand-mean-centered aggregate level-2 predictors aided in avoiding omitted variable bias, which has the potential to distort standard errors.

Once cluster-mean-centered and grand-mean-centered predictors were computed, they were scaled as z-scores to further aid the interpretability of effects and interactions. Additionally,

the independent variables (via centering and scaling) were standardized to ensure that the estimated coefficients were all on the same scale, making it easier to compare effect sizes.

Model Building

All models treated organizations as level 1 and states as level 2 and were estimated with full maximum likelihood in *R* lme4 (Bates et al., 2015). LmerTest (Kuznetsova et al., 2017) was used to test fixed effects coefficients with Satterthwaite degrees of freedom. To facilitate the interpretation of the results, all predictors were mean-centered (i.e., categorical predictors were effect-coded, and continuous predictors were standardized into *z*-scores); for all level-1 predictors, scores were decomposed into within- and between-state components and then cluster- and grand-mean-centered, respectively, to permit correct inferences (e.g., Sanders & Konold, 2023). Effect sizes for fixed-effects coefficients were calculated as an approximate Cohen's *d* value (i.e., coefficient divided by the pooled standard deviation). To obtain the approximate R^2 as an indicator of overall model fit, the variance of model-predicted values was divided by the total variance (i.e., fitted, fixed, and residual variance) using the *r2mlm* in *R*.

Diagnostic testing for multicollinearity was also conducted. The VIF and tolerance statistics for the first iteration of the modeling process revealed there was a substantial amount of multicollinearity between student services spending variables and the minority-serving mission variable. To address this issue, the minority-serving mission variable was removed from the final analysis. VIF values in the final model were all well below 10, ensuring an accurate depiction of the relationship between the independent variables and the outcome.

Ultimately, four models were specified sequentially: a fully unconditional model, a second model with level-1 variables only, a third model with the level-2 variable added, and a fourth model that included interactions among the focal variables. The fully unconditional

(intercept-only) model was produced to determine the level of correlation among organizational equity index scores in states. This correlation is known as the intraclass correlation (ICC) and was calculated by dividing the variance between states by the total variance (between and within states). The ICC can be interpreted as the proportion of variance in the organization's equity index scores explained by state membership as well as the expected correlation between any two randomly drawn organizations from the same state. According to Hox (2010), even a small amount (i.e., $ICC > 0$) of non-independence can translate into increased Type-1 error probability when testing models, and Heck et al. (2014) suggest that ICC values of more than .05 often indicated a non-trivial amount of non-independence.

Model selection over the course of the model building process was determined using the Akaike Information Criterion (AIC) coupled with chi-square difference testing. The AIC functions to quantify the degree to which a given model represents an improvement over comparison models. The AIC is computed by simply multiplying the number of parameters by 2 and adding this product to the deviance statistic. Smaller values for the AIC imply better fitting models (Raftery, 1995). Because the models were nested (i.e., each more complex model includes all of the parameters of the simpler model plus additional parameters), chi-square significance tests were also used to determine whether the change in deviance between the models outweighed the preference for model parsimony (McCoach & Black, 2012). In evaluating model fit using the chi-square difference test, the more parsimonious model is preferred as long as it does not result in significantly worse fit. The final specified model is described in Equation 2.

Equation 2*Specification for Final Multilevel Model*

$$\begin{aligned}
\text{EquityIndex2020}_{ij} = & \gamma_{00} + \gamma_{10}\text{Control_Public}_{ij} + \gamma_{20-40}\text{Selectivity}_{ij} \\
& + \gamma_{50}\text{Size}_{ij} + \gamma_{60}\text{StuServices_FTE}_{ij} + \gamma_{70}\text{StuServices_Proportion}_{ij} \\
& + \gamma_{01}\overline{\text{Control_Public}}_j + \gamma_{02-04}\overline{\text{Selectivity}}_j \\
& + \gamma_{05}\overline{\text{Size}}_j + \gamma_{06}\overline{\text{StuServices_FTE}}_j + \gamma_{07}\overline{\text{StuServices_Proportion}}_j \\
& + \gamma_{08}\text{State_Plan}_j \\
& + \gamma_{09}\text{StuServices_FTE}_{ij} * \text{Control_Public}_{ij} \\
& + \gamma_{010-012}\text{StuServices_FTE}_{ij} * \text{Selectivity}_{ij} \\
& + \gamma_{013}\text{StuServices_FTE}_{ij} * \text{Size}_{ij} \\
& + \gamma_{014}\text{StuServices_FTE}_{ij} * \text{StuServices_Proportion}_{ij} \\
& + \gamma_{11}\text{State_Plan}_j * \text{Control_Public}_{ij} \\
& + \gamma_{21}\text{State_Plan}_j * \text{Selectivity_Broad Access}_{ij} \\
& + \gamma_{31}\text{State_Plan}_j * \text{Selectivity_Selective}_{ij} \\
& + \gamma_{41}\text{State_Plan}_j * \text{Selectivity_Highly Selective}_{ij} \\
& + \gamma_{51}\text{State_Plan}_j * \text{Size}_{ij} \\
& + \gamma_{61}\text{State_Plan}_j * \text{StuServices_Average}_{ij} \\
& + \gamma_{71}\text{State_Plan}_j * \text{StuServices_Proportion}_{ij} \\
& + U_{0j} + r_{ij}
\end{aligned}$$

In model equation (2), the 2020 graduation equity index score for college i in state j is modeled as a function of the sum of the conditional mean 2020 equity index score (γ_{00}); the effect of public institutional control compared with the average (γ_{10}); the separate effects of highly selective, moderately selective, and broad-access levels of selectivity compared with the

average (γ_{20-40}); the effect of each standard deviation increase in the respective institutional enrollment size (γ_{50}); the effect of each standard deviation increase in institutional student services expenditures per FTE (γ_{60}); the effect of each standard deviation increase in the percent of institutional expenditures dedicated to student services (γ_{70}); the effect of increases in the proportion of public institutions statewide (γ_{01}); the separate effects of increases in the proportion of selective, moderately selective, and broad-access institutions statewide (γ_{02-04}); the effect of each standard deviation increase in statewide fall FTE enrollment (γ_{05}); the effect of each standard deviation increase in statewide average institutional student services expenditures per FTE (γ_{06}); the effect of each standard deviation increase in statewide average institutional student services as a proportion of the total budget (γ_{07}); and the effect of a state attainment plan adopted by 2014 compared with the average (γ_{08}).

Additionally, the specified model equation (2) includes fixed effect interactions inclusive of the extent to which the effect of student services expenditure per FTE is moderated by the effect of being a public institution (γ_{09}); the extent to which the effect of student services expenditure per FTE is moderated by the separate effects of highly selective, moderately selective, and broad-access levels of selectivity ($\gamma_{010-012}$); the extent to which the effect of student services expenditure per FTE is moderated by an organization's enrollment size (γ_{013}); the extent to which the effect of student services expenditure per FTE is moderated by an organization's proportional expenditures on student services (γ_{014}); the extent to which the effect of public institutional control is moderated by the effect of the state-level attainment plan (γ_{11}); the extent to which the separate effects of highly selective, moderately selective, and broad-access levels of selectivity are moderated by the effect of a state-level attainment plan (γ_{21-41}); the extent to which the relationship between each standard deviation increase in fall enrollment (FTE) is

moderated by the effect of the state-level attainment plan (γ_{51}); the extent to which the relationship between each standard deviation increase in student services expenditures per FTE is moderated by the effect of the state-level attainment plan (γ_{61}); the extent to which the relationship between each standard deviation increase in the proportion of student services expenditures is moderated by the effect of a state-level attainment plan (γ_{71}); and the residual errors for states and institutions in states (U_{0j} and r_{ij} , respectively).

CHAPTER 4: RESULTS

The purpose of this study was to clarify the relationship between organizational context, student services spending, race-conscious state attainment policies, and proportional graduation equity for first-time, full-time undergraduate Black men enrolling at four-year institutions in the fall of 2014. This study used multilevel modeling to examine the variance that can be explained at the organizational and state level. This chapter includes descriptive statistics related to all variables proposed for model building, bivariate correlation results, an overview of the multilevel model building process, the results of the final multilevel model, and post hoc assumption and sensitivity testing.

Descriptive Statistics and Bivariate Correlations

Table 3 reports descriptive statistics for equity index scores, six variables related to organizational context, two measures of student services spending (i.e., organizational action), and a state-level variable reflecting the enactment of a race-conscious state attainment policy. The data reflects the entire sample of 1242 institutions, representing 69% of all public and not-for-profit institutions in the 50 states.

Table 3 also presents a bivariate correlation analysis showing a significant relationship between equity index scores and all independent organizational context and action variables. Table 7 shows that organizations that were public ($r_{pb} = -.17, p < .05$), HBCU ($r_{pb} (1240) = -.33, p < .05$), broad-access ($r_{pb} = -.17, p < .05$), or selective were negatively correlated with equity index scores. Being a highly selective organization or larger organization (i.e., higher FTE fall enrollment) was both positively and significantly correlated with equity index scores ($r_{pb} = .42, p < .05$ and $r_{pb} = -.21, p < .05$, respectively). Student services spending per FTE had a moderate and positive correlation with equity index scores, and proportional spending on student services

had a negative correlation. Lastly, the correlation analysis indicated that there was not a significant correlation between state attainment policy and equity index scores. Although most variables demonstrated weak to moderate correlations between each other, proportional spending on student services had a significant and strong negative correlation with control ($r_{pb} = -.63, p < .05$) and size ($r = -.66, p < .05$).

Table 3

Descriptive Statistics and Zero-Order Correlations

Measure	<i>M</i>	<i>(SD)</i>	1	2	3	4	5	6	7	8	9	10
Organization-level outcome												
1. Equity Index Score	0.57	0.18	--									
Organizational-level predictors												
2. Control (1 = public)	0.40	0.49	-0.17	--								
3. Minority Serving Mission (1 = HBCU)	0.06	0.23	-0.33	0.06	--							
4. Selectivity (1 = Broad Access)	0.27	0.44	-0.2	0.16	-0.02	--						
5. Selectivity (1= Selective)	0.20	0.40	-0.06	-0.06	0.01	-0.30	--					
6. Selectivity (1 = Highly Selective)	0.08	0.27	0.42	-0.10	-0.01	-0.18	-0.15	--				
7. [Log] Size (FTE)	8.30	1.06	0.21	0.65	-0.12	0.08	-0.07	0.07	--			
8. Student Services Spending by FTE (dollars)	4,213.83	2,662.97	0.35	-0.58	-0.10	-0.18	0.01	0.37	-0.52	--		
9. Student Services Spending (%)	16.57	8.42	-0.18	-0.63	-0.11	-0.02	0.05	-0.16	-0.66	0.59	--	
State-level predictors												
10. State Attainment Policy (1=yes)	0.27	0.44	-0.02	-0.03	-0.03	0.04	-0.02	0.00	-0.03	-0.01	0.01	--

Note. $N=1242$. Coefficients between dichotomous and continues variables reflect point-biseral correlation coefficient. Coefficients between two dichotomous variables reflect phi correlation coefficient. Coefficients between multicategorical nominal and dichotomous variables reflect Cramers V correlation coefficient. Boldface indicates $p < 0.05$.

