IMPACT OF HIGHER PERCENTAGES OF AFRICAN AMERICAN FACULTY ON AFRICAN AMERICAN MALE STUDENT COMPLETION RATES IN CALIFORNIA COMMUNITY COLLEGES

A Thesis

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by

Rachel Croopnick

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Robert Wassmer, Ph.D. Date

Department of Public Policy and Administration

Abstract

of

IMPACT OF HIGHER PERCENTAGES OF AFRICAN AMERICAN FACULTY ON AFRICAN AMERICAN MALE STUDENT COMPLETION RATES IN CALIFORNIA COMMUNITY COLLEGES

by

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African American men face significant challenges to completing a college education. This is, in part, driven by societal and pre-college factors, but also by institutional characteristics and policies at the higher education level that put them at a disadvantage. My thesis seeks to hone in on institutional characteristics and policies by examining the research question: What impact do higher percentages of African American faculty have on African American male completion rates in the California Community Colleges? I do this by utilizing longitudinal cohort data from 108 California community colleges for cohorts beginning from 2007 to 2011 via the California Community Colleges Chancellor's Office's Data Mart. The dependent variables in my analyses are broken into four subgroups of African American male students meant to capture the effects of being economically advantaged/disadvantaged and academically prepared/unprepared. The primary finding of this thesis is that increasing the percentage of full-time African American faculty has positive impacts on completion rates across all subgroups of African American male students after dropping the African American part-time faculty variable due to collinearity. The magnitudes of these effects are relatively small, though, with a one-percentage-point increase in percentage of full-time African American faculty for a typical California community college,

holding other explanatory factors constant, yielding an increase in completion rate for African American males between 0.231%-0.310%. The macroeconomic characteristics, which consisted of five dummy variables for each of the cohort start years after the excluded base year of 2007, had the largest negative impacts on completion rates which suggests that improving outcomes for African American men at this level is a multifaceted task that includes factors outside of the direct control of the institution. I discuss the policy implications of these results and what institutions can do to help these students. I conclude by noting that these findings have new relevance and implications given the unique nature of the time in which this thesis was written.

_____, Committee Chair
Robert Wassmer, Ph.D.

_____
Date

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A most important thank you goes out to my parents. Dad, I know you are not here to see all that I have done and accomplished, but I am eternally grateful for the time we had together and the lessons and values you instilled in me that got me to this point. Mom, you are my biggest role model and cheerleader and embody everything I hope to be – caring, supportive, smart, and resilient (among many other things). Thank you for being there to listen and help throughout my graduate education and life, I could not have done it without you.

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Chapter One

INTRODUCTION

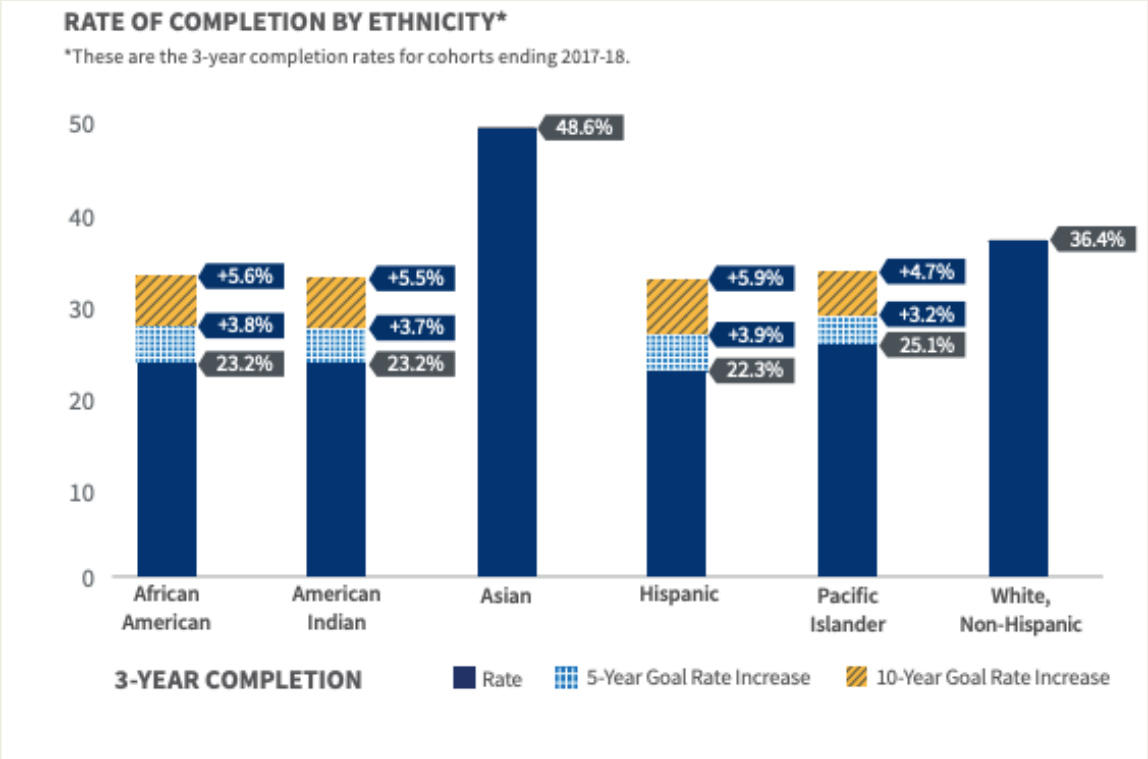
California's higher education system is the largest in the United States. While ample literature and news coverage focus on the two public university systems in the state – California State University (CSU) and the University of California (UC) – the majority of students in California's higher education system are enrolled in California community colleges. However, despite a large number of students enrolled in California community colleges, not all students achieve the same result. Significant disparities in the success[1] of California community college students exist across racial/ethnic groups as well as socioeconomic status (SES). The term achievement gap is often used to represent these disparities. Figures 1 and 2 illustrate the achievement gap for California community college students. Figure 1, from the California Community Colleges Chancellor's Office (CCCCO), shows the three-year completion rate by ethnicity for cohorts ending 2017-18 and Figure 2, from the Legislative Analyst's Office (LAO), shows the six-year graduation rates for the 2011 freshman cohort by race/ethnicity and aid status[2]. Both figures show the substantial differences in achievement by race/ethnicity, and the LAO figure shows how SES also plays a significant role. Latinx (Hispanic) and African American students have notably lower achievement rates than their white and Asian peers. Figure 3, which looks at the beginning cohort of 2011-12 across the entire California community college system, narrows in on African American male students (the focus of this thesis) compared to the overall student population. Figure 3 illuminates that African American male students have lower success

[1] Success will be defined for my purposes later on, but the meaning in the literature can vary from graduation rate to transfer rate, among others. I will state which metric the literature is using in these instances.

[2] Aid status is often used as an indicator of SES.

rates consistently[3] across all categories of preparation[4] as well as overall. Some reasons for these differences are more well-known and examined in the existing literature, while others remain opaque. My study aims to illuminate some of these opaquer factors so that California's higher education leaders and stakeholders can better understand what drives these differences and how to reduce this gap, specifically for African American male students.

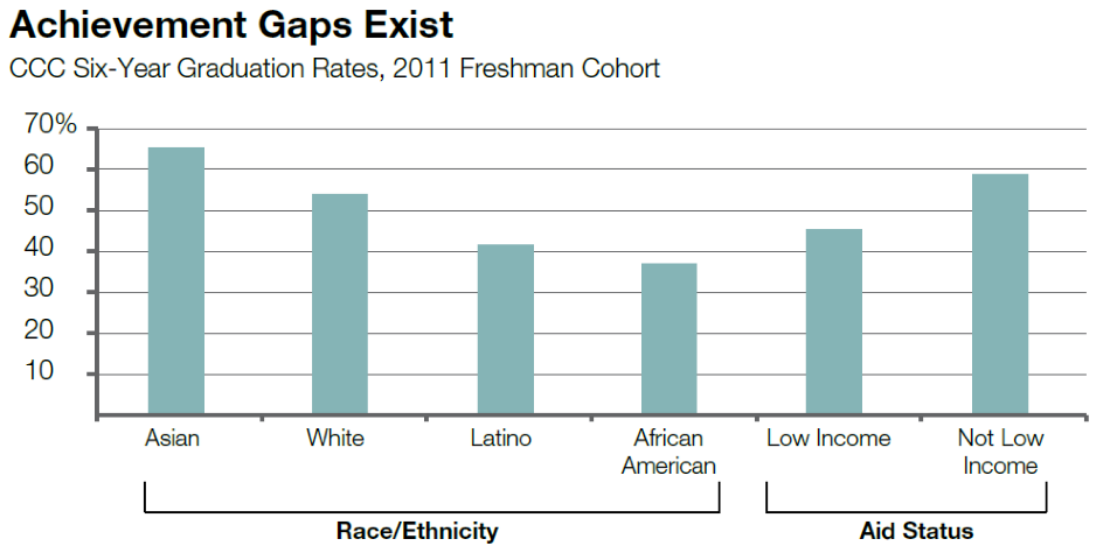
Figure 1: California Community College 3-Year Completion Rate by Ethnicity



Source: California Community Colleges Chancellor's Office (CCCCO). (2019). *2019 State of the System Report.* Retrieved from https://www.cccco.edu

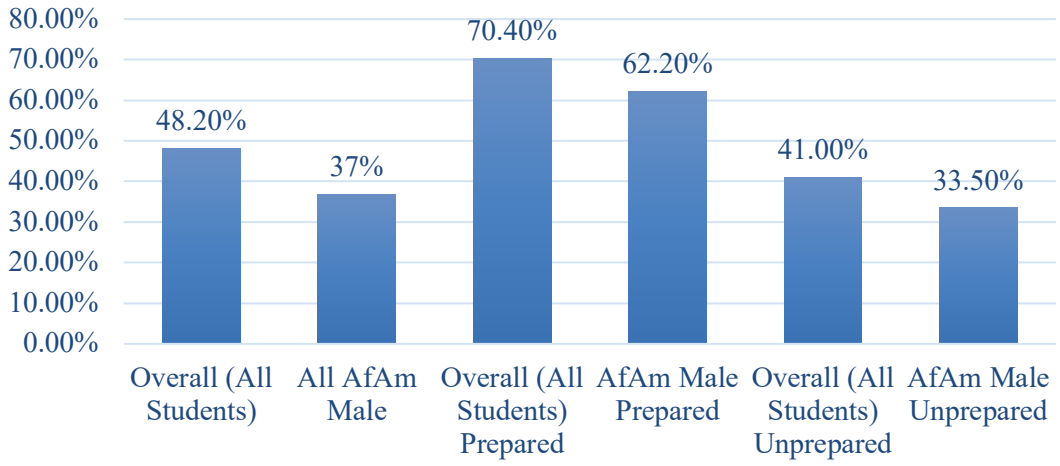
[3] Success rate is measured by the Completion/SPAR rate which will be defined later in this chapter.
[4] According to the California Community Colleges Chancellor's Office (CCCCO), "prepared" denotes that the student's lowest attempted English or Math course was 'Prepared for College Level', meaning that the course was transferable or degree applicable at the community college level. (CCCCO, n.d.)

Figure 2: California Community Colleges Six-Year Graduation Rates for 2011 Freshman Cohort by Race/Ethnicity and Aid Status



Source: California Legislative Analyst's Office (LAO). *CalFacts 2018.* Retrieved from: https://lao.ca.gov/Publications/Detail/3905

Figure 3: Completion/SPAR Rate (%) for African American (AfAm) Males and All Students for the 2011-12 Beginning Cohort Across All California Community Colleges



Source: CCCCO Data Mart. (2020). Retrieved from https://datamart.cccco.edu/DataMart.aspx

In this thesis, I will examine the question: *What impact do higher percentages of African American faculty have on African American male completion rates in the California Community Colleges?* I do this by performing panel-data regression analyses for different types of community college student cohorts at different California Community Colleges for six-year observed cohorts that begin in the fall of 2007 to fall of 2011. I include several control variables that the existing literature show to have an influence on African American male student success. However, the main focus are policy variables, or variables within the control of the institution.

The following sections of this chapter will provide further background on my research question, beginning with a brief background about California's community colleges, why California is an ideal place for this study, and how measures of success vary across these colleges. Then I discuss how policies and practices beginning at the K-12 level lead to low African American male student achievement in order to better understand how they impact what happens in college[5]. I then explain why low African American male student success is a problem in the context of efficiency and equity. Lastly, I conclude with a description of the remaining chapters in this thesis.

The California Context

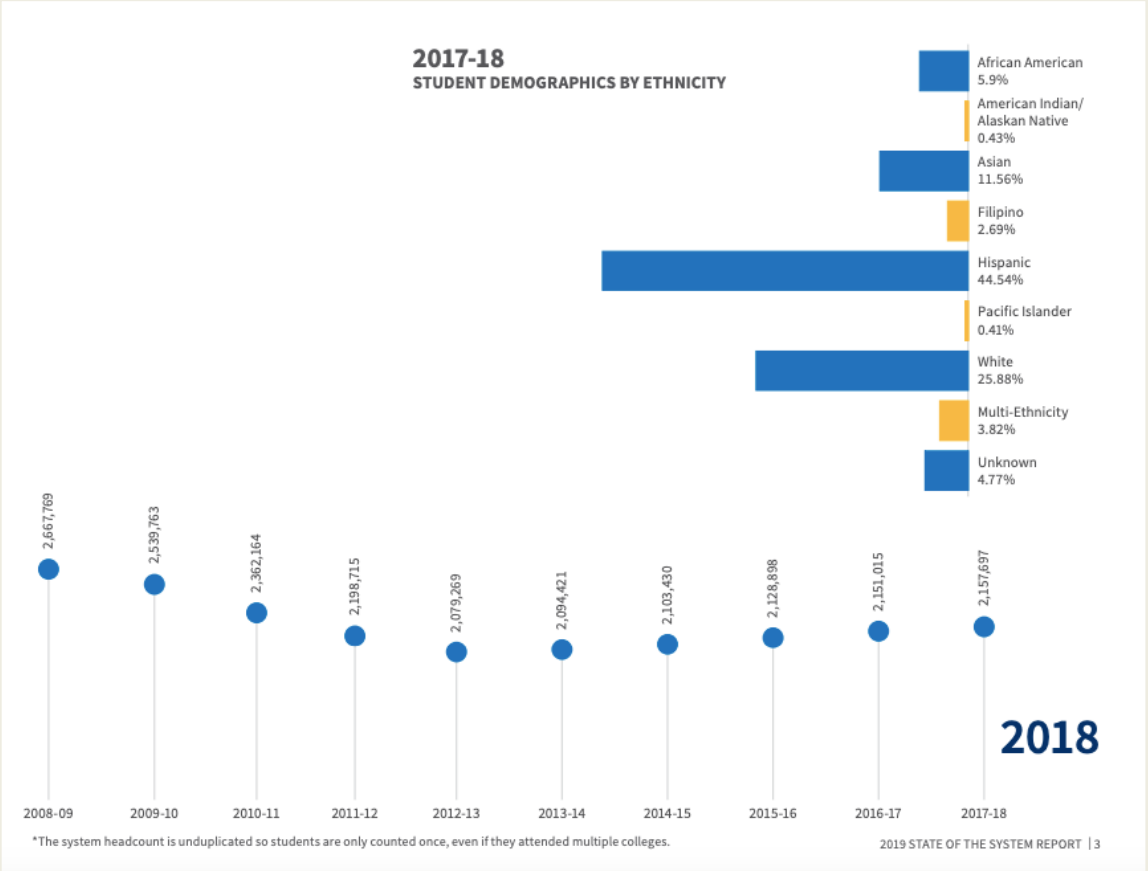
Background on California Community Colleges

There are 73 California community college districts and 116 colleges. These colleges serve 2.1 million students per year, with three out of every ten Californians age 18–24 and one-fifth of community college students nationwide currently enrolled in a California community college (Foundation for California Community Colleges, 2017). Figure 4 shows the colleges serve a diverse student population which can be seen in the ethnic breakdown of students in

[5] This is the main section where I discuss the influence of the K-12 level due to the difficulty of measuring its impact in my data and analyses as well as it not being directly in control of the community colleges.

California community colleges for the 2017-18 school year. There are a large percentage of Latinx (Hispanic) students, at 44.54%, attending the colleges, which is reflective of California's overall large Latinx population. There are also moderate populations of students from other underrepresented ethnic groups.

Figure 4: 2017-18 School Year Student Ethnic Breakdown and Student Headcount for California Community Colleges



Source: CCCCO. (2019). *2019 State of the System Report.* Retrieved from https://www.cccco.edu

California community colleges serve a substantial portion of underrepresented ethnic groups due to several factors, with two prominent ones being affordability and access.

Community colleges are not only less expensive than public four-year universities in California[6], but recent legislation in the state has provided more funding to the community college system to help cover tuition and other costs for new, full-time students[7]. Additionally, there are more colleges available in the community college system at a variety of locations across the state, making them easier to physically access, this is important because most students go to college close to home. Further, Calbright College, the newest California community college, was launched in 2019 as a predominantly online option targeted at adults aged 25 to 34 to improve the workforce prospects of 8 million Californians who are underemployed, working multiple part-time jobs or stuck in jobs that don't pay living wages (Smith, 2019). While it is too early to know which racial/ethnic groups Calbright College will mainly serve, the college is focusing on getting adult learners into higher paid and higher skilled jobs which indicates that underrepresented groups will be a key target due to low educational attainment. Below outlines the low attainment of underrepresented groups at the community college level in California.

Despite a large number of students enrolled, diverse location options, and better affordability, California community colleges do not produce the best outcomes for most of their students. According to the 2019 California Community Colleges Student Success Scorecard, only 48.9% of students seeking a degree, certificate, and/or transfer[8] attained their stated goal. The completion rate for students deemed college prepared[9] is significantly higher at 69.9% than that for those deemed unprepared[10], which is 41.5%. But, when looking at the statistics further, the

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[6] Figures from the CSU state tuition for a full-time, state resident undergraduate for 2019-20 across the system is $5,742 (https://www2.calstate.edu/attend/paying-for-college/csu-costs/tuition-and-fees/Pages/basic-tuition-and-fees.aspx). UC's tuition for the same population and year is $11,442 (https://www.ucop.edu/operating-budget/_files/fees/201920/2019-20.pdf).

[7] Zinshteyn, M. (2019, February 14). California's new 'free college' law for community colleges covers more than tuition. *EdSource.* Retrieved from: https://edsource.org/2019/californias-new-free-college-law-for-community-colleges-covers-more-than-tuition/608612

[8] For the cohort starting for the first time in 2012-13, tracked for six years through 2017-18.

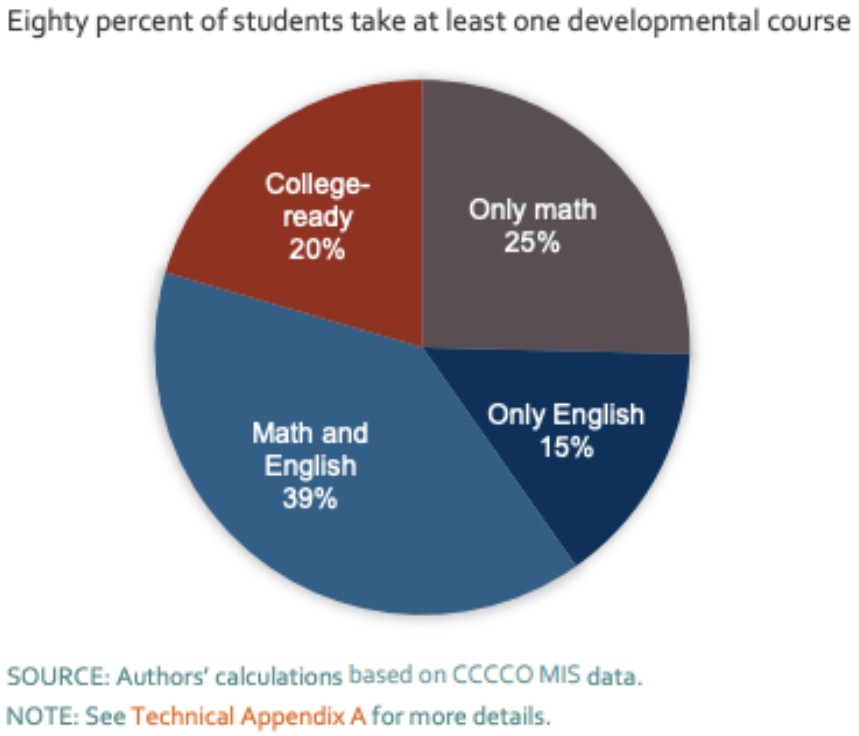
[9] Student's lowest course attempted in Math and/or English was college level.

[10] Student's lowest course attempted in Math and/or English was remedial level.

Scorecard shows that the vast majority of California community college students in this cohort fall into the unprepared category with 138,054 unprepared students versus 48,517 prepared students (CCCCO, 2020). Figure 5 from the Public Policy Institute of California (PPIC) shows that 80% of students entering a California community college enroll in at least one developmental[11] course in math, English, or both at some point during their college journey (Mejia, Rodriguez, & Johnson, 2016). Given these statistics, it is understandable that California has recently rolled out reforms geared toward improving outcomes for students deemed unprepared, some of which I discuss in the next section. Additionally, there are serious implications for California's economy of not improving these completion rates, which are also discussed toward the end of this chapter.

[11] The terms developmental and remedial are used interchangeably in the existing literature. However, more recent efforts have pushed to refer to these classes solely as developmental courses.

Figure 5: Percentage of California Community College Students Enrolled in a Developmental Course for Students Starting in Academic Year 2009-10



Source: Mejia, M. C., Rodriguez, O., & Johnson, H. (2016). *Preparing students for success in California's community colleges.* Retrieved from the Public Policy Institute of California's website: https://www.ppic.org/content/pubs/report/R_1116MMR.pdf

Why California?