Research Question 1

Building on the thresholds provided by Bensimon et al. (2013), equity index scores can be classified using four labels: “at or above equity” (i.e., ≥ 1.0), “almost at equity” (i.e., 0.8–0.9), “below equity” (i.e., 0.5–0.7), or “far below equity” (i.e., ≤ 0.4). Overall, the average equity index score for Black male undergraduates at the 1242 four-year organizations in 2020 was 0.57 ($SD = 0.18$), which is below equity. Another way of understanding this is that four-year colleges and universities across the United States produced a little more than half of the Black male graduates that could have been expected based on enrollment in 2014. Across the sample, scores were “at or above equity” for 1% of institutions, “almost at equity” for 15.5% of institutions,

“below equity” for 58.4% of institutions, and far below equity for 25.1% of institutions (see Table 3). In other words, graduation equity in 2020 for Black men at four-year colleges and universities was the exception rather than the rule. Further disaggregating the data by organizational context revealed wide variability in equity index scores (see Table 5). Most notably, highly selective institutions had the highest average equity index score ($M = 0.83$, $SD = 0.19$) while HBCUs had the lowest ($M = 0.33$, $SD = 0.12$).

Table 4

Equity Index Scores by Institution and by State

Level of Equity	Numerical Representation	Institutional Score N (%)	Average State Score N (%)
At or Above Equity	≥ 1.0	13 (1.1%)	0 (0)
Almost at Equity	0.8 - 0.9	192 (15.5%)	0 (0)
Below Equity	0.5 - 0.7	725 (58.4%)	34 (68%)
Far Below Equity	≤ 0.4	312 (25.1%)	16 (32%)

Note. Institutions ($N = 1242$). States ($N=50$). Levels of equity are based on score cutoffs provided by Bensimon et al. (2003).

The two types of expenditures on which the analysis focused were student services expenditures per FTE and student services expenditures as a proportion of total institutional expenditures. Detailed definitions of each of these variables are given in Chapter 3. The mean student services expenditure per FTE was \$4,213 ($SD = \$2,663$) across all organizations (Table 4). The wide standard deviation of student services expenditure per FTE ($\$2,663$) is due to very high expenditure levels at a small number of highly selective not-for-profit institutions (e.g., Yale, Bowdoin, and Pitzer). For example, mean student services expenditures per FTE student were twice as high at the not-for-profit institutions in the sample ($M = \$5,485$, $SD = \$2,636$) than at the public institutions ($M = \$2,316$, $SD = \$1,141$) and, similarly, almost twice as high at institutions that are highly selective ($M = \$7,572$, $SD = \$4,860$) than at broad-access institutions ($M = \$3,433$, $SD = \$1,796$). Put simply, selective institutions—which are predominantly private

institutions—collectively spent more money per student than other institutions did. HBCUs fall at the opposite end of this spending spectrum. Despite a balanced representation of control (i.e., public vs. not-for-profit) and selectivity across HBCUs, they spent, on average, \$1,000 less per FTE on student services than their non-HBCU counterparts.

Table 5

Descriptive Statistics by Select Institutional Context Variables

Institutional Context			Student Services Expenditures (%)		Student Services Expenditures (\$)		Equity Index Score 2020	
	n	%	Mean (SD)	Range	Mean (SD)	Range	Mean (SD)	Range
Control								
Public	497	39.8	10.1 (4.68)	1.5 - 26.3	2316 (1141)	212 - 10728	0.53 (0.17)	0.10 - 0.94
Not-for-profit	751	60.2	20.8 (7.54)	2.2 - 53.0	5485 (2636)	757 - 22671	0.60 (0.19)	0.05 - 0.98
Minority Serving Mission								
HBCU	73	5.9	12.9 (5.72)	3.5 - 28.7	3187 (1568)	841 - 7460	0.33 (0.12)	0.07 - 0.58
Non HBCU	1175	94.2	16.8 (8.50)	1.5 - 53.0	4277 (2704)	212 - 22671	0.59 (0.17)	0.05 - 0.98
Selectivity								
Highly Selective	100	8.0	11.9 (7.29)	2.2 - 32.0	7572 (4860)	1376 - 22671	0.83 (0.19)	0.07 - 0.98
Selective	254	20.4	17.4 (9.60)	1.5 - 53.0	4291 (2413)	757 - 12404	0.55 (0.20)	0.07 - 0.92
Moderately Selective	561	45.0	17.1 (8.00)	1.7 - 39.0	4053 (2180)	212 - 14423	0.57 (0.14)	0.05 - 0.88
Broad Access	333	26.7	16.0 (8.08)	2.0 - 42.0	3433 (1796)	238 - 8900	0.54 (0.15)	0.10 - 0.84
Size								
Very Small	80	6.4	25.5 (7.95)	7.0-53.0	6352 (2204)	2,109-14,423	0.42 (0.16)	0.05 - 0.91
Small	484	38.8	21.3 (6.92)	1.5 - 42.0	5451 (2633)	809-18,930	0.57 (0.17)	0.12 - 0.97
Medium	402	32.2	14.4 (6.42)	2.0 - 38.0	3660 (2393)	212-22,671	0.58 (0.19)	0.15 - 0.98
Large	282	22.6	8.8 (5.06)	1.8 - 41.0	2262 (1344)	704-12,060	0.61 (0.17)	0.10 - 0.98

Note. Student services expenditures per student was calculated by dividing the institution’s total amount of funds expended in the area of student services from the U.S. Department of Education’s IPEDS survey divided by the institution’s total number of students, reported on the same survey.

The proportion of expenses dedicated to student services averaged 16.5 percent ($SD = 8.42$) across the entire sample (see Table 4) and demonstrated variability across organizational context. While not-for-profit, small, and very small institutions averaged proportional student services spending upwards of 20 percent of the institutional budget, large and public institutions averaged closer to 10 percent or less. This commonality among size and control is unsurprising considering that many large institutions are public institutions, and most very small to small institutions are not-for-profit.

Research Question 2

According to the policy analysis by Jones et al. (2019), 12 of 50 states (24%) had enacted statewide attainment policies by 2014. All 12 statewide policies in place in 2014 met the criteria for being race-conscious. The mean state equity index score was 0.5 with a range of 0.4 to 0.7. Although a handful of states had equity index scores of 0.7 (N = 8), no states were considered “approaching or at equity.” In fact, 90% of all states were “below equity,” and the remaining 10% could be classified as “far below equity” (see Table 3). States with race-conscious statewide attainment policies were geographically dispersed (e.g., at least one state in every federal region) (see Figure 2).

Figure 2

Average State Graduation Equity for Undergraduate Black Men



Table 6 reports state-level descriptive statistics for mean equity index scores, average student services spending by FTE and proportion, and whether an attainment policy had been enacted by 2014. What is notable in Table 6 is that the states with the lowest average equity

index scores are also those with some of the lowest average student services expenditures per FTE *and* average proportion of student services expenditures. The four states with average equity scores below 0.5 (i.e., Nevada, New Mexico, Oklahoma, and West Virginia) had no statewide attainment plan. However, the states with the highest equity scores ($M = 0.7$; i.e., California, Connecticut, Massachusetts, New Jersey, New York, Rhode Island, Vermont, and Washington) fell both below and above the average state means for student services spending, and only two of these states had statewide equity plans.

Table 6*Descriptive Statistics of Equity Index Scores and Spending by State*

State Name	Equity Index Score 2020		Student Services Expenditures (\$/FTE)		Student Services Expenditures (%)		Attainment Policy
	<i>n</i>	Mean (<i>SD</i>)	Mean (<i>SD</i>)	Rank	Mean (<i>SD</i>)	Rank	Yes/No
Rhode Island	8	0.73 (0.16)	4948.00 (2454.00)	8	16.5 (8.46)	23	No
California	63	0.70 (0.15)	5065.00 (3273.00)	7	14.6 (5.80)	35	No
Massachusetts	49	0.69 (0.18)	5651.00 (3300.00)	4	17.7 (7.26)	14	Yes
Washington	18	0.67 (0.12)	3952.00 (2881.00)	24	13.9 (8.18)	37	Yes
Connecticut	17	0.66 (0.18)	6328.00 (4867.00)	2	16.8 (6.96)	21	No
New Jersey	26	0.65 (0.15)	4567.00 (2866.00)	11	15.4 (6.27)	33	No
New York	100	0.65 (0.15)	4521.00 (2549.00)	12	15.5 (7.38)	32	No
Vermont	6	0.65 (0.18)	5848.00 (3324.00)	3	17.5 (6.66)	18	No
Pennsylvania	87	0.64 (0.16)	4816.00 (2430.00)	9	17.8 (6.16)	13	No
Minnesota	25	0.63 (0.14)	4286.00 (1819.00)	15	19.3 (7.48)	6	No
Virginia	36	0.62 (0.17)	4316.00 (3082.00)	14	16.4 (10.70)	25	No
Iowa	24	0.61 (0.15)	5525.00 (2883.00)	6	22.8 (8.32)	1	No
Wisconsin	28	0.61 (0.12)	3864.00 (1515.00)	26	17.6 (4.72)	16	No
Maine	11	0.60 (0.24)	6972.00 (5784.00)	1	19.0 (7.01)	7	No
New Hampshire	9	0.60 (0.23)	5619.00 (3841.00)	5	22.4 (11.40)	2	No
Oregon	16	0.60 (0.16)	3680.00 (2145.00)	32	13.5 (7.63)	39	Yes
Michigan	34	0.59 (0.15)	3772.00 (2309.00)	28	16.2 (9.19)	27	No
Wyoming	1	0.59 (-)	2056.00 (-)	49	4.5 (-)	50	No
Illinois	49	0.58 (0.18)	4651.00 (2063.00)	10	17.8 (8.13)	12	Yes
Indiana	36	0.58 (0.17)	4248.00 (2974.00)	16	17.3 (8.96)	19	Yes
Maryland	21	0.58 (0.21)	3772.00 (2201.00)	27	13.4 (7.87)	40	Yes
Ohio	50	0.58 (0.17)	4192.00 (2619.00)	20	17.5 (9.17)	17	No
Arizona	5	0.57 (0.1)	3733.00 (2318.00)	29	14.7 (10.70)	34	No
Colorado	15	0.56 (0.19)	3304.00 (2938.00)	37	12.8 (6.40)	42	Yes
Florida	36	0.56 (0.16)	3890.00 (2431.00)	25	17.1 (11.80)	20	No
Nebraska	13	0.55 (0.12)	4238.00 (2745.00)	17	19.5 (11.30)	4	No
South Dakota	9	0.53 (0.10)	3687.00 (1327.00)	31	18.9 (8.72)	8	No
Tennessee	34	0.53 (0.17)	3962.00 (2048.00)	23	18.4 (6.59)	11	Yes
Hawai'i	4	0.51 (0.11)	3295.00 (853.00)	38	11.5 (6.61)	46	Yes
Missouri	34	0.51 (0.19)	3224.00 (1482.00)	40	16.6 (8.48)	22	Yes
North Carolina	46	0.51 (0.2)	4234.00 (2698.00)	18	17.6 (10.80)	15	No
North Dakota	7	0.51 (0.12)	3306.00 (847.00)	36	13.8 (4.86)	38	No
South Carolina	29	0.50 (0.18)	4049.00 (2351.00)	22	18.5 (7.82)	10	No
Utah	8	0.50 (0.20)	2378.00 (1838.00)	48	12.6 (8.69)	44	No
Montana	7	0.49 (0.14)	4343.00 (2150.00)	13	18.7 (10.10)	9	No
Texas	66	0.49 (0.18)	3552.00 (2363.00)	34	14.6 (8.04)	36	No
Idaho	6	0.48 (0.14)	2867.00 (3112.00)	45	12.8 (9.95)	43	No
Kentucky	25	0.48 (0.16)	4200.00 (1963.00)	19	19.3 (8.55)	5	No
Arkansas	16	0.47 (0.14)	3714.00 (2714.00)	30	15.9 (8.36)	29	No
Mississippi	14	0.47 (0.14)	2960.00 (2352.00)	44	12.9 (8.48)	41	No
Alabama	24	0.46 (0.17)	3654.00 (1625.00)	33	15.9 (8.05)	28	No
Louisiana	20	0.46 (0.15)	2570.00 (2493.00)	46	10.6 (6.27)	48	No
Delaware	4	0.45 (0.28)	3090.00 (1422.00)	43	15.5 (7.88)	31	No
Georgia	38	0.45 (0.19)	3439.00 (2250.00)	35	16.3 (10.20)	26	Yes
Kansas	22	0.45 (0.14)	4166.00 (2257.00)	21	20.8 (10.30)	3	Yes
Nevada	3	0.43 (0.19)	2484.00 (906.00)	47	10.9 (2.08)	47	No
Oklahoma	20	0.43 (0.18)	3099.00 (1645.00)	42	16.4 (9.39)	24	No
West Virginia	16	0.42 (0.10)	3270.00 (2644.00)	39	15.7 (10.70)	30	No
New Mexico	6	0.40 (0.14)	1648.00 (453.00)	50	6.4 (4.27)	49	No
Alaska	1	0.31 (-)	3210.00 (-)	41	11.8 (-)	45	No