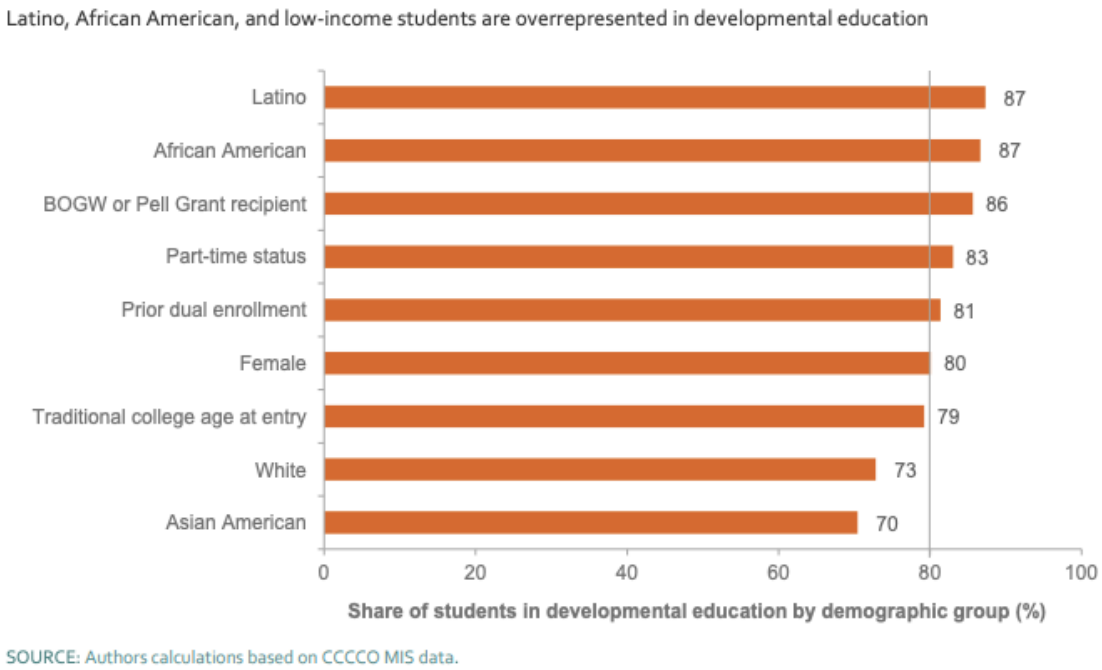
California offers a unique opportunity to study this research question. As previous sections outlined, California has a large and diverse student population and many consider the state a leader in higher education and other policy reform movements. Some of these policy reforms have centered around shrinking the achievement gap shown in Figures 1 and 2. Notably, the reforms have focused on improving remedial education placement and working to increase the number of students who enter and complete transfer-level coursework[12] in English and Math

[12] Remedial courses do not count toward transfer requirements.

within a one-year timeframe (CCCCO, 2018). Recent legislation is one of the dominant forces that has pushed for changes in remedial education. Assembly Bill (AB) 705, which was passed in 2017 and took effect on January 1, 2018, is a key, recent piece of legislation that aims at improving the placement of entering students. The CCCCO states that evidence shows that too many students are placed in remedial education (Figure 5 also shows this) and that this prevents them from making adequate progress through the system. They attribute this to colleges relying too heavily on placement tests when high school performance is a much stronger predictor of success (CCCCO, 2018).

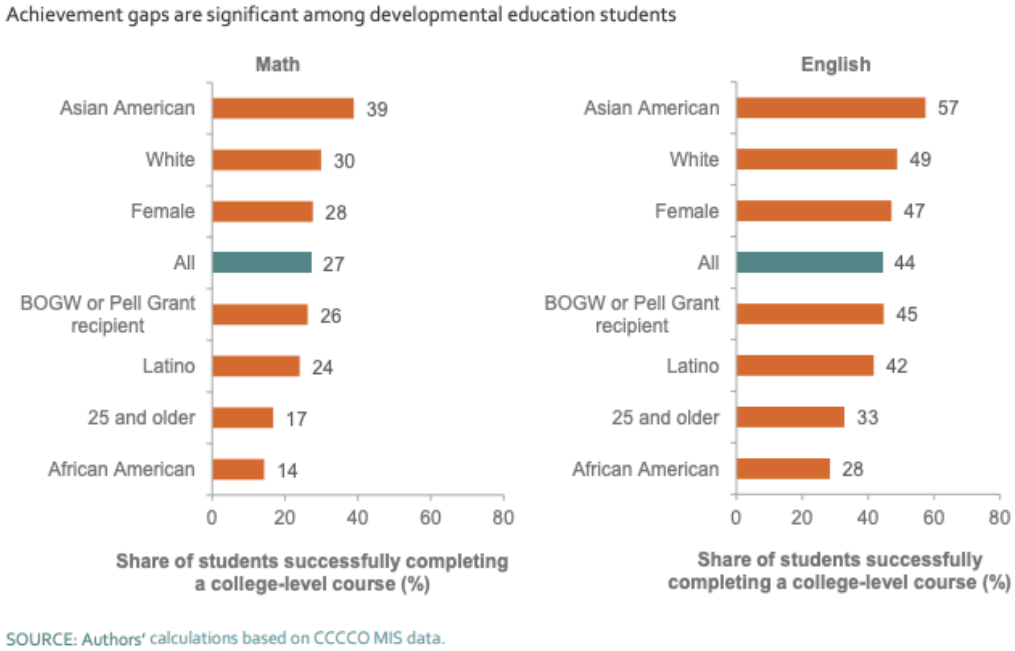
Statistics from PPIC back up the CCCCO's statements and show why these types of reforms in California are needed and important. To start, only 16% of developmental education students earn a certificate or associate degree within six years of starting and only 24% transfer to a four-year college within the same timeframe (Mejia, Rodriguez, & Johnson, 2016). Further, Figure 6 shows that in developmental education underrepresented student groups are overrepresented and Figure 7 shows that among developmental education students, there are also achievement gaps by race/ethnicity and SES. The figures show not only that a significant majority of African American students are in developmental education, but that the achievement for African American students is also the lowest within the developmental education group. These figures and statistics illustrate a need to improve the outcomes of African American students since they are predominantly in developmental education and, therefore, less likely to attain a certificate, degree, or transfer.

Figure 6: Share of California Community College Students in Developmental Education by Demographic Group



Source: Mejia, M. C., Rodriguez, O., & Johnson, H. (2016). *Preparing students for success in California's community colleges.* Retrieved from the Public Policy Institute of California's website: https://www.ppic.org/content/pubs/report/R_1116MMR.pdf

Figure 7: Share of Developmental Education California Community College Students Successfully Completing a College-Level Course in Math and English by Race/Ethnicity, Gender, Age, and Socioeconomic Status



Source: Mejia, M. C., Rodriguez, O., & Johnson, H. (2016). *Preparing students for success in California's community colleges.* Retrieved from the Public Policy Institute of California's website: https://www.ppic.org/content/pubs/report/R_1116MMR.pdf

However, the low success rates of California community college students are not just a problem for the colleges or individual students. By 2025 California is projected to have a middle-skill worker shortage of 1.5 million. Looking at it another way, the share of the workforce with some college education (or middle-skill workers) by 2025 will be 29% versus the share of jobs that will require these workers, which is 36% (Bohn, 2014). Community colleges are the main provider of middle-skill workers, but there is still a significant shortage of workers in this category due to low completion rates at the colleges. Additionally, most middle-skill workers take part in career technical education classes and programs that have been declining overall in the state. Regardless of which lens you use to examine the problem of low success rates among

community college students, it is evident that this is a pertinent issue in California and, therefore, California is an ideal place in which to examine it.

The Data and Measures of Success

Another reason California is an ideal place in which to study my research question is the availability of longitudinal cohort data from the CCCCO's online Data Mart and their Student Success Scorecard. However, despite the relatively robust data available, there are some notes about measurement that I would like to draw attention to. This thesis focuses on the completion/student progress and attainment (SPAR) rate as the dependent variable in my analyses. The definition of completion/SPAR rate is: "The percentage of first-time students with a minimum of 6 units earned who attempted any Math or English in the first three years and achieved any of the following outcomes within six years of entry:

- Earned AA/AS or credit Certificate (Chancellor's Office approved)
- Transfer to a four-year institution (students shown to have enrolled at any four-year institution of higher education after enrolling at a CCC)
- Achieved "Transfer Prepared" (student completed 60 UC/CSU transferable units with a GPA >= 2.0)"[13] (CCCCO, n.d.)

There are some important things to highlight about this definition, the first being that this data is only for first-time students. Students enrolled in a community college outside of the California system are excluded from the cohort data as well as any students who have enrolled in the California community college system previously. Secondly, are the coursework requirements to be included in the count. The first-time students must take six units within the first three years of enrollment and attempt a math or English course within the same timeframe. Thirdly, the definition also states that the first-time students must attain one or more of the three bulleted

[13] Students also had to declare that certificate, Associate's Degree, or transfer was their goal upon entry.

outcomes above within six years in order to be considered as achieving completion. Another important factor in the data is that the first-time students are only followed at the college they begin at. Therefore, if a first-time student being tracked at one college transfers to a different California community college they are deemed as not achieving an outcome because they would now be counted at the new college as a non-first-time student. All of this information's purpose is to show that, while this data is an excellent opportunity, it still falls short of capturing all students in the system. However, the present data offerings are a great starting point with which to identify what is working and not working in the system for this group of students and specifically my focus group of African American males.

The Impact of K-12 on African American Male Student Success

As is evident by now, the focus of this thesis is on African American male student success. I chose this group for a variety of reasons, but a main factor is that this population of students is traditionally, and continues to be, the lowest achieving group. Disparities in achievement by race/ethnicity begin early in the K-12 system which has important implications for how colleges address persistent low achievement rates of African American male students. There is ample literature that has been devoted to this topic and this section will serve only as a summary of key factors impacting African American male student success at this level.

At the core of low African American male student success is racism and institutionalized racist policies. This cannot be minimized as a factor and is still prevalent in our society today. While I will not devote length to describing landmark events such as the Civil Rights Movement and Brown v. Board of Education of Topeka Kansas, it is important to note that these were important launch points for discussions around African American student outcomes and a shift toward reforms focusing on these students. However, despite that we are now more than 60 years after these events, there are still glaring issues within the United States' public education system

that negatively impact African American students, and specifically African American males. As the Schott Foundation for Public Education's (2010) report on public education and Black males explains, white male students are given twice as many extra resources of gifted and talented programs than their African American male peers. This is important because these programs are more likely to lead to a student being college prepared, which, as seen in Figure 6, is not a high percentage of African American students in California community colleges.

However, as the Schott Foundation report (2010) explains, the state of low African American male student success does not come down to the students themselves because research shows that African American males can do exceedingly well in certain schools that are well-resourced and have skilled teachers. However, this is often not the schooling environment African American males are in due to the low SES of their families, which often means schools in their neighborhoods are correspondingly low funded and have less-skilled teachers[14]. Further, Scott, Taylor, and Palmer (2013) qualitatively analyzed 68 essays from African American college-bound males to understand the challenges facing these students and found that a strong theme was the lack of African American male teachers or simply skilled and culturally competent teachers. The essays the authors analyzed expressed that there is a lack of successful African American male figures that are not involved with athletics or discipline. The students explained that beyond having someone who looks like them academically supporting them, that having African American male teachers also provides more opportunity for mentorship and guidance, which is something the students said was lacking in their current schools.

[14] California has recently implemented reforms at the K-12 level to help address disparities in achievement by race/ethnity as well as SES. The Local Control Funding Formula aims to fund schools more equitably by dedicating additional funds to "high-need" students and schools with higher concentrations of them. For more, see: EdSource. (2016). *A guide to California's Local Control Funding Formula*. Retrieved from https://edsource.org/2016/local-control-funding-formula-guide-lcff/89272#

This section centered around the success of African American males in the K-12 system, which I did because of the implications of failure to ensure the success of African American males at this level. However, there are many factors impacting African American male student success at all levels of education. In the following chapter, my literature review, I explain that student success for this group is influenced not only by K-12 factors, or pre-college factors, but also students' psychosocial needs and the college meeting those needs, policies at the college that impact student outcomes and support, the level of faculty interaction and support, and the number of same-race instructors.

Why is this a Problem?

At this point, I have given a background of my research question and explained why it is important and ideal to study. However, this still does not explain exactly why low African American male student success is a problem worthy of public policy intervention. I will explain why this is through a broader focus on the social/public and private benefits of education. The literature around this topic is diverse and, at times, controversial. However, what is clear throughout the existing literature is that education plays an important role for the individual as well as the society they are part of, and a lack of education has correspondingly negative effects.

When it comes to individual benefits, the earliest and most reviewed literature focus on the human capital model developed by Becker (1964) and Mincer (1962). This empirical theory compares individuals who were identical aside from their level of schooling and found that those with more schooling had higher wages. The model's logic is that education leads to higher productivity and more skills which is what leads to these higher wages. However, more recent literature has focused on other benefits of education aside from wages, both to the individual and society. Wolfe and Haveman (2002) look at a large swath of the existing literature around the benefits of education in advanced economies and find that there are many others aside from

wages. Among them are better health outcomes for the individual and their family, including children, lower rates of using social services such as welfare, reduced rates of crime, and lower rates of unwanted pregnancies.

All of the benefits mentioned above not only lead to a better quality of life for the educated individual but also produce positive externalities to society through more skilled workers who are also more efficient and draw on fewer social services. Wolfe and Haveman (2002), pulling from the literature, also state that higher education levels lead to an overall higher level of social cohesion. Specifically, higher education levels lead to higher levels of voting, reduced alienation and social inequalities, opposition to government repression and reduced support for the use of violence in protests, and higher trust of others and membership in community organizations. While less tangible than wage increases, these benefits are just as vital to an individual's lifetime success. The problem, however, is that attaining higher education levels is not easy for most individuals and especially African American males as was examined in earlier parts of this chapter.

Description of Remaining Chapters

The following chapter of this thesis will be a literature review focusing on African American males and my chosen variables for analysis. Chapter three outlines my hypotheses and the model and variables used for my quantitative analysis. The fourth chapter presents the regression method and diagnostics I ran as well as the results of my regressions. Lastly, in chapter five, I conclude by stating the main findings of my analyses, the policy implications of them, my recommendations based on these findings, the limitations of my research and where future research could go, and some important contextual information about the time in which this thesis was written.

Chapter 2

LITERATURE REVIEW

There is ample literature that looks at factors impacting student success in higher education, however, the literature that focuses around my topic of African American males in community colleges is rather limited. Despite this challenge I ultimately found and utilize 10 articles in this chapter, eight from peer-reviewed journals, one from a journal with a mix of peer-reviewed articles and non-peer-reviewed articles, and one from a non-peer-reviewed trade journal. Of the 10 articles used in this chapter, half explicitly focus on African American male students and the remaining half focus on either African American students overall or underrepresented minority student populations that include African Americans. Nine articles solely examine the community college level with the exception being Nora (2004), which is a foundational piece for understanding one of the themes of this literature review. Additionally, the studies have mostly been published in recent years, with half of the sources published from 2010 onward and only one that was published before the year 2000. There is extremely little research into faculty racial/ethnic composition and its impact on student success for African American males in community colleges aside from two pieces which I discuss in this chapter.

This chapter is organized by three themes of key explanatory variables found in the literature that impact underrepresented minority student success: academic preparedness, psychosocial factors, and faculty impact. The first theme, academic preparedness, examines the assertion that high school performance and preparation are most predictive of student success in higher education. The second, psychosocial factors, looks at how students' psychosocial needs, and their view of the college meeting those needs, impacts their senses of belonging and support which in turn leads to higher rates of success. The last theme, faculty impact, relates most to the topic of this thesis and looks at how certain actions and behaviors of faculty impact student

success for underrepresented minority groups as well as the effect of faculty racial/ethnic composition on those students' success. The next section briefly presents the conceptual framework I use to guide and organize this chapter, then I examine the three key themes found in the literature, and I conclude this chapter with a brief summary of the findings from the literature and their implications for my research and model. I also discuss how my work seeks to fill in gaps in the existing research. The literature presented in this chapter varies in their definitions of student success, therefore, in Table 1 at the end of this chapter, I present a summary of the sources used which includes descriptions of the samples and the dependent variables and how they are measured (if available).

Conceptual Framework

The framework I use to organize this chapter is adapted from Harris and Wood's (2013) review of published literature that focuses specifically on the experiences and outcomes of men of color in community colleges. Borrowing from an earlier paper they authored[15], Harris and Wood (2013) theorize that student success outcomes for men of color in community colleges are influenced by interactions between pre-college factors that occur prior the students' matriculation to the college and five dynamic and interrelated domains that emerge during enrollment. Harris and Wood (2013) state that there are three primary pre-college factors to consider: students' goals (academic, career, educational, and personal), background (age, high school GPA, and academic preparation), and societal norms that shape perceptions of men of color (e.g., racist stereotyping of men of color as disinterested in education). The pre-college factor I use as a theme is student

[15] Wood, J. L., & Harris, F., III. (2012). *Examining factors that influence men of color's success in community colleges*. Paper presented at the annual meeting of the Council on Ethnic Participation, Association for the Study of Higher Education, Las Vegas, NV.

background characteristics, specifically academic preparedness and high school GPA[16], because the data used for my analyses do not provide information on student goals or societal perceptions.

The five domains are: academic, environmental, noncognitive, institutional, and social. For the purposes of this thesis, I focus on the last three domains listed. The academic domain includes variables related to students' academic experiences at the college that shape their academic outcomes. While the academic domain is not a focus, some variables included in it are controlled for in my analyses like part-time versus full-time enrollment status. The other domain that I do not examine, the environmental domain, looks at factors outside of the college campus that exert influence on students' success such as working off-campus or having to care for family members, with those factors generally decreasing student success outcomes. While this is an important domain to examine, I do not discuss it in detail due to the limitations of my data and research focus. Further research is needed looking at the environmental domain, especially for underrepresented minority students.

The noncognitive and social domains include variables that relate to my psychosocial factors theme. The noncognitive domain includes variables that tend to be psychosocial in nature and the two most prominent variables that emerge in this domain in Harris and Wood's (2013) review are sense of belonging[17] and identity[18]. The variables in the social domain relate to students' social integration on campus. They measure the extent to which students spend time and energy on campus outside of the normal classroom setting with the theory being that higher levels of integration lead to higher levels of success. While my analyses do not account for variables in these two domains[19], they are prominent in the literature about African American males in

[16] Some of the literature also discuss age as a highly significant variable and I will briefly touch on this. I control for age in my analyses, however, it is not a main focus so I do not dedicate length to examining it.
[17] Defined as feeling important and connected to campus
[18] Defined as self-identification of race/ethnicity and gender
[19] Aside from race/ethnicity percentages for each cohort

community colleges and, therefore, are included. The final domain I utilize in my framework is the institutional domain. Variables in this domain consider institutional structures and characteristics that influence student success. Harris and Wood (2013) find that variables related to institution type, student services, and faculty support are most often discussed under this domain. Faculty impact is the primary theme of focus in my research, so the institutional domain is highly important.

This section outlines the conceptual framework I use to build this chapter and explains how this framework relates to the themes I examine. While the first two themes I examine (academic preparedness and psychosocial factors) are not the primary focus of this thesis, they are the foundation on which more recent studies about African American male student achievement are built and some variables from these themes are included in my analyses. Additionally, I organize the themes in a particular order to show the difference in who the literature puts responsibility on to improve underrepresented minority student outcomes. The literature that falls under the first two themes puts responsibility back on students of color to improve, while the third theme points to the institution's responsibility. Therefore, due to the lack of literature about institutional responsibility and the reluctance, as Bush and Bush (2010) state, to "call out the elephant in the room that nobody desires to engage", I proceed with this domain in mind as my primary focus.

Academic Preparedness

One of the earliest studies that focuses on academic preparedness and African American males in community colleges is Hagedorn, Maxwell, and Hampton's (2001) quantitative study of 202 African American male students who began at large, suburban community college on the west coast in fall 1995, fall 1996, or spring 1997[20]. The aim of Hagedorn, Maxwell, and

[20] Excluding those not seeking degree or certificate

Hampton's (2001) study is to determine what variables correlate with the retention of the sampled African American male students. Further, they examine whether the same variables correlate with retention depending on the number of semesters the student is enrolled by looking at retention through the first, second, and third semesters of enrollment. They find that in all three analyses[21], pre-college factors explain a large and significant proportion of the variance in retention. All three analyses find that being younger is a significant predictor of retention and in retention through the second and third semesters, high school GPA is a significant predictor. In discussing the importance of the findings from this block, Hagedorn, Maxwell, and Hampton (2001) assert that their findings show the significance of pre-college factors in shaping college outcomes and remind that these variables should be used as controls in future research. I heed this advice and control for differences in academic preparedness in my analyses.

Wassmer, Moore, and Shulock (2004) also find in their study of the effect of racial/ethnic composition on transfer rates the significance of pre-college factors. The authors use three blocks of variables in their analyses: student cohort characteristics, school characteristics, and community characteristics. They perform three different analyses[22] and find, as with earlier research, that age is a significant variable, with a 10% increase in the share of students under the age of 25 increasing transfer rates by 6.3-18.2% depending on the transfer rate measure used. The measure they use for academic preparedness is also significant in the analyses with a 10% increase in the academic preparation (AP) index[23] score increasing transfer rates by 7.5-19.3% depending on the transfer rate measure used. While this finding technically falls under the college characteristics category, it is important because it is outside of the college's direct control, but

[21] One analysis for each semester studied
[22] Refer to Table 1 for more information on the analyses and definitions of transfer rate used
[23] Created by the CCCCO for each college in the system, the AP Index matches the records of first-time freshmen enrolled in community colleges in Fall 2000 with data from the California Department of Education on the Stanford nine test scores administered to high school juniors in 1998

levies a significant influence on students' success. A last important finding of the study is that there are disparities in transfer rates by race/ethnicity in all three analyses, even after controlling for academic preparation. The authors posit the differences could be due to characteristics and resources available to those racial/ethnic groups or it could be due to the policies, environment, and practices at the institutions. Either way, their findings show that underrepresented minority student groups start at a disadvantage and face significantly lower odds of transfer.

Perrakis's (2008) study of students from all nine colleges in the Los Angeles Community College District, focusing on white males and African American males, echoes findings from the previous two studies. The study is split into two levels of analysis with the first set determining if gender is a significant factor and the second splitting the sample by gender and examining if race is a significant factor for men's academic success. The results show that, on average, twice as many white male students complete calculus than African American male students, which is an indicator of academic preparation. Further, academic preparation is a more significant predictor than race or gender for students in the sample. Perrakis (2008) states that these findings reinforce earlier research that asserts that students who are well prepared for college, regardless of their race or ethnicity, will outperform their less prepared peers.

The studies discussed in this section reinforce the importance of academic preparation as a predictor of student success for underrepresented minority and white students in higher education. Despite the amount of time that has elapsed between the publication of these studies and the present study, academic preparedness level is still salient as can be seen in Figure 3 in the first chapter[24]. Therefore, my analyses not only look at African American males overall, but also

[24] All CCCCO-deemed unprepared students have a completion/SPAR rate of almost 30% less than all prepared students and African American male unprepared students have a completion/SPAR rate of 28.7% less than prepared African American male students

those deemed unprepared as to determine the effect of academic preparation on completion/SPAR rate for this group of students.

Psychosocial Factors

Variables that are psychosocial look at the combined impact of individual psychological factors and the social context surrounding them. Psychosocial factors are difficult to measure in a standardized way due to the uniqueness of each individual's experience and their impressions of those experiences, therefore, there is only one study in this section I discuss that is a purely quantitative analysis derived from a survey. There are many psychosocial factors I can examine, but for the purposes of this thesis the psychosocial factors that emerge most prominently in the literature are sense of belonging on campus and outside encouragement[25].

One of the first landmark studies about African American male students in higher education, is Mason's (1998) mixed methods study of new African American male students at Kennedy-King College[26] in fall of 1992. The problem that prompted the study was that there were low levels of persistence for nontraditional African American male students, or, African American male students who are either more than 24 years-old, a part-time enrollee, or live off campus. The amount of nontraditional African American male community college students has continued to grow, so despite the two decades that have elapsed since this study, it is still relevant. Through analyzing survey results coupled with structured interviews of the sampled students (a portion of which were lengthy interviews), Mason (1998) finds that the main difference between the students is how they view their environments, with those viewing their environments more positively persisting at higher rates. Mason (1998) highlights the importance

[25] Normally this means familial support for educational goals and/or financial support
[26] Kennedy-King College is a community college located in a Chicago neighborhood that, at the time of study, was 97% African American and 70% of its residents were below poverty level. 30% of students at the college during the study were residents of the surrounding community.

of sense of belonging on campus by discussing the role of staff, alumni, and other students in mentoring and fostering an environment that raises African American male students' certainty of educational goals, perceived degree utility, and decreases their senses of helplessness/hopelessness, all factors that lead to increased persistence. Additionally, Mason (1998) finds that the more outside encouragement from family and/or friends the student receives, the more likely they are to persist.