Note. *N*=1242

Multilevel Modeling Results

In the model building process, Model 1 was an intercept-only model that served as the baseline model, and Model 2 accounts for organizational differences by way of control, selectivity, and student service spending. The results for Model 2 confirmed that several organizational variables significantly predicted differences in equity index scores. Model 2 also provided a better data fit than Model 1, improving the AIC by 972 points. Model 3, which tested the unique contributions of state-level aggregate variables and attainment policy after controlling for organizational characteristics, improved the AIC by another 27 points. The fourth and final model, Model 4, tested for the unique effects of interactions between level-1 predictors and cross-level interactions. Model 4 improved on the AIC by another 61 points. The chi-square test comparing Model 3 and Model 4 also indicated a significantly better fit ($\chi^2 = 91.1, df = 15, p < .001$). Ultimately, the fixed and random effects of Model 4, the best fitting model, accounted for 58% of the variance in equity index scores. The results of Model 4 address the final research questions.

Research Question 3

Model 1 results revealed that the ICC for equity index scores was 0.15, which means that 15% of the variance in equity index scores is a function of between-state differences and that the correlation between any two randomly drawn organizations from the same state will be 0.15. The unconditional model also shows that there was much more variation within states ($\sigma^2 = 0.027, SD = 0.17$) than between states ($\tau^2 = 0.005, SD = 0.07$).

Research Question 4

Research question 4 concerned the extent of association between organizational factors (i.e., control, selectivity, and size) and graduation equity. The results of the analysis show that at

least two types of organizational context are significantly associated with graduation equity: control and size. Public institutions were predicted to score 0.08 points ($ES = -.67, p < .001$) lower than average, or 0.16 points lower than not-for-profit institutions, all else held constant. The log of fall enrollment size, although primarily considered in this analysis as a control, was positively and significantly predictive of equity index scores ($Coeff = -.26, ES = 0.01, p < .001$). No organization level selectivity variables were significant in Model 4.

Organizational spending (e.g., average FTE and proportional student services spending) comprised another set of factors explored in research question 4. The model results show that student services spending per FTE was a positive and significant predictor of equity index scores. For every standard deviation increase in spending per FTE, there was a 0.12-point increase in equity index scores ($ES = 1.02, p < .001$), all else held constant. However, the proportion of student services spending had an inverse relationship with equity index scores; for every standard deviation increase in proportional spending, there was a predicted 0.11-point decrease ($ES = -.91, p < .001$) in equity index score, all else held constant.

Research Question 5

The third set of predictors sought to clarify the association between state context and graduation equity index scores. Four state-level predictors in Model 4 were significantly predictive of equity index scores: the proportion of selective institutions, the state average of institutional fall enrollment size, the state average of institutional student services spending per FTE, and the state mean of proportional student services spending across institutions. The results show a predicted mean decrease of 0.02 points ($ES = -.20, p = .003$) in equity index scores for each standard deviation increase in the proportion of selective organizations across any given state, all else held constant. In other words, states with a higher proportion of selective

institutions had lower mean equity scores. For every standard deviation increase in mean student services spending per FTE across any given state, there was a predicted 0.09-point increase ($ES = .73, p < .001$) in equity index scores, all else held constant. Conversely, for every standard deviation increase in mean proportional student services spending across any given state, there was a predicted 0.05-point decrease ($ES = .73, p < .001$) in equity index scores, all else held constant. The average of the log of fall enrollment size across institutions was significantly and positively predictive of equity index scores ($Coeff = 0.03, ES = 0.27, p < 0.01$). Addressing the research question directly, the analysis found that state-level race-conscious attainment policy—a focal predictor of interest—was not significantly predictive of equity index scores ($Coeff = -0.01, p = 0.131$).

Table 7

Multilevel Model Results for 2020 Equity Index Scores

Fixed Effects	Model 1: Intercept Only			Model 2: Organization Level Effects			Model 3: State Level Effects			Model 4: Interaction Effects			
	Coeff.	SE	p	Coeff.	(SE)	p	Coeff.	(SE)	p	Coeff.	(SE)	p	ES
Organization-level outcome													
Equity Index Score (γ_{00})	0.55	0.01	<.001	0.55	0.011	<0.001	0.56	0.008	<.001	0.56	0.009	<.001	
Organizational-level predictors (L1)													
Control (1 = public) (γ_{10})				-0.07	0.005	<0.001	-0.07	0.005	<.001	-0.08	0.007	<.001	-0.67
Selectivity (1 = Broad Access) (γ_{20})				-0.03	0.007	<0.001	-0.03	0.007	<.001	-0.01	0.008	0.188	-0.09
Selectivity (1 = Selective) (γ_{30})				0.00	0.007	0.940	0.00	0.007	0.755	-0.01	0.008	0.279	-0.08
Selectivity (1 = Highly Selective) (γ_{40})				0.02	0.012	0.093	0.02	0.012	0.197	0.02	0.014	0.223	0.14
[Log] Size (FTE) (γ_{50})				0.08	0.005	<0.001	0.08	0.005	<.001	0.08	0.006	<.001	0.70
Student Services Spending (\$/FTE) (γ_{60})				0.10	0.005	<0.001	0.10	0.005	<.001	0.12	0.009	<.001	1.02
Student Services Spending (%) (γ_{70})				-0.08	0.006	<0.001	-0.08	0.006	<.001	-0.11	0.007	<.001	-0.91
State-level predictors (L2)													
Control (γ_{01})							-0.02	0.014	0.177	-0.01	0.013	0.368	-0.10
Selectivity_Broad Access (γ_{02})							-0.01	0.011	0.517	-0.01	0.010	0.545	-0.05
Selectivity_Selective (γ_{03})							-0.02	0.008	0.011	-0.02	0.008	0.003	-0.20
Selectivity_Highly Selective (γ_{04})							-0.01	0.011	0.367	-0.01	0.010	0.483	-0.06
[Log] Size (FTE) (γ_{05})							0.03	0.010	0.004	0.03	0.010	0.002	0.27
Student Service Spending (\$/FTE) (γ_{06})							0.08	0.016	<.001	0.09	0.015	<.001	0.73
Student Service Spending (%) (γ_{07})							-0.05	0.015	<.001	-0.05	0.014	0.001	-0.42
Attainment Policy (1=yes) (γ_{08})							0.00	0.007	0.886	-0.01	0.007	0.131	-0.10
Level One Interactions (L1xL1)													
Student Spending*Control										0.00	0.008	0.974	0.00
Student Spending*Selectivity_Broad Access										0.04	0.008	<.001	0.32
Student Spending*Selectivity_Selective										0.00	0.007	0.907	-0.01
Student Spending*Selectivity_Highly Selective										-0.05	0.007	<.001	-0.44
Student Spending (\$/FTE)*[Log] Size										0.01	0.006	0.162	0.07
Student Spending (\$/FTE)*Student Spending (%)										0.02	0.005	0.004	0.13
Cross Level Interactions (L2xL1)													
Attainment Policy x Control (γ_{11})										-0.02	0.006	0.004	-0.15
Attainment Policy x Broad Access (γ_{21})										0.03	0.008	<.001	0.23
Attainment Policy x Selective (γ_{31})										0.00	0.008	0.882	-0.01
Attainment Policy x Highly Selective (γ_{41})										-0.03	0.013	0.015	-0.27
Attainment Policy x [Log] Size (γ_{51})										0.00	0.006	0.875	0.01
Attainment Policy x Student Spending (\$/FTE) (γ_{61})										0.00	0.006	0.759	0.02
Attainment Policy x Student Spending (%) (γ_{71})										0.00	0.006	0.432	-0.04
Random Effects	Var	(SD)	p	Var	(SD)	p	Var	(SD)	p	Var	(SD)	p	
States (τ^2)	0.005	0.07		0.004	0.05	<.001	0.001	0.03	<.001	0.001	0.04	<.001	
Residuals (σ^2)	0.027	0.17		0.014	0.13		0.014	0.13		0.013	0.13		
Fit Indices													
Deviance (-2LL)	-867			-1657			-1709			-1804			
No. Parameters	3			10			18			31			
AIC	-861			-1637			-1673			-1774			
BIC	-846			-1586			-1580			-1590			

Note. $N = 1242$ colleges and universities from 50 states; -2LL = -2 log likelihood; BIC = Bayesian information criterion; AIC = Akaike information criterion. All continuous predictors are in z scores, cluster mean centered for L1 predictors, and grand mean centered for aggregate L2 predictors. The log transformation of student services spending and size are reflected in the table. All dichotomous variables are effect coded. $ES =$ approximate effect size, computed as the coefficient divided by the square root of sum of variance components.

Research Question 6

The fourth set of predictors in the final model tested for the unique effects of interactions between level-1 predictors. To address research question 6, six two-way interactions were tested to detect any moderating effects of organizational context on the relationship between student services spending per FTE and equity index scores. The results show that predictors of broad access, highly selective, and proportional spending on student services all had a significant moderating effect on the relationship between student services spending per FTE and equity index scores. Specifically, the true change in the relationship between student services spending per FTE and equity index scores was predicted to be 0.04 points higher ($ES = 0.32, p < .001$) for broad-access institutions than the average and 0.05 points lower ($ES = -0.44, p < .001$) for highly selective institutions than the average, all else held constant (see Figure 3 and Figure 4). In other words, there was a greater positive effect between student services spending per FTE and equity index scores at broad-access institutions than at more selective institutions.