Nora (2004) also highlights the importance of the influence of psychosocial factors on persistence[27]. While this study is the only one I utilize in this chapter that is not specific to the community college level, its focus on differences in persistence between minority and nonminority students impacted by psychosocial factors still points to the importance of considering the results in future studies. Similarly to Mason (1998), Nora (2004) finds that students' psychological perspectives and perceptions of their environment are highly influential in predicting persistence. Of interest, however, is that the influence of those perspectives on persistence is not limited to just minority students. Nora (2004) finds that students who feel they are personally accepted at their colleges (sense of belonging) are more likely to reenroll regardless of race, and that this psychosocial factor has a predictive power of nearly twice that of any other variables found to predict persistence in the study. Sandoval-Lucero, Maes, and Klingsmith (2014) also echo the importance of sense of belonging on impacting student success in their qualitative study of African American and Latinx community college students deemed "successful"[28]. They find that students who feel that the campus is friendly and helpful as well as feel that they fit in on campus are more likely to succeed at their college[29] . They also highlight the significance of familial support in ensuring successful outcomes for the students sampled.

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[27] Refer to Table 1 for definitions of dependent variables used
[28] Students with a GPA of 2.5 or higher
[29] Refer to Table 1 for the success outcomes measured in the study

While these findings are significant and reaffirm earlier studies' claims of the importance of psychosocial factors, it is important to note that the sampled African American students in Sandoval-Lucero, Maes, and Klingsmith's (2014) study were all female despite attempts to engage African American male students. Therefore, while this study is still relevant to understanding the foundation of my work, more research is needed looking at psychosocial factors' influence on African American males' student success, especially given that my data do not include variables that measure psychosocial factors.

Faculty Impact

Faculty play an integral role in facilitating students' success in higher education which is evidenced in the literature. In the Sandoval-Lucero, Maes, and Klingsmith (2014) study, the most common theme participants discussed as impacting their academic success related to their relationships with faculty. Specifically, students expressed that the more accessible faculty was or, in other words, the easier it was to get help from faculty, the greater their success was. Additionally, over 75% of faculty at the time were adjunct and the students said they benefitted from their expertise. The role of faculty, though, extends beyond just the classroom setting. Sandoval-Lucero, Maes, and Klingsmith (2014) explain that 75% of the students at the college at the time were part-time enrollees, so based on what the students expressed about the impact of support of faculty, it seemed that the students relied on faculty heavily for a sense of connection on campus which, as was mentioned previously, is a psychosocial factor that impacts student success. Despite the limitations of the study that I previously discussed, it shows the importance of faculty in ensuring successful student outcomes for underrepresented minority students. While I cannot examine all dimensions of faculty impact, I do look at two of those outlined in this study: part-time versus full-time enrollment percentages and part-time versus full-time faculty percentages.

Wood and Williams (2013), utilizing Harris and Wood's (2012) five domains framework, examine the persistence[30] of Black male students at public 2-year colleges. They utilize an additive block approach for a total of four regression models. Significant in their findings is that a one level increase in interaction with faculty increases persistence by 89.7% in model four. In discussing implications for practice, Wood and Williams (2013) state that their findings should prompt college professionals to find ways to facilitate more quality student interactions with faculty and not put that responsibility on students. This study illustrates the complexity of improving Black male student outcomes by examining how different groups of variables interact together to influence persistence rates. While I do not have data available that tracks faculty-student interactions, I control for the percentage of full-time faculty, with the theory being that full-time faculty have more availability and therefore are more likely to be accessible to meet with students outside of the classroom setting.

Up until this point my discussion of faculty impact has left out the effect of faculty racial/ethnic composition on student success outcomes. There is reluctance to discuss faculty racial/ethnic composition partially due to an averseness to calling out the institution's role or, as Bush and Bush (2010) put it, "the elephant in the room". Bush and Bush (2010) employ a mixed methods approach to understand which institutional factors impact African American males' academic success[31] at a selected community college. They find that faculty interaction is a significant predictor of three of the four success outcome measures, but that African American males are less likely to meet with faculty or have contact with them outside of class and express greater dissatisfaction and lack of engagement with the institution than any other subgroups examined. To combat this dissatisfaction and lack of engagement, Bush and Bush (2010) suggest

[30] Refer to Table 1 for definition of persistence in this study
[31] Refer to Table 1 for the success outcomes measured in the study

in their recommendations that institutions should establish formal mentorship programs between faculty members and African American male students and hire African American faculty, counselors, and staff or others who are interested in the success of African American male students.

Fairlie, Hoffmann, and Oreopoulos's (2014) study matching student demographic data and outcomes with faculty demographic data at De Anza College is one of the only studies that tackles faculty racial/ethnic composition head on. They find that underrepresented minority students are more likely to be successful[32] when taught by an underrepresented minority instructor in short-term outcome measures. Further, the odds of successful short-term outcomes for African American students in particular are significantly higher when taught by a same-race instructor. Interestingly, however, is that white students performed relatively worse on short-term outcomes with African American instructors, but this was not driven by overall instructor quality differences because the analysis controlled for course fixed effects. When looking at the long-term outcome measure of degree completion, the relative probability of underrepresented minority students obtaining an Associate's or vocational degree would increase by 1.5% if the share of minority instructors increased by one standard deviation. All of these findings point to a need to further examine the influence of same-race and different race instructors on minority and nonminority student outcomes which I do in my analyses.

Conclusion

This chapter provided an overview of the research into factors impacting student success for underrepresented minority students that fall into three categories of key explanatory variables: academic preparedness, psychosocial factors, and faculty impact. The discussion of the sources explained why these themes are significant to understanding my research and also illuminated the

[32] Refer to Table 1 for the success outcomes measured in the study

gaps I seek to fill. I use several variables from the studies as controls in my own analyses with a focus on faculty racial/ethnic composition due to the relative lack of research on the topic. The next chapter details the methodology I use to run my regressions, building off of the findings from the existing research.

Table 1: Literature Review Sources Summary

Author (Date of Publication)	Type of Analysis	Sample	Dependent Variable(s)	Explanatory Variable Theme	Key Findings
Mason (1998)*	Mixed Methods	New African American male students at Kennedy-King College in fall of 1992 who responded to contact for study	*Persistence*: Completion of 1st and 2nd terms	Psychosocial Factors	Significant variables that can be used to develop a strategy to increase persistence: • Educational goals: High levels of certainty about educational goals leads to a ripple effect that increases persistence for sampled students • Outside encouragement: The more support the student got outside of the college, the more likely they were to persist • Utility: If the student believed the program would really benefit their future, they were more likely to persist • Helplessness/Hopelessness Factor: Summarizes the belief that no matter what the students did or achieved, they would not get a job or be successful. The more they believed this, the less likely they were to persist.
Hagedorn, Maxwell, and Hampton (2001)	Quantitative	202 African American male students who began at large, suburban community college on the West Coast in fall 1995, fall 1996, or spring 1997 (excluded those not seeking degree or certificate)	*Retention*: Completion of 1st, 2nd, and 3rd semesters (excluding summer term)	Academic Preparedness	• Four blocks of variables were examined for each of the three semesters (analyses): Pre-college factors, ability, college related, and personal variables Block 1 (pre-college factors) Significant Effects: • In all three analyses, being younger was a significant positive predictor of retention • High school GPA was significant positive predictor for retention through 2nd and 3rd semesters.

Nora (2004)	Quantitative	First-time, 1st year, and degree-seeking students between the ages of 18-22 in fall 1999 semester at a minority-serving university, a private religious college with a large minority student population, and a highly selective institution (893 students total)	*Short-term*: College choice fit *Long-term*: Satisfaction with college choice and intent to reenroll in 2nd year	Psychosocial Factors	• Study revealed that students' psychological perspectives are highly influential in predicting intent to reenroll • Found for all students (minority and nonminority) that if they felt personally accepted at their college their odds of reenrolling went up by 65.74% ○ The predictive power of this psychosocial factor was nearly twice that of other college choice factors found to predict reenrollment (e.g., family encouragement raised odds by 31.52%)
Wassmer, Moore, and Shulock (2004)	Quantitative	California Community Colleges Chancellor's Office First Time Freshman Study for cohorts starting in 1996 and 1997 (3-year transfer rate) and cohorts starting in 1994 and 1995 (6-year transfer rates)	*Inclusive transfer rate*: Number of first-time freshmen divided by number of transfers in a given cohort measured over three years and six years (two different analyses) *Narrow transfer rate*: Number of students in cohort who completed at least 12 units and enrolled in transfer-level math and English divided by number of students in cohort who transfer over six years *Note*: Survey only tracks transfers	Academic Preparedness	• A 10% increase in the academic preparedness index score increased transfer rates by 7.5-19.3% depending on the transfer rate measure used • A 10% increase in the share of students under age 25 increased transfer rates by 6.3-18.2% depending on the transfer rate measure used • Study found disparities in transfer rates by race/ethnicity even when allowing for six years in the analysis and using the narrower definition of transfer • The variables included in the model explained about half of the variance in transfer rates • Since the variables in the analyses were exogenous to the college, this suggests that institutional policies and practices have a significant impact on transfer rates

			from community colleges to UC and CSU		
Perrakis (2008)*	Quantitative	4,333 students from all 9 colleges in the Los Angeles Community College District for whom transcript data could be acquired. Focus on white males (6.1% of total sample) and African American males (4.2% of total sample)	*Academic success*: GPA and course completion	Academic Preparedness	• Study split into two levels of analysis with first set determining if gender was a significant factor and second splitting the sample by gender and examining if race was a significant factor for men's academic success, specifically focusing on comparing white and African American males • Variable for feeling of belonging on campus was the only variable that was significant for men and not women • On average, twice as many White men have completed calculus than African American men (academic preparation) and White male college students were found to have a college GPA of roughly half a grade higher than African American male students (academic achievement). • Academic preparation was more significant than race or gender for students in this sample • Study reinforces assertions in previous research that students who are well prepared for college will outperform their less prepared peers regardless of their race or ethnicity.
Bush and Bush (2010)*	Mixed Methods	*Quantitative*: Stratified random sample via the district's entering students survey of approximately 1,600 1st-year students at Inland Community College with a declared long-term educational goal (degree, certificate, transfer). Sample further stratified by	*Graduation rates*: Number of degrees and certificates (18 or more units completed) awarded *Transfer rates*: Number of students transferring to 4-yr institutions *Persistence rates*: Percentage of students	Faculty Impact	• African American men expressed greater dissatisfaction and lack of engagement with the institution than any other subgroups examined • African American men were less likely to meet with faculty or have contact with them outside of class • Faculty interaction was a significant predictor of retention rates of African American male students, indicated likelihood of transferring, and pointed to a higher GPA • Purpose of study was "calling out the elephant" that nobody wants to discuss of the impact institutional

		ethnicity and gender with approximately 200 students from 4 racial categories: African American, Asian, Caucasian, and Hispanic. *Qualitative*: 742 students from above sample completed interviews. Focus group of 6 Black male students (randomly selected out of 12 that volunteered) that did not participate in survey.	who were enrolled from one term to the next *GPA*: average Cumulative GPA of Black men at the end of last term enrolled		factors have on student success Recommendations for improving African American male student success in community colleges: • Establish a formal mentorship program between faculty members and African American male students • Hire African American faculty, counselors, and staff or others who are interested in the success of African American male students
Harris and Wood (2013)	Review of Existing Literature	24 publications (16 from peer-reviewed journals) published between 1998-2012 focusing specifically on the experiences and outcomes of men of color in community colleges	*Student success*: Definition varies by literature being examined	All	Pre-College Factors and the Five Domains that Influence Student Success: • Three primary pre-college factors to consider: Students' goals, background characteristics/demographics, and societal norms that shape the perceptions of men of color (MOC) • Academic Domain: Encompasses variables that directly relate to students' academic experiences • Environmental Domain: Includes factors occurring outside of the campus context that have a direct influence on MOC's engagement and success • Noncognitive Domain: Variables tend to be psychosocial in nature and capture students' affective and emotional responses with two important variables emerging as prominent in the literature: Sense of belonging and identity • Institutional Domain: Considers institutional structures and other characteristics that shape MOC's experiences and success in community colleges with three main variables commonly discussed in the literature:

					Institution type, student services, and faculty support • Social Domain: Variables related to students' social integration in the campus context. Social integration is an indicator of how connected a student is to the campus
Wood and Williams (2013)	Quantitative	Derived from Education Longitudinal Study, data were delimited to Black male students who attended public 2-year colleges. Only students with GPA data and who transitioned directly from high school were studied. Weighted sample of 39,737 students.	*Persistence*: Students who entered college and persisted to end of report period (for most students this was persistence into 2nd year)	Faculty Impact	Four logistic regression models employed with an additive block approach: • Model 1 – background variables; Model 2 – background and social variables; Model 3 – Background, social, and academic variables; Model 4 – background, social, academic, and environmental variables Explanatory Variable Effects on Persistence (for each level increase in explanatory variable): • Interaction with faculty: Increased persistence by 89.7% in Model 4 • Model 1 accounted for 7.3% of variance in persistence, Model 2 accounted for 10.5%, Model 3 accounted for 20.5%, and Model 4 accounted for 63.2%
Fairlie, Hoffmann, and Oreopoulos (2014)	Quantitative	Every student enrolled at De Anza College from fall quarter 2002 to spring quarter 2007 who were under 35 at time they entered sample. Some courses eliminated from sample for a total of 446,225 student-class observations. Each class then matched with corresponding instructor data with information on race, ethnicity, gender, and age	*Short-term*: Course outcomes (grades, credits received, course dropout behavior) *Long-term*: Degree completion and transfer rate	Faculty Impact	Short-term outcome findings: • Underrepresented minority students (UMS) 1.2-2.8% more likely to pass a class with underrepresented instructors • UMS were 2-2.9% less likely to drop out of classes with underrepresented instructors • UMS were 2.4-3.2% more likely to get a grade of B or higher with underrepresented instructors • African American students had particularly large and robust relative gains from being taught by a same-race instructor o 7.8% less likely to drop a course, 6.7% more likely to pass a course, and 9% more likely to receive a grade of B or higher • White students were 3.8% less likely to drop a course with a white instructor compared to an African American one Long-term outcome findings:

					• The relative probability of UMS obtaining an Associate's degree or vocational degree would increase by 1.5% if the share of minority instructors increased by one standard deviation
Sandoval-Lucero, Maes, and Klingsmith (2014)	Qualitative	Purposive sampling of Black and Latinx students at a community college with two campuses in a diverse suburban community in Southwestern United States. Looked at "successful" students with GPA of 2.5 or higher. 22 students total: 8 Black (all female) and 14 Latinx (8 females and 6 males).	*Student success*: Success in individual courses, retention from semester to semester, continuous enrollment, successful progress toward degree completion, and graduation	Psychosocial Factors & Faculty Impact	Three major themes that contributed to participants' success as students: • Relationships with faculty: The most common theme echoed by all students related to the accessibility of faculty and how easy it was to get help from them • Family support: Support from students' families was often cited as a large factor impacting their college success. The types of support varied from financial to moral to helping take on responsibilities at home • Campus engagement and support: Feeling that the campus was friendly and helpful as well as a sense that they fit in on campus was important to the students' success o 75% of students were part-time, so based on what the students expressed about the impact of support of faculty, it seemed that students relied on faculty heavily for a sense of connection on campus

*Numerical magnitudes of effect of variables not specified in findings in the article

Chapter 3

METHODOLOGY

The focus of this study is to determine the impact of having a higher percentage of African American instructors on the completion rate for different types of community college student cohorts at different California Community Colleges for six-year observed cohorts that begin in the fall of 2007 to fall of 2011. To begin this chapter, I provide my hypothesis of the effect of the explanatory variables of interest on the dependent variable for different types of student cohorts. I then discuss the models I employed based on my hypothesis, a description of the variables, and an overview of the data I used and the limitations and potential issues with it. I conclude with a brief summary of the chapter.

Hypothesis

There are several explanatory variables I could examine in my analyses, but, as stated previously, my focus is on the effect of an increased percentage of African American faculty on the completion rate of African American students. My general hypothesis is that higher percentages of African American faculty lead to higher completion rates for African American male students in California community colleges. My reasoning is based on the literature reviewed in the previous chapter that emphasize the importance of same-race instructors for students of color[33]. I also hypothesize that a higher percentage of African American administrators positively impacts completion rate for African American male students due to the influence administrators have at the institutional level to set policies and practices that help those students. Therefore, my null hypothesis is that higher African American faculty and administrator percentages have no effect on African American male student completion rates. I use this hypothesis to guide my

[33] Namely Bush and Bush (2010) and Fairlie, Hoffmann, and Oreopoulos (2014).

model, which isolates these factors while controlling for other causal factors that the literature show impact student success outcomes. I elaborate on this model in the next section.

Model Specification

This section presents a model of general factors that I expect drive differences in completion rate[34] for a student cohort. Based on the literature reviewed in the previous chapter, notably Harris and Wood's (2013) framework, I posit that there are four general groups of factors that influence the completion rate of a given cohort. The first group consists of variables pertaining to faculty and administrator characteristics, which are the primary focus of this study. The second group includes characteristics of all students at the college at the time the student cohort under examination began. This includes demographics and several pre-college factors. Institutional characteristics are the third group and include variables that are in the control of, or influenced directly by, institutional leadership or policies at a college. Lastly, the fourth group is macroeconomic characteristics. This last group consists of five dummy variables representing each of the cohort start years (2008-2011) after the excluded (base) year of 2007. It is especially important to account for these because the observed data straddles the Great Recession that began in 2008. A student's choice to remain in college is, in part, related to the opportunity cost of doing so in the form of employment opportunities. So, in better (worse) economic times, holding other factors constant, a marginal achieving student is more (less) likely to leave.

Equation (1) presents my model and accounts for the four groups of variables. This model forms the basis of a panel-data regression analysis that seeks to isolate the influence that higher percentages of African American faculty have on the completion rates of community college student cohorts of various types.

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[34] Moving forward for clarity purposes, I refer to the metric for completion/SPAR rate as simply the completion rate. For the definition of completion rate refer to the data section in this chapter.

(1) *Cohort Completion Rate = f (Faculty Admin Characteristics, Student Cohort Characteristics, Institutional Characteristics, Macroeconomic Characteristics)*.

Variables

Equation (1) lays out my model of the groups of factors expected to influence cohort completion rate. This section elaborates on the variables included in each group and why they are relevant to my study. I also provide the expected effects on the dependent variable of the explanatory variables of interest based on the reviewed literature. If no effect is stated, it was not discussed in the literature reviewed and remains uncertain.

Faculty and Administrator Characteristics

The characteristics of faculty and administrators are the primary group of variables of interest in this study. Equation (2) presents the specific variables included in this group. The variables include the percentage of full-time appointed faculty (both tenured and tenure track) and the percentage for each category that indicate African American as their single choice of race/ethnicity. I focus on African American administrator and faculty percentages due to my focus on African American male student completion rates[35]. Increases in the percentages of these variables are expected to positively impact completion rate for the various student cohorts examined.

(2) *Faculty Admin Characteristics = f (Faculty Full-Time Percentage, African American Faculty Full-Time Percentage, African American Faculty Part-Time Percentages, African American Admin Percentage)*

Student Cohort Characteristics

The student cohort characteristics include many variables that I refer to as pre-college factors. Variables in this group include demographic measures, full-time student percentage, and

[35] It is possible to look specifically at African American male percentages for faculty and administrators, but due to very low numbers of African American males in these roles, I choose to focus on both genders.

the percentage of Pell Grant recipients which is the only measure of low socioeconomic status in the data. Equation (3) shows the variables that fall under this category. In regard to the variables of interest, an increase in the percentage students aged 21-24 is expected to positively influence completion rate for African American males due to the literature that points to students who are younger performing better[36]. Therefore, I expect that increases in the percentages of the older age groups lead to lower completion rates. Full-time student percentage, I also hypothesize, will increase completion rates, again due to the literature stating that students enrolled full-time are more likely to achieve completion or success[37]. An increase in Pell Grant recipient percentage I expect decreases completion rate because of the previously reviewed literature that states that low socioeconomic status has negative impacts on student success for multiple reasons (See: Hagedorn, Maxwell, and Hampton, 2001; Wassmer, Moore, and Shulock, 2004)[38].

(3) *Student Cohort Characteristics = f (Female Percentage, Age 21-24 Percentage, Age 25-39 Percentage, Age 40 Plus Percentage, African American Percentage, Filipino Percentage, Latinx Percentage, Native American Percentage, Pacific Islander Percentage, White Percentage, Pell Grant Recipient Percentage, Full-Time Student Percentage)*

Important to note, though, is that the variables in this group do not just measure African American student characteristics. Due to the nature of the data collected, the student cohort characteristics measure the characteristics for the full student cohort in which African American students are a subset. Or, in other words, the student cohort characteristics measure the characteristics of all the students at the college that the African American cohort attends in the academic year that the cohort starts, and not the features of the African American cohort itself. It is important to keep this in mind when interpreting my results.

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[36] See: Hagedorn, Maxwell, and Hampton (2001) and Wassmer, Moore, and Shulock (2004)
[37] See: Mason (1998), Wassmer, Moore, and Shulock (2004), and Sandoval-Lucero, Maes, and Klingsmith (2014)
[38] Important to note is that even if the literature did not explicitly focus on socioeconomic status, it was often included in the analysis as a control variable.

Institutional Characteristics

Institutional characteristics include variables that are under the control of the college. These variables primarily pertain to the type of education delivery, with variables for the number of credit sections offered, average student enrollment in all credit sections, and whether instruction is delivered during the day, or night, or in a hybrid form of all or partial internet-based instruction. There is also a variable that measures the percentage of the cohort enrolled in California's Educational Opportunity Program Services (EOPS). EOPS offers academic tutoring and support only to qualified low-income students and requires a funding match for each EOPS-enrolled student from the college[39]. Due to the additional resources and support EOPS provides, I hypothesize that an increased percentage of enrollees will increase completion rate. Equation (4) shows the variables included in this group.

(4) *Institutional Characteristics = f (Number of Credit Sections, Avg. Enrollment Per Credit Section, Evening Credit Sections Percentage, Hybrid Credit Sections Percentage, Edu. Opportunities Prog. Enrollment Percentage)*

Macroeconomic Characteristics

The macroeconomic characteristics consist of five dummy variables for each of the cohort start years after the excluded base year of 2007. This is done, as stated previously, to account for the outside influence of the Great Recession on the outcomes of the community college student cohorts examined. Equation (5) presents the dummy variables for the cohort start years.

(5) *Macroeconomic Characteristics = f (2008 Cohort Start, 2009 Cohort Start, 2010 Cohort Start, 2011 Cohort Start)*

[39] The State of California established EOPS in 1968 "to encourage the enrollment of students handicapped by language, social, and economic disadvantages, and to facilitate the successful completion of their educational goals and objectives" (Education Code § 69641, Sec. 134, p. 2). For more information on the purpose and funding of EOPS, refer to California Education Codes § 69641 and § 69648.