Figure 3

Selectivity (BA) on Student Services Spending and Equity Index Scores

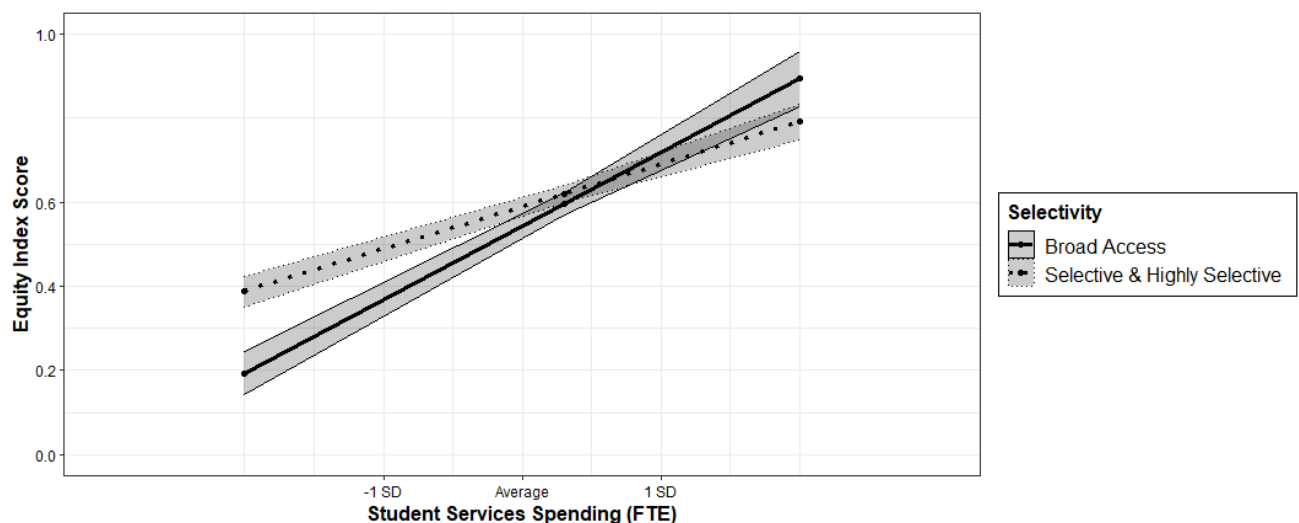
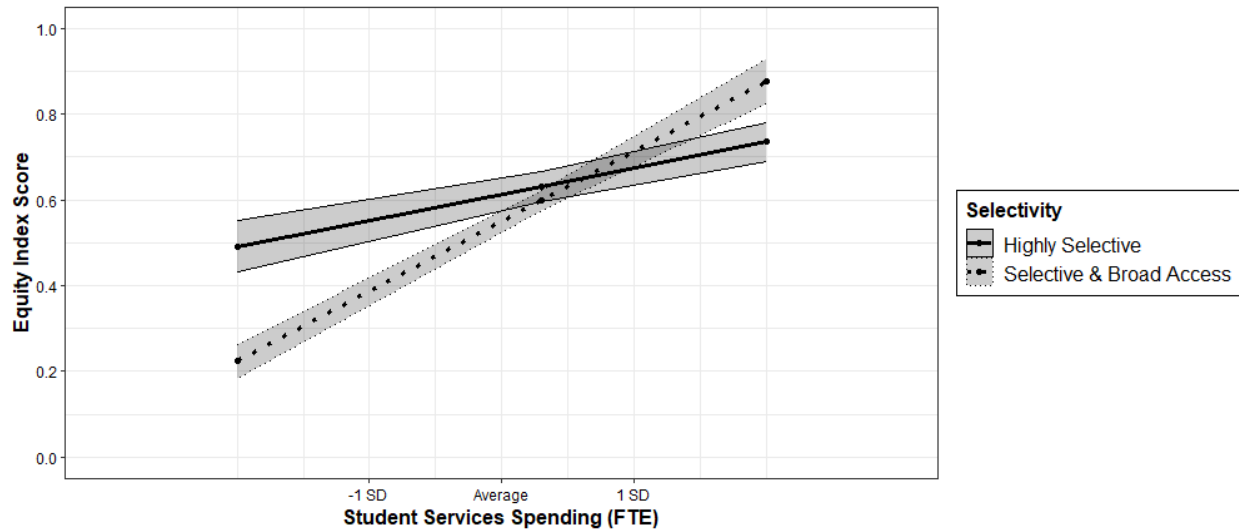
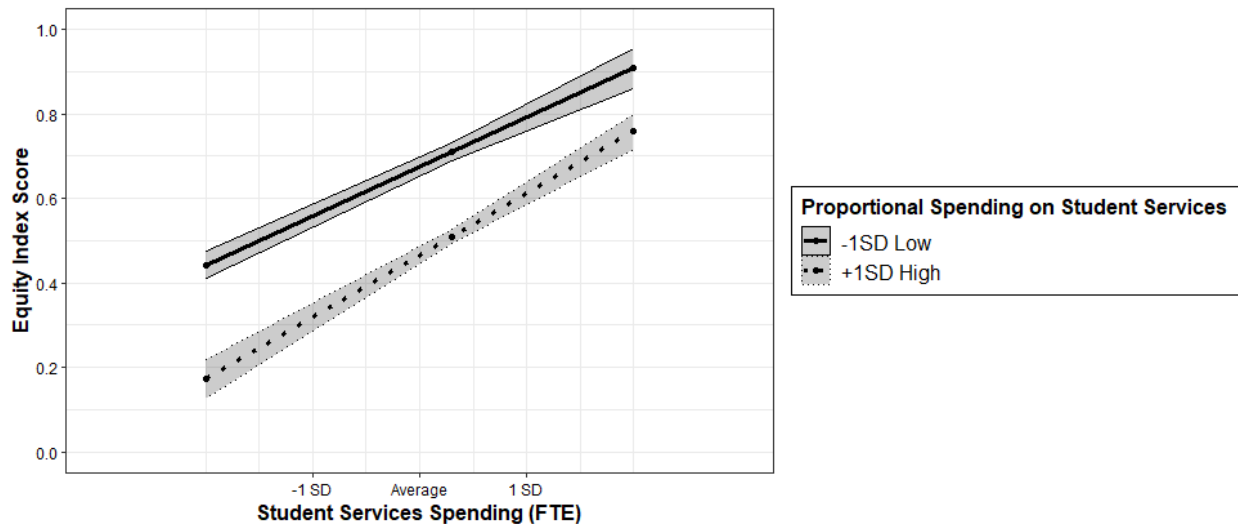


Figure 4*Selectivity (HS) on Student Services Spending and Equity Index Scores*

In addition to organizational context, proportional spending on student services demonstrated a significant moderating effect: the true change in the relationship between student services spending per FTE and equity index scores was 0.02 points higher ($ES = 0.13, p = .004$) for every standard deviation increase in proportional student services spending (see Figure 5). Thus, when size, selectivity, and control are held constant, organizations that dedicated larger amounts of their total budget to student services spending (typically organizations with smaller budgets and enrollment) experienced comparatively higher predicted equity index scores for increases in student services spending per FTE. However, the effect size of this interaction is relatively small.

Figure 5

Proportional Spending on Services Spending per FTE and Equity Index Scores



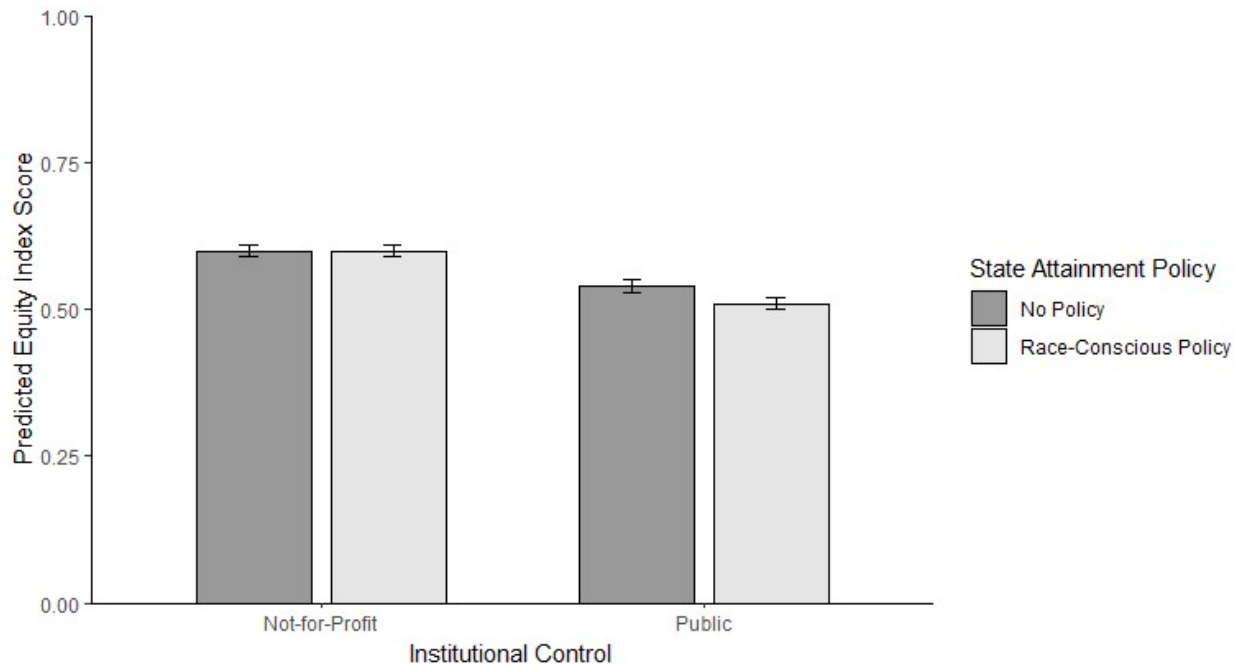
Research Question 7

The final set of predictors in Model 4 included eight cross-level interactions to address research question 7, which concerned the moderating effect of state-level attainment policy on level-1 organizational context and student services spending. The model results show three significant interactions concerning state attainment policies. The results indicate that the true change in the relationship between public institutions and equity index scores was predicted to be 0.02 points lower ($ES = -0.12$, $p = .004$) than the average, or 0.04 points lower than states without such policies in 2014, all else held constant. Otherwise put, the negative relationship between public control within a given state (e.g., -0.08 points lower than average) and equity index scores was predicted to further decrease by 0.02 points in states with a state attainment policy. As illustrated in Figure 6, the moderating effect of state attainment policy was significant but, at the same time, relatively small ($ES = -0.15$). Conversely, the model shows that the true change in the relationship between broad-access institutions and equity index scores was predicted to be 0.06 points higher ($ES = 0.23$, $p < .001$) for states with race-conscious attainment

policies than for those without (or 0.03 points higher than average), all else held constant. In other words, broad-access institutions, on average, were predicted to have even better equity outcomes for undergraduate Black men in states with race-conscious policies than in states without such policies (see Figure 6).

Figure 6

State Attainment Policy on Organizational Control and Equity Index Scores

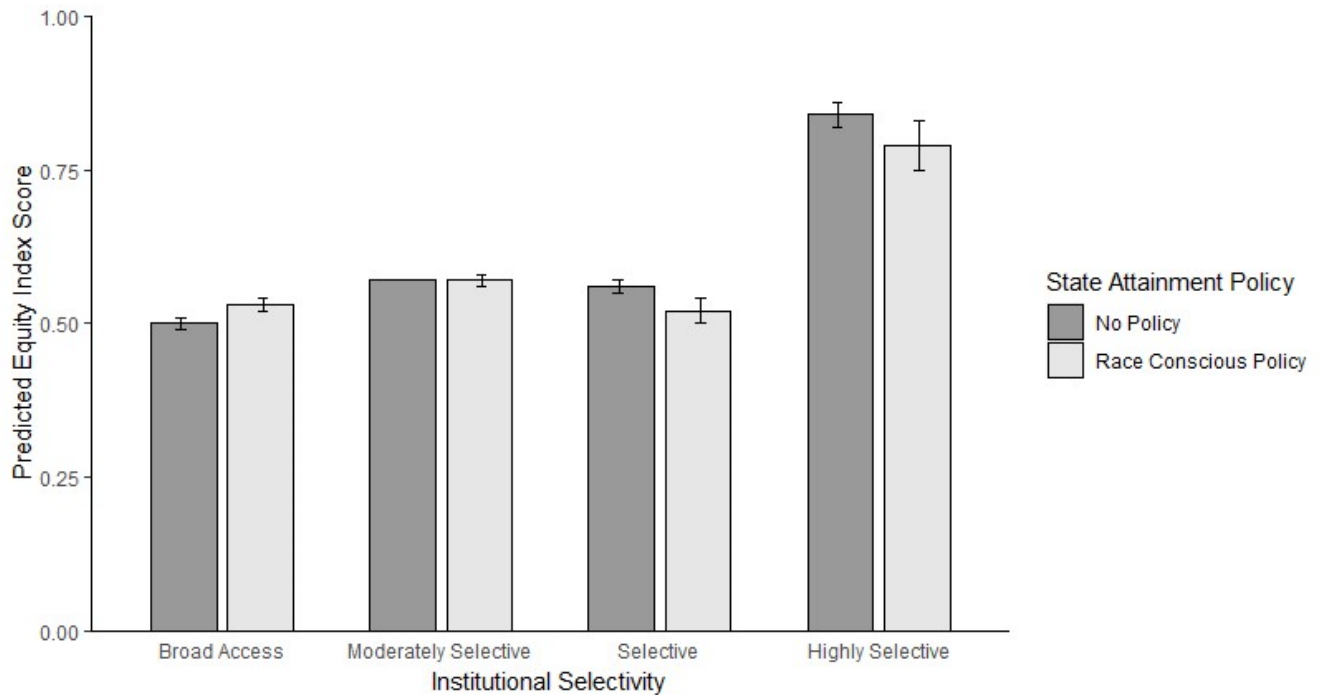


The final significant interaction concerned state attainment policy and highly selective organizations. Model 4 results show that the true change in the relationship between the proportion of student services spending and equity index scores was predicted to be 0.03 points lower ($ES = -0.27, p = 0.015$) for highly selective institutions than the average, all else held constant. In contrast to broad-access organizations, where equity scores increase as a function of state attainment policies, highly selective organizations were predicted to produce better equity outcomes for undergraduate Black men in states without race-conscious policies than in states with such policies (see Figure 7). In exploring the sixth and final research question, regarding the