Data Used

Table 2 at the end of this chapter offers descriptive statistics for all dependent and explanatory variables included in the panel-data regression analysis. The data include 540 observations from the 108 California Community Colleges for which data is available for the cohort fall-start years of 2007 through 2011. The data was obtained through the California Community Colleges Chancellor's Office (CCCCO) Data Mart and their Student Success Scorecard. The CCCCO's Data Mart[40] is an online platform that houses data that measure various outcomes as well as demographic data for faculty and students for the California Community College system. The data is publicly available, however, the platform itself is difficult to navigate and understand for a layperson, therefore, it is a largely untapped and unexamined data source. The Student Success Scorecard[41] utilizes the data from Data Mart to build a yearly summary of how the colleges in the system are doing in remedial instruction, job training programs, retention of students, and graduation and completion rates. The Scorecard also includes demographic data on race/ethnicity, gender, and age. While the Scorecard is easier to navigate and understand, it only provides a snapshot of the data available in Data Mart, so, I utilize both sources to help fill in gaps and get a more comprehensive understanding of the data and its implications for policy and practice.

The CCCCO defines the dependent variable (completion rate) as: "The percentage of first-time students with a minimum of six units earned who attempted any Math or English in the first three years and achieved any of the following outcomes within six years of entry: (1) Earned AA/AS or credit Certificate (Chancellor's Office approved), (2) transfer to a four-year institution (students shown to have enrolled at any four-year institution of higher education after enrolling at

[40] https://datamart.cccco.edu/DataMart.aspx
[41] See here for 2018 Scorecard: https://scorecard.cccco.edu/scorecard.aspx

a California community college), (3) achieved "Transfer Prepared" (student completed 60 UC/CSU transferable units with a GPA >= 2.0)" (CCCCO, n.d.).

The top four rows of Table 2 show the different ways I measure completion rates for the African American male student cohorts. The completion rates are measured for: (1) African American males overall, (2) African American males who are deemed economically disadvantaged due to receiving a California Community Colleges Board of Governor's Waiver or PELL grant, being a CalWorks or Workforce Investment Act participant, or being a Department of Social Services (TANF) client, (3) African American males who are academically unprepared to start community college because the first math or English course they took was not college-level, and (4) African American males who are both economically disadvantaged and academically unprepared.

Data Limitations

There are four general aspects of this definition of completion rate that are important to note as well as who is included in the data. First is that the data is only for first-time students who state one of the completion metrics as a goal[42]. Students enrolled in a community college outside of the California system are excluded from the cohort data as well as any students who have enrolled in the California community college system previously. Secondly, the coursework requirements state that first-time students must take six units within the first three years of enrollment and attempt a math or English course within the same timeframe. Therefore, students who may have financial, time, or other restraints that prevent them from achieving this requirement are not included. Thirdly, the definition states that the first-time students must attain one or more of the three outcomes listed in the previous section within a six-year timeframe in

[42] This requirement seeks to isolate students with intent to complete or transfer rather than all of the student population which would include students who may be taking one course or who do not have clearly articulated educational goals.

order to be considered as achieving completion. Lastly, first-time students are only followed at the college they begin at, meaning if a first-time student being tracked at one college transfers to a different California community college they are deemed as not achieving an outcome because they would now be counted at the new college as a non-first-time student.

Collinearity

In addition to the limitations of the definition and the students included in the data, there are also concerns of collinearity in the data. Collinearity arises when two independent variables are near perfect linear combinations of one another. When two variables are collinear, they explain a portion of the same variance in the dependent variable and therefore each variable on its own cannot independently predict the value of the dependent variable. To test for collinearity in my data, I ran a pairwise correlation (pwcorr) in Stata for my independent variables. Table 3 presents the correlation coefficients for my variables.

The coefficients range from -1 to +1, with -1 and +1 representing perfect collinear relationships. The closer to -1 or +1 the coefficient is, the more likely the variables are to be collinear in nature. There are three sets of variables shown in Table 3 that point to collinear relationships. The first is African American part-time faculty and African American full-time faculty, with a correlation coefficient of 0.92. This is a very strong collinear relationship that could be due to hiring practices that value diversity in both part-time and full-time faculty, or it could be because one of the African American faculty groups (full-time most likely) levies influence on who their colleges decide to hire and push for more African American instructors. The second set is African American student percentage and African American full-time faculty percentage which has a correlation coefficient of 0.83, another strong collinear relationship. This collinearity may be due to African American students seeking out colleges where there are more African American full-time faculty or it could be that the college is situated in an area with a

large population of African Americans that feeds into the college[43]. African American administrator percentage and African American part-time faculty percentage is the last set, with a correlation coefficient of 0.62. While this is a weaker collinear relationship than the previous two, it still has a value higher than the large majority of the other variable combinations and has important implications. The collinearity is most likely due to African American administrators having influence over institutional policies and hiring practices which lead to the hiring of more African American faculty. A similar relationship is seen between full-time African American faculty and African American administrators as well, with a correlation coefficient of 0.60. It is important to keep these collinear relationships in mind when discussing and understanding my findings because they can yield statistically insignificant results which are due to the collinearity. Therefore, I advise caution when interpreting the results for these variables.

Conclusion

This chapter presented my model, a description of the data and variables used, potential issues with the data, and my hypothesis of the effect of the variables of interest. I also presented the descriptive statistics for my variables and provided the definition of the dependent variable (completion rate) from the CCCCO. The next chapter will present my regression results including how I ran the regressions and what type they are. The fifth, and final, chapter will discuss my findings and their implications for policy and practice.

[43] Previous studies have shown that geography and proximity to home are significant factors in where students choose to go to college. Nora (2004), which is discussed in the previous chapter, is one of these studies.

Table 2: Descriptive Statistics of Dependent and Explanatory Variables
(540 Observations drawn from 108 CA Community Colleges and
Four Cohorts Starting Fall 2008, 2009, 2010, and 2011)

Variable Name	Mean	Std. Deviation	Minimum	Maximum
Dependent				
AAM_ Overall_Comp_Rate	37.96	13.13	0.00	100
AAM_Econ_DisAdvantage_Comp_Rate	36.95	13.76	0.00	100
AAM_Acad_UnPrepared_Comp_Rate	33.97	13.17	0.00	100
AAM_Acad_UnPrepared_Econ_DisAdvantage_Comp_Rate	33.52	14.04	0.00	100
Explanatory				
Faculty Admin Characteristics				
Faculty_Full_Time_Percentage	30.32	7.00	12.53	53.77
AfAm_Faculty_Full_Time_Percentage	6.59	8.09	0.00	59.68
AfAm_Faculty_Part_Time_Percentage	5.28	6.65	0.00	45.57
AfAm_Admin_Percentage	10.34	12.01	0.00	100
Student Cohort Characteristics				
Female_Percentage	53.14	6.72	18.77	69.30
Age21to24_Percentage*	31.36	6.29	4.41	60.93
Age25to39_Percentage	27.40	5.14	9.90	53.39
Age40Plus_Percentage	14.84	6.92	5.00	44.95
African_American_Percentage**	7.10	7.01	0.19	44.40
Filipino_Percentage	2.79	2.46	0.10	17.60
Latinx_Percentage	41.36	16.26	13.50	90.85
Native_American_Percentage	0.60	0.92	0.00	6.80
Pacific_Islander_Percentage	0.52	0.55	0.00	5.45
White_Percentage	29.91	15.50	1.30	75.80
Pell_Grant_Recipient_Percentage	21.84	10.02	3.83	53.69
Full_Time_Student_Percentage	48.26	9.52	10.41	76.09
Institutional Characteristics				
Number_Credit_Sections	1389.50	770.85	254.00	4016.00
Avg_Enrollment_Per_Credit_Section	27.59	5.20	13.35	42.82
Evening_Credit_Section_Percentage***	26.81	5.40	12.03	43.94
Hybrid_Credit_Section_Percentage	15.92	8.61	0.00	66.38
Educ_Opp_Prog_Enroll_Percentage	4.15	2.25	0.92	13.82
Macroeconomic Characteristics				
2008_Cohort_Start****	0.2	0.40	0.00	1.00
2009_Cohort_Start	0.2	0.40	0.00	1.00
2010_Cohort_Start	0.2	0.40	0.00	1.00
2011_Cohort_Start	0.2	0.40	0.00	1.00

Excluded categories: *less than age 21, **mixed race/ethnicity and decline to state, ***percentage of all sections offered in daytime, and ****cohort began in fall of 2007

Table 3: Correlation Coefficients for Independent Variables
(Continued on Next Page)

Variables	FTF %	AA_FTF %	AA_PTF %	AA_Admin %	Female %	21-24yrs %	25-39yrs %	40yrs+_ %	AA %	Filip %	Latinx %	NatAm %
FTF%	1.00											
AA_FTF%	0.00	1.00										
AA_PTF%	-0.03	0.92	1.00									
AA_Admin%	0.00	0.60	0.62	1.00								
Female%	-0.07	0.34	0.35	0.28	1.00							
21-24yrs%	0.09	0.07	0.05	0.09	0.32	1.00						
25-39yrs%	-0.05	0.20	0.21	0.13	-0.30	-0.50	1.00					
40yrs+_%	-0.11	-0.07	-0.09	-0.12	-0.39	-0.79	0.42	1.00				
AA%	-0.06	0.83	0.85	0.55	0.20	0.00	0.34	-0.01	1.00			
Filip%	0.14	0.02	0.02	0.12	0.01	0.17	-0.14	-0.15	0.00	1.00		
Latinx%	0.10	0.10	0.13	0.05	0.14	0.17	-0.05	-0.26	-0.02	-0.21	1.00	
NatAm%	-0.16	-0.22	-0.19	-0.19	-0.02	-0.23	0.13	0.11	-0.14	-0.21	-0.17	1.00
PacIsl%	0.05	0.07	0.05	0.09	-0.01	-0.05	0.18	-0.03	0.14	0.27	-0.25	0.05
White%	-0.19	-0.49	-0.53	-0.39	-0.17	-0.22	-0.07	0.29	-0.40	-0.21	-0.65	0.36
Pell%	-0.01	0.01	0.08	0.08	0.45	0.30	-0.10	-0.42	0.11	-0.21	0.38	0.07
FTS%	0.14	-0.19	-0.16	-0.12	0.24	0.32	-0.41	-0.47	-0.18	0.02	0.09	0.11
#_CreditSec	0.10	-0.13	-0.13	-0.06	-0.02	0.28	-0.21	-0.19	-0.15	0.03	0.02	-0.13
Avg_Enroll_Per_CreditSec	0.11	0.25	0.24	0.14	0.19	0.34	-0.19	-0.37	0.08	0.00	0.33	-0.36
Eve_CreditSec%	-0.06	0.30	0.30	0.22	0.29	0.14	0.10	-0.01	0.23	0.17	-0.02	-0.16
Hybrid_CreditSec%	-0.15	-0.24	-0.25	-0.19	-0.37	-0.41	0.32	0.46	-0.07	-0.16	-0.13	0.22
EOPS_Enroll%	0.08	0.02	0.02	0.02	-0.44	-0.43	0.32	0.45	0.04	-0.08	-0.02	0.11
2008 Start	-0.08	0.00	0.04	-0.02	-0.01	0.08	-0.01	0.02	0.02	0.01	-0.03	0.00
2009 Start	-0.02	0.00	0.01	-0.03	0.00	0.03	0.00	-0.02	0.00	0.01	0.01	-0.01
2010 Start	0.06	0.00	0.00	0.01	0.02	-0.05	0.00	-0.03	-0.03	0.02	0.04	-0.02
2011 Start	0.05	0.00	-0.01	0.02	0.02	-0.14	0.03	-0.02	-0.05	-0.05	0.06	0.02

Table 3: Correlation Coefficients for Independent Variables (Cont.)