moderating effect of state policy on organizational action and equity index scores, the results show that state attainment policy was not a significant moderator of the effects of student services spending per FTE or proportional student services spending.

Figure 7

Effect of State Attainment Policy on Selectivity and Equity Index Scores



Note. N=1242

Model Assumptions and Sensitivity

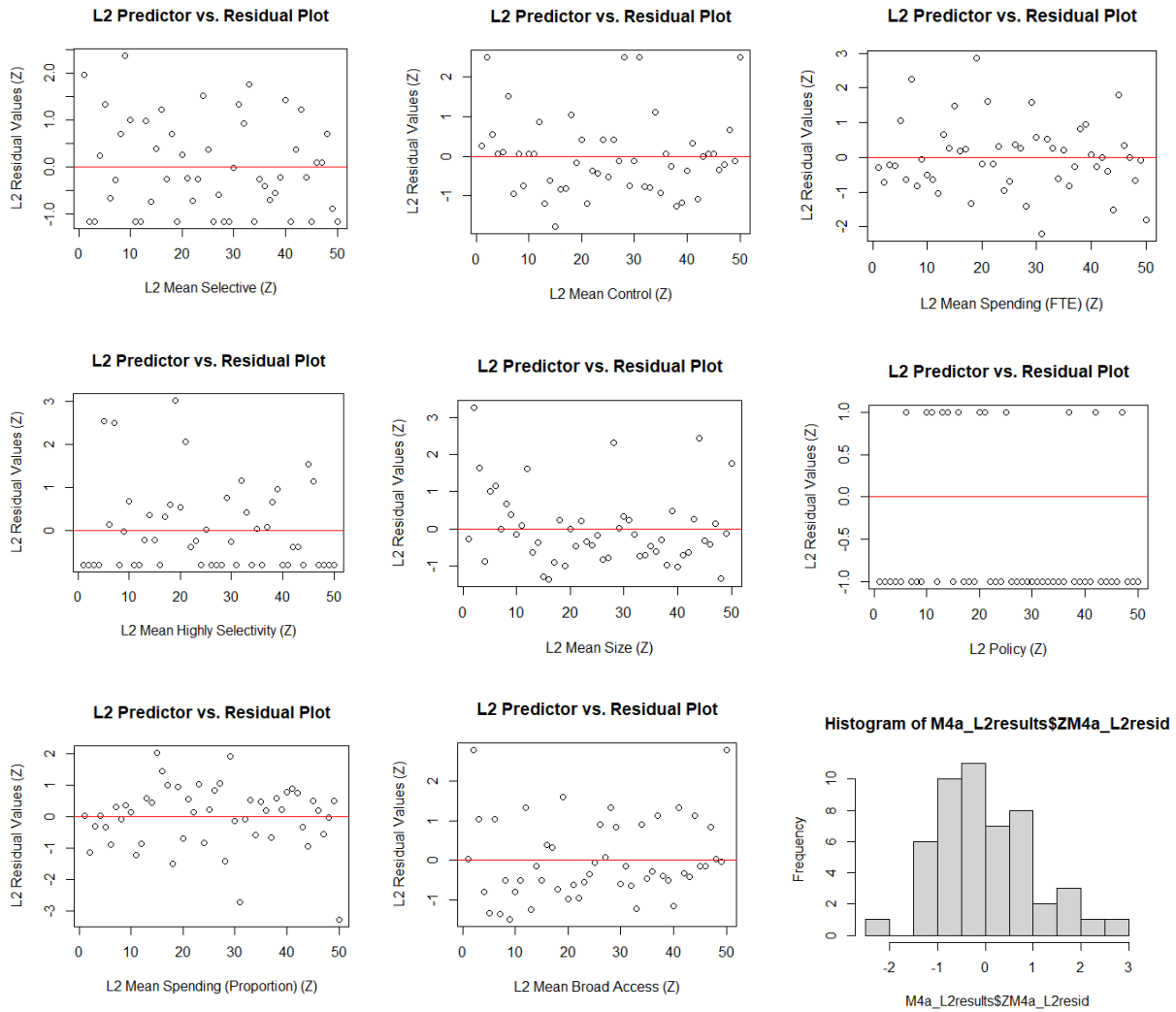
Assumptions related to linearity, normality, and heteroscedasticity at levels 1 and 2 of the model were examined to ensure reliable model outputs. Visually inspecting the residual-predicted plot for level 1 revealed no evidence of curvilinearity. There were no S-, U-, or C-shaped patterns in the residuals, but there was some left-fan spread (i.e., heteroscedasticity) with more variance at the lower end of predicted values (see Figure 10). This is most likely related to the variable skew described earlier in both student services spending variables.

Level-2 residuals were individually inspected for each level-2 predictor. Visual inspection revealed no major challenges with curvilinearity (see Figure 11). There was some evidence of skew for the level-2 highly selective variable, which was explored in subsequent diagnostic tests. Normality tests, via the D'Agostino skewness test and Anscombe–Glynn kurtosis test, were used to further investigate level-1 and level-2 residuals. Analysis of level-1 residuals indicated a significant, but small, amount of skew and kurtosis. Level-2 residual analysis suggests there was no significant skew or kurtosis (see Figure 8).

To address the signs of heteroscedasticity in the Level-1 and -2 residuals and slight non-normality in Level-1 predictors, the final model was estimated using “robust” standard errors (SE) that are fitted using an iterative algorithm that down-weights outliers and assume no normality of the data. The robust model was tested using the *rlmer()* function from the *robustlmm* package in R. The proportion of times the null of no interaction was rejected using robust standard errors matched that of the usual standard errors models. We can conclude that the original model—despite its violations of some assumptions—sufficiently fits the data with no significant loss of power.

Figure 8

Level 2 Residual Plots for Level-2 Predictors and Level-2 Residual Histogram



CHAPTER 5: DISCUSSION AND CONCLUSION

Prior research has established that graduation rates can be largely predicted from the pre-college characteristics of the student body (Astin & Oseguera, 2005, DeAngelo et al., 2011). However, institutional equity—the ability to move all students toward academic success—is not so easily attributed to who students are as to what institutions do. Using organizational data from 1242 institutions across 50 states, this study examined the relationships between organizational characteristics, state attainment policy, and Black male graduation equity as measured by proportional six-year graduation rates. The study sought to explore six research questions:

- RQ1: What is the status of graduation equity for undergraduate Black men across four-year institutions?
- RQ2: What is the status of graduation equity for undergraduate Black men at four-year institutions by state?
- RQ3: To what extent does graduation equity for undergraduate Black men vary within and between states?
- RQ4: To what extent is graduation equity for undergraduate Black men associated with organizational factors (e.g., control, mission, selectivity, and student services spending), all else held constant?
- RQ5: To what extent is graduation equity for undergraduate Black men associated with race-conscious state-level attainment policy?
- RQ6: Does the relationship between student services spending per FTE and graduation equity for undergraduate Black men vary by organizational context?

RQ7: Does the relationship between organizational factors (e.g., control, mission, selectivity, and student services spending) and graduation equity for undergraduate Black men vary by the enactment of race-conscious state-level attainment policy?

In answering these questions, this study found significant relationships between organizational context, actions, and outcomes. The findings from the multilevel analysis also confirmed that there is an important hierarchical structure between postsecondary organizations and states that, once accounted for, can help to explain additional variation in equity outcomes within and between state systems. The final model for predicting graduation equity index scores was fairly robust, explaining over 40% of the variance in equity index scores. The total variance of racial disparity explained by organizational context is consistent with at least one prior study considering Black–White completion disparities at postsecondary institutions in Texas (34%; Flores et al., 2017). Through this analysis, we learn that what colleges and universities are and what they do (i.e., the extent and portion of resources allocated to student services) are many times more influential in determining graduation equity index scores than the attainment policy context in which they exist.

The remainder of this chapter is devoted to discussing the relationship between the findings of this study and the existing literature and putting forward potential implications. Following the discussion, the chapter returns to the theoretical framework that guided this study to reassess its application. The chapter then addresses additional limitations that should be taken into account in light of the study's findings and highlights areas for future research. It concludes with recommendations for policy, practice, and community.

Organizational Context

Results from the analysis affirmed that private control was a positive predictor of organizational outcomes concerning graduation equity. This finding aligns with prior research that suggests that private institutions may be able to translate more autonomy and greater resources into higher overall student success rates, while lower-resourced public colleges and universities continue to disadvantage large numbers of low-income students and students of color (Garcia, 2018; Nichols & Schak, 2019). It has been suggested that, although public institutions serve a larger share of students with fewer financial resources and pre-college opportunities, the declining affordability of flagship institutions (Mugglestone et al., 2019) and state-sanctioned spending disparities along lines of race and class (Carnevale et al., 2018; Johnson, 2023) have contributed to making public institutions distinct sites of inequity.

Selectivity, on the other hand, was not predictive of graduation equity. Although prior studies have claimed that the peer effects and culture of success at selective institutions have a positive correlation with graduation rates for even the most marginalized student populations (Bowen et al., 2009; Christenson, 2019), the findings of this analysis suggest that the benefits of selective organizations may not extend to graduation equity. In other words, the failure to produce Black male graduates in the same proportion as they are enrolled transcends organizational policies that specifically select for students with good high school grades and impressive test scores.

Whereas organizational selectivity was not uniquely predictive of equity index scores, the analysis revealed that the proportion of selective organizations within a given state is: states with higher concentrations of selective institutions also had lower average equity index scores. This finding builds on prior research that suggests that states with a higher proportion of selective

institutions also happen to be systems with more racial segregation (Carnevale & Strohl, 2013). In racially segregated systems, racially marginalized students tend to be concentrated in under-resourced organizations with low student success rates while more White students benefit from colleges and universities with more funding and support services (Blom & Monnarez, 2020). Hinrich (2023) found similar results using a Black–White dissimilarity index to measure how unevenly Black students are distributed across colleges compared to White students. Although Hinrich’s conceptualization of selectivity was somewhat different (i.e., selectivity by way of average SAT scores), the study findings indicated that there was moderate evidence that segregation was related to college selectivity stratification by race and that the most segregated region was the South. In the present study, states with the highest proportion of selective organizations (i.e., Alabama, Florida, North Carolina, Mississippi) were all located in the South as well.

Minority-serving mission designation was not included in the final analytical model, but bivariate analysis did suggest that there is a significant negative correlation between HBCUs and equity index scores. Taken at face value, this is a surprising finding considering that HBCUs are higher education institutions created prior to 1964 with the goal of educating Black Americans. HBCUs have long prided themselves on producing a disproportionate number of the nation’s Black graduates and delivering culturally affirming learning experiences that build great pride among Black students, alum, and community.

Nevertheless, previous institutional comparisons have demonstrated how raw graduation rates at HBCUs are similar to or lower than those at their non-HBCU counterparts (Kim, 2022; Kim & Conrad, 2006). According to recent data from the NCES Educational Digest, among Black males who first enrolled at an HBCU in 2014, 31.2 percent graduated with a bachelor’s

degree by 2020, which is less than the same six-year graduation rate for Black men who began at a non-HBCU (i.e., 38.6%). In addition to lower overall graduation rates at HBCUs, the proportional graduation rates of Black men continue to decline as their Black female counterparts are increasingly successful. Across HBCUs in 2020, there was an average 12 percentage point difference between raw graduation rates for Black males (31.6%) and Black females (44.1%) (NCES, 2021a). Other educational researchers (Gasman, 2008; Wood & Palmer, 2015) have raised the concern that the gender imbalance and unique barriers within HBCUs seem to be an important—and often overlooked—contributor to the overall graduation disparities facing Black men.

Organizational Action

This analysis found that both student services spending per FTE and the proportional amount of student services spending were significantly predictive of graduation equity for undergraduate Black men. Whereas student service spending per FTE was positively associated with equity index scores, proportional spending was negatively associated with the same. Findings concerning student services spending per FTE are consistent with those of other studies looking at spending per student and graduation rates (Hayek, 2001; Webber & Ehrenberg, 2010). For example, in a mix of econometric analysis and simulation provided by Webber and Ehrenberg (2010), the authors not only provided evidence that student services expenditures influenced graduation rates at four-year colleges and universities but that the effects of these expenditures were largest at institutions with lower average test scores and higher Pell eligibility. Although none of these prior studies looked specifically at racial disparities in graduation, the link between expenditures and organizational outcomes is supports the findings of the present study.

It is important to note that these findings concerning spending per FTE also diverge from some related research. Prior studies with more narrow institutional samples (e.g., only private baccalaureate or research institutions) found that expenditures for student services did not have a direct effect on overall graduation rates (Gansemer-Toft & Schuh, 2006; Ryan, 2005). In a recent study more specific to graduation equity but less specific to student services spending, Flores et al. (2017) did not find a significant relationship between college completion and total spending per pupil for 5,139 Black undergraduates entering Texas four-year colleges in 2002. These mixed findings suggest that the association between student services spending per FTE and organizational outcomes may be complicated by organizational, student, and state characteristics.

Effects of Organizational Context on Organizational Action

Other scholars have argued that the effects of college expenditures on student outcomes are contingent on institutional and student characteristics (Pike et al., 2006). This analysis found that the relationship between student services spending per FTE and graduation disparity did indeed significantly vary between organizational types. The largest effect on the relationship between spending and equity scores came from organizational selectivity. Whereas broad-access institutions that spent more on student services per FTE demonstrated higher equity scores (than the average), the relationship between the two variables was less obvious at highly selective institutions.

These findings concerning selectivity are parallel to those of prior studies that found that increases in student services spending had a greater effect on graduation rates at institutions with lower SAT scores than at institutions with higher SAT scores (Webber & Ehrenberg, 2010). One could argue that Black males concentrated in broad-access institutions (predominantly first-generation and low-income) had more to gain from the benefits associated with greater

investment in student services. On the other hand, highly selective institutions may have already been spending in a way that maximized benefits to their Black male students, thus diminishing the effects of student services spending in closing equity gaps.

The overall proportion of student services spending was another significant moderator of student services spending per FTE and graduation equity. Overall, organizations that devoted a higher proportion of their overall budget to student services spending (often institutions with smaller budgets) averaged lower equity index scores. However, within this group of organizations devoting a higher proportion of their budget to student services spending, those that spent more than the average on student services per FTE averaged significantly higher equity scores.

State Policy Context

The results of this analysis demonstrate that the enactment of race-conscious state attainment policy by 2014 was not uniquely predictive of proportional graduation equity for undergraduate Black men in 2020. Prior studies concerning accountability and government reforms have produced similar results for race-neutral accountability policies. For example, Volkwein and Tandberg (2008) conducted a quantitative study of accountability policies and governance reforms to determine whether they resulted in any significant improvements in performance on a variety of institutional performance outcomes. They found no relationship between stronger accountability policies (i.e., performance funding policies) and any real improvement in student success outcomes. Similarly, Christenson (2019) found that college readiness policies had no effect on public two-year or four-year graduation outcomes at the institutional or state level.

The findings of this study suggest that race-conscious attainment policies, like their race-neutral counterparts, may not be enough to significantly shift short-term organizational outcomes. As Rodriguez and colleagues (2022) note in their work on racialized policy-making, the process of developing race-conscious policy does not necessarily materialize as race-conscious implementation. Whereas ROT suggests that policy can proxy for the macro-institutional environment (Ray, 2019) that aids in producing racialized organizational outcomes, the findings of this study suggest that race-conscious state attainment policy may not have served as the critical macro-level factor that some policymakers had hoped for.

Effects of State Policy and Composition on Organizational Action

The results of the final model demonstrated that race-conscious state attainment policy was not a significant moderator between student services spending (FTE or proportional) and equity index scores. Similar to Robvsky's (2012) findings concerning the impact of performance-funding policies on organizational research and instructional expenditures, this study found that the direct effect of policy on organizational spending priorities related to student services was minimal. In other words, policy did little to impact this particular dimension of organizational action.

Although state attainment policy did not have a significant moderating effect between spending and equity, it is worth noting that state aggregate levels of direct and proportional spending (i.e., model variables γ_{06} and γ_{07}) were significantly associated with graduation equity. In other words, in states where average student services spending per FTE was higher, institutions within those states were predicted to have higher equity scores. This finding suggests there may be more to be learned from the proximity of organizational spending than shared policy context when it comes to racial equity.

Effects of State Policy and Composition on Organizational Context

The findings demonstrated that attainment policy alone was not uniquely predictive of equity index scores, but its effect on the relationship between equity and key organizational factors was, to a limited extent. In the final model, race-conscious state attainment policies produced a significantly negative effect on the relationship between public control and equity index scores. Public institutions in states with race-conscious state attainment policies in place by 2014 ended up having lower graduation equity scores for Black men in 2020. Faced with similar findings concerning higher education accountability policy and varying outcomes at different public institutional types, Rabovsky (2012) concluded that the inability of state policy—and, more importantly, state budgets—to incentivize specific institutional outcomes in ways specific to institutional mission may have contributed to diminished policy influence. The broad umbrella of public institutions encompasses many distinct organizational missions (e.g., research, broad access, minority-serving). Given that attainment policies were a positive moderator for broad-access institutions despite being a negative moderator for all public organizations, the connection between incentives and mission seems plausible.

The positive effect of attainment policy on the relationship between broad-access organizations and graduation equity is not surprising. Given the political and social catalysts for many of these attainment policies, broad-access institutions have the most to gain in responding to race-conscious attainment policies; they are much more reliant on state funding and support, and they serve the majority of marginalized student populations (Jenkins & Rodriguez, 2013). Such policies often help to bring greater attention to lower performing institutions and marginalized populations. Highly selective institutions, on the other hand, are less reliant on state

incentives and can generally avoid public scrutiny related to achievement by touting higher graduation rates.

Application of Theoretical Frameworks to Findings

This study was guided by two conceptual frameworks: ROT and Wood and Palmer's (2015) CAO model in higher education. The CAO model helped to identify organizational characteristics and actions which impact Black male academic outcomes. This study used covariates representing four of the five dimensions of organizational context: history, location (by way of state membership), size, and type. Organizational context was represented by designation as historically Black serving (i.e., HBCU), fall enrollment (FTE), control, and percentage of students admitted. Organization action within the CAO model encompasses eight key domains of institutional responsibility (see Figure 1 in Chapter 2). This study focused on the organizational action domain of resources: "the financial, intellectual, and human capital assets at the disposal of the institution" (Wood & Palmer, 2015, p. 61). Organizational action was represented by both the amount per FTE dedicated to student services spending and the proportional amount of student services spending as it related to the overall organizational budget.

The CAO model proposed that these organizational dimensions (i.e., context and actions) provide a better understanding of how organizations close achievement gaps between Black men and their racial/ethnic and gender counterparts. In the current study, four of these characteristics had a direct and significant relationship with graduation parity. These findings support the CAO model in that, in order to better understand organizational outcomes related to Black men, it is important to understand the differences in organizational context and actions that are associated with those outcomes. Furthermore, the analysis draws attention to the interactions between

organizational context and actions, suggesting that a keen awareness of what organizations are doing, in fact, provide better insight on how and why their actions produce certain outcomes.

The other framework applied in this study, ROT, was helpful in considering macro- and meso-level mechanisms that produce racial disparity, such as the relationship between states and institutions. ROT suggests that although organizations tend to decouple formal policies that attempt to address racialized practice from practices that serve to reinforce racial consequence, the extent of this decoupling may, in fact, be dependent on the “degree and relative level of organizational reliance on the state” (Ray, 2019, p. 43).

ROT can help to make sense of this study’s findings in a few ways. First, enactment of race-conscious attainment policies proved to be unassociated with graduation equity for undergraduate Black men. Although ROT suggests macro-level policy forces can alter the racial structures or schemas within racialized organizations, there is little assurance that it will do so. Ray (2019) argues that “racial segregation is a defining foundational characteristic of most organizations” (p. 39), even public colleges and universities. It may be that state policy is not influential because states are less effective in influencing organizational performance than one would expect. Other educational researchers who have investigated the impacts and effectiveness of postsecondary policy suggest this may be due to a lack of appropriate incentives (Rabovsky, 2012) or clear and specific language (Felix & Trinidad, 2019).

ROT makes plain that “once racial structures are in place, a racial ideology – or racism – arises to justify the unequal distribution of resources along racial lines” (p. 32), and even as racialized organizations publicly or formally commit to equity, access, and inclusion, they will decouple internal rules from practice in order to ignore and circumvent actions that actually challenge racial hierarchies. The findings of the study (both descriptive and inferential) point to

unequal resource distribution normalized through institutional context and, subsequently, institutional context significantly aligned with racial disparity. Many education researchers have written about the growing racial segregation between broad-access and selective public institutions (Ahlman, 2019; Saenz, 2010; Stewart, 2020; Taylor & Cantwell, 2019). There is reason to believe that selective public organizations that have benefited from previous modes of racial stratification—and the normalization of unequal resource allocation—have had little incentive to quickly adapt to newly expressed racial equity goals.

Rather than illuminating attainment policy as an external source of positive change for racialized public organizations, the findings of this study suggest that attainment policy may be an important point of entrenchment for certain public institutions that have long benefited from racial ideologies and resources allocation that reward Whiteness. Ray (2019) suggests that “at the macro level, segregation between organizations allows for the consolidation of resources in the hands of dominant racial groups” (p. 30). In many ways, this study adds to the empirical foundation of ROT; the findings suggest there is a significant relationship between resource allocation (i.e., student services spending), racial segregation (i.e., public and selective institutions), and racial consequences (i.e., proportional graduation equity). Race-conscious attainment policy had no direct relationship with graduation equity and a relatively small effect on the relationship between organizational types and equity outcomes. The findings ultimately confirm Ray’s assumption that “many of these changing policies have had a relatively small effect on the overall racialized field influencing organizational formation and operation” (p. 45).

Limitations

The present study comes with several limitations worth discussing. The first set of limitations arises from the type and scope of the data utilized. Given this study's cross-sectional design, causal inferences cannot be drawn from its conclusions. The study cannot claim, for example, that completion equity results from structural, compositional, or behavioral factors or that these factors are a result of completion equity outcomes. The analyses also focus on higher education institutions that meet a specific set of criteria pertaining to size, control, and sector. Thus, findings from this study are likely not generalizable to two-year, for-profit, or very small (<100 undergraduate) institutions. This study operationalizes both race and gender in ways that align well with the availability of secondary data but sorely neglect the multitude of identities and experiences that the categories of "Black" and "male" encompass. Future research that utilizes more disaggregated data at the state or institutional level is much anticipated.

The second limitation concerns the inability to disaggregate student services expenditure data into separate expenditures on undergraduate and graduate/professional education using the IPEDS database. Consequently, it is impossible to determine the extent to which student services expenditures directly benefited undergraduate or graduate students. Additionally, expenditure data do not reflect how monies are allocated across academic units or the specific types of services they are used to fund. The data cannot tell us whether organizations spent more on counseling than advising or if they dedicated more student services spending to some departments than others. This is an important limitation in that *which* services are delivered to *whom* may be a better indicator of *how* student services are advancing equity.

A third limitation concerns the dichotomous use of the state attainment policy variable. Although the study design is consistent with prior analyses (e.g., Kelly & Jones, 2007) that

examined the presence of a policy over several years (i.e., 2014–2020) and its relationship with one year of outcome data (i.e., 2020), the findings do not account for how long each policy had already been in place by 2014—a potentially important factor in how impactful the policy would have been on the outcome. The study design also did not take into account states that adopted policies after 2014 but within the period of inquiry (i.e., 2014–2020). Considering that so many states have enacted some sort of attainment policy within the last 10 years, it is possible that organizational activities associated with increasing attainment could have been happening in states that had yet to adopt formal policies, thus yielding insignificant results between policy and equity. Lastly, state attainment policies—even the race-conscious ones—demonstrate wide variation in their goals, objectives, and strategies. A dichotomous variable is, in many ways, an oversimplification of this complex and diverse policy lever. As the primary interest of this study was simply to understand how the presence of race-conscious attainment policy was associated with equity outcomes and organizational behavior, this limitation was considered acceptable.

A fourth—and quite critical—limitation pertains to whom this study included. First-time, full-time degree-seeking students comprise one of the most commonly used samples for completion studies. However, only 56 percent of the entire 2014 undergraduate adjusted cohort ($N = 2,630,901$) were considered first-time, full-time students (NCES, 2023). Although not disaggregated by race, a sizable proportion of the cohort was classified as non-first-time, full-time (29%) and non-first-time, part-time (12%). What is important to note here is that single-institution and continuous enrollment are not necessarily the predominant types of enrollment patterns for students at large and for Black males specifically. A 2017 report by the National Clearinghouse Research Center illustrated how only one-third of all Black students in the 2010 cohort were exclusively full-time, and roughly 25 percent of Black male completions at four-year

institutions came from students who had started at a different institution (Shapiro et al., 2017). Thus, the metric pertaining to first-time, full-time completion outcomes—at least those represented in this analysis—do not represent variety of enrollment types or intensity. Future research that accounts for, incorporates, and potentially compares outcomes across enrollment types and intensities is much anticipated.

Recommendations

Given the importance of Black male success in advancing state and national attainment goals, this study serves as an important point of discussion for state policymakers, higher education practitioners, and prospective communities of Black male undergraduates. In addressing important questions of equitable degree production, the findings of the study provided insight on higher education's contribution to the inequities that so many Black men face. The following policy, practice, and community recommendations stem from these findings and are largely shaped by the propositions developed by McCambly and Colyvas (2022) concerning racialized change work: “purposive action that organizations take to build new, equitable arrangements or tear down old, inequitable ones within racialized organizations” (p. 11).

Policy

State attainment policies are one of the most widespread practices used to address nationwide postsecondary goals. Their importance is so great so that President Biden's first budget request included funds to support state-led efforts aimed at increasing retention and completion (Winters & Porter, 2022). To date, more than 48 states have adopted some sort of policy that aims to increase the proportion of resident degree holders. Nevertheless, this study demonstrates that state attainment policies adopted by 2014—all of which were race-conscious—had no direct association with graduation equity for first-time, full-time

undergraduate Black men in the 2014 cohort. Certainly, the results of this study do not provide an unequivocal endorsement of any particular attainment policy model, but they do beg the question of what role policy should play in advancing equitable outcomes for undergraduate Black men.

First, race-conscious policy should directly address resource allocation and not just student outcomes. Whereas policy had no direct effect on graduation equity outcomes, student services spending per FTE was significantly and positively associated with equity outcomes at all levels of the analysis. Policymakers interested in advancing equitable outcomes for undergraduate Black men should take a closer look at how postsecondary policies (e.g., transfer, accountability, completion, and financial aid) incentivize certain types of spending and resource allocation across colleges and universities. Racialized change work for policymakers might also include shifting resources toward organizations and programs that have the greatest potential to disrupt the status quo of Black male disparities (e.g., broad-access, public, and minority-serving) (Flores, 2022). In a widely cited report focused on the importance of state and federal policy in improving postsecondary outcomes for Black male students, Harper and Harris (2012) echo the need for policy action on behalf of Black men through increased investments in federal- and state-funded college support programs, addressing funding inequities that disadvantage HBCUs, and enacting investment strategies so that “taxpayer dollars spent on incarcerating 18- to 24-year-old Black men” are dedicated instead to “race/gender-specific efforts that improve their pathways to and through college” (p. 12).

Regardless of attainment policy context, this study found that organizations that spent more on student services per FTE but had to dedicate less of their overall institutional spending to student services were associated with higher equity index scores. Additionally, states with

higher average spending on student services across institutions were associated with higher equity index scores while states with higher proportional spending had lower equity index scores. Such a relationship indicates that it is not enough for policymakers to simply require institutions to reallocate more resources toward student services; policymakers must create strategies that influence student services spending while simultaneously reinvesting in postsecondary institutions.

Second, race-conscious attainment policy must also improve access for Black men at selective institutions, where student support investments are already greater and success is consequently higher. Whereas improving graduation equity at every institution is critical, policy that increases access for Black men to moderately selective, selective, and highly selective four-year institutions is one of the most tangible and immediate ways in which system-wide equity can improve. However, access to selective institutions is under threat through the dismantling of race-conscious admission policies.

At the time of writing, the U.S. Supreme Court is poised to release its decision on two cases that challenge the constitutionality of race-conscious admissions. The result could ban the practice at both public and private colleges, reshaping admissions policies across higher education. Some assert that the demise of *Grutter v. Fisher*, the 2003 Supreme Court decision upholding the limited use of race in admissions, would make it less likely that selective colleges maintain current levels of racial and ethnic diversity on their campuses. Some also warn that if race-conscious admission policies are dismantled, “the push for greater equity in education will shift to courts and state legislatures grappling with racial segregation and inequitable funding in the nation’s schools” (Hoover, 2013, para 8).

The sobering reality is that 50 years of race-conscious admissions policies at the organizational level have fallen short of producing racial equity across the higher education landscape (Ashkenas et al., 2017). One could argue that a narrow focus on organizational diversity left the systemic mechanisms of racialization in postsecondary education fully intact. Higher education has remained racially segregated, primarily through exclusionary mechanisms of prestige and meritocracy (Hinrichs, 2016; Nichols, 2020; Saenz, 2010). If policymakers are to truly address disparate outcomes for Black men, then attainment policies must be race-conscious at all levels (e.g., student and organization) and deliberately weaken the modes of reproduction that allow racial segregation to exist within and between higher education organizations (Garcia, 2018).

Practice

Over the past 20 years, the need for high-quality advising, mentoring, and financial support have been emphasized as effective ways to increase Black male retention and completion. In the wake of the COVID-19 pandemic, when total Black male undergraduate enrollment fell by 14.3 percent from spring 2020 to spring 2021 (NSCRC, 2021), dedicated campus supports for Black men have taken on increasing urgency (Weissman, 2021). In light of this study's findings, which support the association between increased student services spending per FTE and equitable outcomes for Black men, racialized change work for postsecondary leaders and practitioners should include "building legitimacy and agency around programs, initiatives, and practices that are likely to disrupt the status quo" (McCambly & Colyvas, 2022, p. 4).

Racialized change work for campus leaders, faculty, and practitioners should include advocating for, supporting, and adopting practices that address barriers for Black males specific

to organizational context and conditions. For practitioners at public institutions, where equity gaps are the largest, this work may include not only providing additional scholarships and dedicated advisors for Black male undergraduates but also addressing larger issues of financial aid accessibility and reducing high advisor-to-student ratios throughout the institution. At smaller colleges and universities with limited budgets, this work may look like more integrated services that emphasize continuous, coordinated, and high-touch practices while minimizing service redundancy. Even at highly selective institutions, where service expenditures are high and supports are robust, practitioners should be working toward identifying practices that remain underutilized by or inaccessible to undergraduate Black men and ensuring that the benefits of campus services are equitably distributed.

In the long run, advancing graduation equity will require sweeping changes to how all institutions invest and reallocate resources to practices and programs that benefit Black men. Such changes would require efforts to ensure sufficient and sustained resources are dedicated to supports and programs that advance Black male success; the reform of institutional practices and policies that are biased against Black men and, as a result, create an overreliance on navigational support services; and, in particular, the overhaul of college curriculum and merit systems that exclude and dismiss the histories, experiences, and scholarly strengths of the Black community.

When and how Black male undergraduates recover from the recent health and social crisis will depend largely on what organizations do—or do not do. Recent investments in Black male enrollment, retention, and success are promising, but it is important to keep in mind that what organizations are and what they do are important factors in not only improving future student success but also addressing longstanding inequities of the past. We can be certain that there will continue to be examples of successful Black men who overcome institutional barriers,

but without systemic change, far more Black men will exit our nation's colleges and universities without the degrees they need for the life they desire.

Community

When the Obama Administration developed the College Scorecard in 2013, transparency was a central goal. The College Scorecard offered a comprehensive approach “to increase student information about college performance and to push higher education institutions to become more accountable [...] for cost, value and quality” (Duncan, 2013, para 3). It allowed students, families, and communities to view and compare eight-year graduation rates, average annual cost of attendance, and expected median earnings after graduation from every college and university in the United States. While the intent of the College Scorecard is commendable, its usefulness for Black men concerned with organizational quality, particularly in the face of severe and pervasive education disparity, is severely limited.

The College Scorecard, and the many federal and state rating systems and report cards that mirror it, fail to fully reflect the metrics reflective of and relevant to students of color (DeAngelo et al., 2011; Dougherty, 2013). Many rating systems and report cards, collectively referred to as public disclosure tools, promote metrics that are not disaggregated by race or gender. For undergraduate Black men, these aggregate numbers concerning retention and graduation may be misleading. Considering that the graduation gap for Black men is somewhere between 5 and 15 percentage points, these average numbers often do little to reflect the experiences and outcomes most Black men can expect.

This study brings to light two important ways in which current and prospective Black male undergraduates can and should utilize data to inform their college choice. The first concerns the value of disclosure tools that highlight institutional effectiveness and investments

specific to racial equity. Although more comprehensive tools are needed to empower Black male undergraduates in choosing a college that has more than just a good overall graduation rate, the good news is that students and their supporters do not have to settle for race-evasive college information and resources. The equity index scores provided in this analysis are one useful data point, but there are an increasing number of institutional equity reports and dashboards that can help Black male students in selecting colleges and universities that have a track record of supporting Black men. One such dashboard, CollegeResults.org, is maintained by The Ed Trust and allows students and families to view college information by disaggregated graduation rates as well as student-related expenditures per FTE. Similarly, the *Black Students at Public Colleges and Universities: A 50 State Report Card* (Harper & Simmons, 2018) offers its readers a quick and easy-to-read breakdown of Black gender equity, completion equity, and Black student-to-Black faculty ratio for every four-year public college and university.

The second way of utilizing lessons from this study is to keep in mind that differences in student services spending also reflect differences in what everyday campus experiences look like (e.g., the extent of student life activities, comprehensive academic advising, and the availability of wellness services). The findings of this study suggest that student services do matter for Black male graduation equity and that, regardless of institutional type, spending per student is associated with smaller equity gaps. With this in mind, prospective Black male undergraduates should give additional thought to attending institutions that, in addition to offering their desired academic programs, have visible and strong student services that directly benefit Black men. For example, there are over 160 student success programs specifically for men of color at public four-year institutions and undoubtedly many more at private colleges. Many programs are designed to increase student success through holistic support, culturally responsive advising, and

community building (see Dualeh et al., 2018; Person et al, 2017). Additionally, students and families should consider colleges that promote clear pathways for Black men to receive mentorships, internships, and other meaningful student engagement experiences. Ultimately, prospective Black male students should keep in mind that when it comes to a good college match, they should seek out and consider colleges and universities that will not only accept them but can commit openly and fully to their success.

Future Research

Based on the findings of this study, several areas seem ripe for additional scholarly attention. The first concerns a fuller view of how other organizational expenditures impact equity index scores. How do academic expenditures compare to student services expenditures when it comes to graduation equity? Additionally, it is not clear how shifts and reallocations in some expenditure categories will affect equity index scores or whether there is a marginal or threshold proportion of funding that particularly influences graduation equity. Further research can pursue these questions and provide more targeted guidance to organizational leaders and budget administrators.

Second, this study utilized a cross-sectional design to understand the association between organizational characteristics and equity index scores for first-time, full-time Black males graduating in 2020. The study combined data from two sources to analyze outcomes for just one six-year cohort of Black male undergraduates. It remains unclear how patterns of resource allocation and policy context may affect equity index scores for cohorts with different time horizons (e.g., 100% or 200% graduation time), enrollment patterns (e.g., transfer or stop outs), or different cohorts over time. Future research that utilizes a longitudinal design would be beneficial in illuminating the association between organizational change and equity outcomes.

Third, minority-serving mission designations warrant much more study. The HBCU variable was excluded due to multicollinearity issues, but the impact of race-conscious organizational mission on student outcomes is of growing interest. MSIs are an increasingly important part of the higher education landscape. In 2020, there were 366 funded MSIs and many more that were eligible and emerging (U.S. Department of Education, 2020). In addition to HBCUs, predominantly Black institutions (PBIs)—and even Hispanic-serving institutions (HSIs)—serve larger proportions of students of color and may offer new and increasingly important ways to understand same race disparities.

Lastly, there is clearly a need for more research that focuses on the politics of higher education with an emphasis on the connection between state policy and processes and racialized education outcomes in higher education (McLendon, 2003). Another line of future research is to examine how race-conscious attainment policies and their outcomes are realized across varying political and postsecondary governance arrangements (Culter White, 2019). This research could inform state policymakers (and policy advocates) about systemic issues surrounding racialized political power (Rosino, 2016), racial backlash theory in higher education (Taylor et al., 2020), and racialized policymaking (Rodriguez et al., 2022). For example, what are the effects of race-conscious attainment policy that run parallel to state-level bans on programs and practices that include critical race theory or diversity, equity, and inclusion? What role do dominant voter racial sentiments play in the adoption of race-conscious postsecondary policies? Do higher education governing boards make a difference in how equitably state resources are allocated across a given state? At what point in the policymaking or implementation process does race-conscious policy risk dilution (Felix & Trinidad, 2019) or compromises that threaten to weaken its effectiveness?

Conclusion

Higher education leaders too often try to minimize their responsibility for the barriers that Black males face within postsecondary organizations, emphasizing how race inequities begin early in the K-12 pipeline or the ways in which stereotypical Black culture or community dismisses academic achievement. However, by defining the relevant reference population for completions as enrollments, this analysis isolates higher education's culpability. The findings from this study illustrate that, while some sectors in some organizations and states are producing equitable completion outcomes, substantially more progress is needed to achieve equity for Black males in all organizational types.

This analysis joins a growing body of literature expanding the conversation around racial equity, institutional accountability, and state responsibility in higher education (Cahalan et al., 2021; Garcia, 2018; Labassi, 2018; Nichols & Schak, 2019; Jones & Nichols, 2020). Although average graduation rates for Black undergraduate men have demonstrated improvements across most higher education institutions in past years, few four-year institutions—and even fewer states—produced first-time, full-time Black male graduates in 2020 at the same rates they enrolled them 2014. The findings of this study suggest that institutional control, selectivity, and student services spending are all important factors in graduation equity for Black undergraduate men. The study also found that state attainment policies, while not directly associated with institutional equity outcomes, do play a role in moderating equity outcomes for specific institutional types.

The need for political responsibility and bureaucratic transparency in advancing educational equity cannot be understated. With this in mind, it is imperative that practitioners, institutional leaders, researchers, and policymakers become attuned to the important associations

between institutional context, action, and policy environments. Addressing this knowledge gap is a critical element of the work needed to improve organizational accountability and ensure that Black men have access to the resources and supports that have long been afforded to others.

APPENDIX

Alphabetical Listing of Equity Index Scores and Spending by State

State Name	Equity Index		Student Services Expenditures (\$/FTE)		Student Services Expenditures (%)		Attainment Policy
	n	Mean (SD)	Mean (SD)	Rank	Mean (SD)	Rank	Yes/No
Alabama	24	0.46 (0.17)	3654.00 (1625.00)	33	15.9 (8.05)	28	No
Alaska	1	0.31 (--)	3210.00 (--)	41	11.8 (--)	45	No
Arizona	5	0.57 (0.1)	3733.00 (2318.00)	29	14.7 (10.70)	34	No
Arkansas	16	0.47 (0.14)	3714.00 (2714.00)	30	15.9 (8.36)	29	No
California	63	0.70 (0.15)	5065.00 (3273.00)	7	14.6 (5.80)	35	No
Colorado	15	0.56 (0.19)	3304.00 (2938.00)	37	12.8 (6.40)	42	Yes
Connecticut	17	0.66 (0.18)	6328.00 (4867.00)	2	16.8 (6.96)	21	No
Delaware	4	0.45 (0.28)	3090.00 (1422.00)	43	15.5 (7.88)	31	No
Florida	36	0.56 (0.16)	3890.00 (2431.00)	25	17.1 (11.80)	20	No
Georgia	38	0.45 (0.19)	3439.00 (2250.00)	35	16.3 (10.20)	26	Yes
Hawai'i	4	0.51 (0.11)	3295.00 (853.00)	38	11.5 (6.61)	46	Yes
Idaho	6	0.48 (0.14)	2867.00 (3112.00)	45	12.8 (9.95)	43	No
Illinois	49	0.58 (0.18)	4651.00 (2063.00)	10	17.8 (8.13)	12	Yes
Indiana	36	0.58 (0.17)	4248.00 (2974.00)	16	17.3 (8.96)	19	Yes
Iowa	24	0.61 (0.15)	5525.00 (2883.00)	6	22.8 (8.32)	1	No
Kansas	22	0.45 (0.14)	4166.00 (2257.00)	21	20.8 (10.30)	3	Yes
Kentucky	25	0.48 (0.16)	4200.00 (1963.00)	19	19.3 (8.55)	5	No
Louisiana	20	0.46 (0.15)	2570.00 (2493.00)	46	10.6 (6.27)	48	No
Maine	11	0.60 (0.24)	6972.00 (5784.00)	1	19.0 (7.01)	7	No
Maryland	21	0.58 (0.21)	3772.00 (2201.00)	27	13.4 (7.87)	40	Yes
Massachusetts	49	0.69 (0.18)	5651.00 (3300.00)	4	17.7 (7.26)	14	Yes
Michigan	34	0.59 (0.15)	3772.00 (2309.00)	28	16.2 (9.19)	27	No
Minnesota	25	0.63 (0.14)	4286.00 (1819.00)	15	19.3 (7.48)	6	No
Mississippi	14	0.47 (0.14)	2960.00 (2352.00)	44	12.9 (8.48)	41	No
Missouri	34	0.51 (0.19)	3224.00 (1482.00)	40	16.6 (8.48)	22	Yes
Montana	7	0.49 (0.14)	4343.00 (2150.00)	13	18.7 (10.10)	9	No
Nebraska	13	0.55 (0.12)	4238.00 (2745.00)	17	19.5 (11.30)	4	No
Nevada	3	0.43 (0.19)	2484.00 (906.00)	47	10.9 (2.08)	47	No
New Hampshire	9	0.60 (0.23)	5619.00 (3841.00)	5	22.4 (11.40)	2	No
New Jersey	26	0.65 (0.15)	4567.00 (2866.00)	11	15.4 (6.27)	33	No
New Mexico	6	0.40 (0.14)	1648.00 (453.00)	50	6.4 (4.27)	49	No
New York	100	0.65 (0.15)	4521.00 (2549.00)	12	15.5 (7.38)	32	No
North Carolina	46	0.51 (0.2)	4234.00 (2698.00)	18	17.6 (10.80)	15	No
North Dakota	7	0.51 (0.12)	3306.00 (847.00)	36	13.8 (4.86)	38	No
Ohio	50	0.58 (0.17)	4192.00 (2619.00)	20	17.5 (9.17)	17	No
Oklahoma	20	0.43 (0.18)	3099.00 (1645.00)	42	16.4 (9.39)	24	No
Oregon	16	0.60 (0.16)	3680.00 (2145.00)	32	13.5 (7.63)	39	Yes
Pennsylvania	87	0.64 (0.16)	4816.00 (2430.00)	9	17.8 (6.16)	13	No
Rhode Island	8	0.73 (0.16)	4948.00 (2454.00)	8	16.5 (8.46)	23	No
South Carolina	29	0.50 (0.18)	4049.00 (2351.00)	22	18.5 (7.82)	10	No
South Dakota	9	0.53 (0.10)	3687.00 (1327.00)	31	18.9 (8.72)	8	No
Tennessee	34	0.53 (0.17)	3962.00 (2048.00)	23	18.4 (6.59)	11	Yes
Texas	66	0.49 (0.18)	3552.00 (2363.00)	34	14.6 (8.04)	36	No
Utah	8	0.50 (0.20)	2378.00 (1838.00)	48	12.6 (8.69)	44	No
Vermont	6	0.65 (0.18)	5848.00 (3324.00)	3	17.5 (6.66)	18	No
Virginia	36	0.62 (0.17)	4316.00 (3082.00)	14	16.4 (10.70)	25	No
Washington	18	0.67 (0.12)	3952.00 (2881.00)	24	13.9 (8.18)	37	Yes
West Virginia	16	0.42 (0.10)	3270.00 (2644.00)	39	15.7 (10.70)	30	No
Wisconsin	28	0.61 (0.12)	3864.00 (1515.00)	26	17.6 (4.72)	16	No
Wyoming	1	0.59 (--)	2056.00 (--)	49	4.5 (--)	50	No

Note. N = 1242

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