Variables	PacIsl %	White %	Pell %	FTS %	#_Credit Sec	Avg_Enroll_Per _CreditSec	Eve_CreditSec %	Hybrid_Credit Sec%	EOPS_ Enroll %	2008 Start	2009 Start	2010 Start
PacIsl%	1.00											
White%	-0.01	1.00										
Pell%	-0.14	-0.15	1.00									
FTS%	0.00	-0.01	0.38	1.00								
#_CreditSec	-0.07	-0.08	-0.02	0.27	1.00							
Avg_Enroll_Per_CreditSec	-0.11	-0.47	0.02	0.18	0.26	1.00						
Eve_CreditSec%	0.09	-0.23	-0.01	-0.27	-0.08	-0.04	1.00					
Hybrid_CreditSec%	-0.02	0.32	-0.15	-0.22	-0.17	-0.25	-0.41	1.00				
EOPS_Enroll%	0.05	0.05	-0.31	-0.20	-0.29	-0.18	-0.17	0.30	1.00			
2008 Start	-0.03	0.03	0.11	-0.09	0.06	-0.14	0.11	0.03	-0.11	1.00		
2009 Start	-0.05	0.00	0.00	0.00	0.01	0.10	-0.03	0.03	0.00	-0.25	1.00	
2010 Start	0.00	-0.03	-0.07	0.11	-0.03	0.13	-0.10	0.00	0.08	-0.25	-0.25	1.00
2011 Start	0.10	-0.06	-0.11	0.10	-0.08	0.17	-0.19	-0.02	0.14	-0.25	-0.25	-0.25

Chapter 4

REGRESSION ANALYSIS

The previous chapter laid out the methodology and data used for my analyses as well as the limitations and potential issues that arise with the data. In this chapter I begin by discussing the type of regression I used and why it is the most appropriate type given the data. Then I discuss how I tested for heteroscedasticity and multicollinearity and how these findings impact my data and results. I conclude with a discussion of my regression results and the statistically significant variables that impact African American male completion rates in the California Community Colleges.

Regression Method

Several factors were important to consider when determining which type of regression was most appropriate for my data. Since the primary focus of this thesis is to assess the impact of policy variables, it was important to control for other factors that could potentially impact completion rate that are not the policy variables. The previous chapter's model accounts for these factors by including both college-specific and time-specific fixed effects. It is possible to include these effects because the data set is panel data, however, testing is required to determine the most appropriate regression estimation.

To begin, I ran a test-case OLS regression using overall African American male completion rate as the dependent variable with just time fixed effects. I checked for heteroscedasticity by running the STATA-provided Breusch-Pagan/Cook-Weisburg test as outlined in Baum (2001) and the results lead me to reject the null hypothesis of its absence ($p = 0.001$). I utilized the Wooldridge Test (Drukker, 2003) to test for autocorrelation in the panel data and the results indicated that the null hypothesis cannot be rejected ($p = 0.88$), meaning there is no autocorrelation present.

As discussed in Chapter 3, there were also concerns over multicollinearity in the data. Multicollinearity occurs when there are two or more explanatory variables that are near perfect linear combinations of each other. As the multicollinearity increases, the estimated coefficients become more unstable and the standard errors become inflated[44]. The presence of multicollinearity makes it difficult to determine what each individual explanatory variable's effect is on the dependent variable. I tested for multicollinearity by calculating the variation inflation factor (VIF) for my regression by running the STATA-provided *estat vif* command. VIFs with a value of 5 or greater suggest the presence of multicollinearity. There were several variables with VIF values over 5: African American full-time faculty percentage (VIF = 8.04), African American part-time faculty percentage (VIF = 9.67), African American student percentage (VIF = 9.63), Asian student percentage (VIF = 8.80), White student percentage (VIF = 21.60), and Latinx student percentage (VIF = 21.48). Given these values, it is evident there is collinearity among variables, the most concerning of which, for my analyses, being the African American faculty variables. Therefore, I ran two separate regressions to help isolate the effects, one with both variables and one set with just full-time African American faculty percentage.

However, there were a few more diagnostics I ran before coming to my final results. I performed the appropriate Hausman Test (Cameron and Trivedi, 2010) which compares the use of a random-effects panel data estimation to a fixed-effects one and indicated that random-effects were more appropriate ($p = 0.44$). This test is performed on panel data because a primary concern with these types of models is that there are some unmeasured variables that are correlated with one or more of the explanatory variables which causes the coefficients to be biased.

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[44] University of California, Los Angeles, Institute for Digital Research and Education (n.d.). Regression with Stata chapter 2 – Regression diagnostics. Retrieved from https://stats.idre.ucla.edu/stata/webbooks/reg/chapter2/stata-webbooksregressionwith-statachapter-2-regression-diagnostics/

Random-effects models are used if there is no (or little) covariation between the error term and the explanatory variables. The Hausman Test checks a more consistent model (fixed-effects) against a more efficient model (random-effects) to ensure that the random-effects model also gives consistent results (Mehmetoglu and Jakobsen, 2017). Given the finding of heteroscedasticity and the appropriateness of using random-effects estimation, I ran the regressions with robust standard errors, clustered by district number[45] using the STATA-provided *xtreg* command. The following section describes the results of the two regressions.

Regression Results

Tables 4 and 5, at the end of this chapter, present the regression results using four different types of African American male cohorts as the dependent variables. The four different types of cohorts represent an overall measure for African American males, a measure for African American males who come from economically disadvantaged backgrounds, a measure for African American males deemed unprepared for college, and a measure for African American males who are both economically disadvantaged and academically unprepared. The aim with the different types of cohorts examined is to attempt to control for, as much as is feasible, factors that may impact completion rates that are not policy variables. This is important because the previously reviewed literature states that academic preparation (Hagedorn, Maxwell, and Hampton, 2001; Wassmer, Moore, and Shulock, 2004; and Perrakis, 2008) and socioeconomic status (Harris and Wood, 2013 and Wood and Williams, 2013) play an important role in student outcomes.

[45] This was done because colleges within the same district number are likely to have the same policies and procedures that may impact the dependent variables and change over time, but not between the colleges. For more see: Mehmetoglu, M. & Jakobsen, G. (2017). *Applied statistics using stata: A guide for the social sciences* (pp. 250-252). London, England: Sage.

An important difference between the tables is that in Table 5 I dropped the African American part-time faculty percentage variable because of the previous diagnostics that showed that it is suffers from multicollinearity with other explanatory variables used in this regression. Such multicollinearity raises the standard error for the calculated regression coefficient and biases the detected statistical significance of African American full-time faculty percentage downward – which is why I chose to drop the other variable. Looking at the tables, the top of each cell reports the regression coefficient which represents the percentage change in the completion rate of column's corresponding cohort expected from a one-unit change in the respective dependent and explanatory variables. The variation in the effects by the different types of African American male cohorts is seen by reading across any given row. My regressions are two-tailed tests, so any probability equal to or less than 0.1 is considered statistically significant with a 90 percent degree of confidence that the detected effect is not due to chance and is different than zero. In the following subsections I discuss the statistically significant results of interest from Tables 4 and 5.

Faculty and Administrator Characteristics

As stated previously, the primary focus of this thesis is on policy variables, or variables within the direct control of the college. These variables are the faculty and administrator characteristics listed at the top of Tables 4 and 5. In Table 4 there are few statistically significant results in this category of variables. Referring to the first row in Table 4, a one-percentage-point increase in full-time faculty percentage (all races and tenured or tenured track)[46], leads to a decrease in completion rates for African American males who are economically disadvantaged and those who are both economically disadvantaged and academically unprepared by 0.229% and 0.235%, respectively. In Table 5 the results for full-time faculty percentage are very similar. The

[46] A one-percentage-point increase in this variable through the same reduction of faculty that are part-time status.

statistically significant results are for the same two subgroups (economically disadvantaged and economically disadvantaged and academically unprepared) with a one-percentage-point increase in full-time faculty decreasing completion rates of the two subgroups by 0.228% (economically disadvantaged) and 0.233% (economically disadvantaged and academically unprepared). These findings counter the body of literature that states that hiring more full-time faculty will improve student outcomes[47]. This could be for a variety of reasons, and I cannot know for sure which is the cause, but my theory is that the full-time status of faculty itself, as measured by the percentage of full-time faculty, is not the main factor impacting African American male student outcomes. Rather, it is the extent to which the full-time faculty are engaging and interacting with their students (Bush and Bush, 2010; Sandoval-Lucero, Maes, and Klingsmith, 2014) and the proportion of the full-time faculty that are of the same race as the students that produce role model effects or higher cultural competency (Fairlie, Hoffmann, and Oreopolous, 2014) that impacts completion rates. The results in the following two paragraphs examine the same-race linkage and offer further support for this theory.

Moving down on Table 4 to the African American faculty and administrator variables, a one-percentage-point increase in African American full-time faculty increases completion rates for African American males who are academically unprepared by 0.338% and 0.364% for African American males who are economically disadvantaged and academically unprepared. The only statistically significant result for the part-time African American faculty variable is for African American males overall with a one-percentage-point increase in African American part-time faculty decreasing the completion rate by 0.245%. A one-percentage-point increase in

[47] This has been conventional wisdom for some time; however, some newer literature is beginning to challenge this. For more on the conventional wisdom see: Xu, D. (2019). Academic performance in community colleges: The influences of part-time and full-time instructors. *American Educational Research Journal*, *56*(2), 368–406. https://doi.org/10.3102/0002831218796131

African American administrators decreased the completion rate for African American males overall by 0.199%, which was the only statistically significant result. In Table 5, I dropped the part-time African American faculty percentage variable due to the above limited findings that countered my hypotheses as well as the diagnostic results previously discussed that showed collinearity.

The results in Table 5 for the full-time African American faculty percentage variable differ a good amount from Table 4, which suggests that dropping the African American part-time faculty percentage variable was appropriate. After dropping that variable, African American full-time faculty percentage becomes significant for all four subgroups of African American male students and all of the effects are positive. A one-percentage-point increase in African American full-time faculty leads to 0.231% (overall), 0.299% (economically disadvantaged), 0.267% (academically unprepared), and 0.310% (economically disadvantaged and academically unprepared) increases in completion rates. However, the African American administrator percentage is still only significant for African American males overall and remains negative, with a one-percentage-point increase in this variable leading to a 0.102% decrease in completion rate. This effect also counters my hypotheses and previously reviewed literature, namely Bush and Bush (2010), that state that having African American representation in higher levels of the institution will positively impact completion rates for African American males. Again, I cannot know for sure why this is the case, but one explanation might be that colleges with higher percentages of African American administrators also have higher percentages of African American male students and, due to the widespread opportunity gaps that exist for this group of students[48], there is little that can be done at this level to improve student outcomes.

[48] That are impacted not just by the community college experience and environment, but also by pre-college factors that were previously discussed.

Student Cohort Characteristics

The next group of variables in the tables are the student cohort characteristics and there were some statistically significant results of interest across both tables. Age groups emerged as significant variables in both analyses and had negative impacts on African American male completion rates. The age groups included in the analyses are meant to capture "non-traditional" aged students who are not between the ages of 18-21, which are who the research show is likely to perform comparatively worse. In Table 4, a one-percentage-point increase in students aged 21-24 decreases African American male completion rates by 0.296% (overall) and 0.280% (economically disadvantaged). In Table 5, a one-percentage-point increase in this age group decreases African American male completion rates by 0.284% (overall) and 0.278% (economically disadvantaged). Moving down to the 25-39 age group, in Table 4, a one-percentage-point increase in students in this age group leads to decreases in African American male completion rates by 0.395% (overall), 0.457% (economically disadvantaged), and 0.272% (academically unprepared). In Table 5, the same increase in this age group leads to a reduction in completion rate for African American males by 0.416% (overall), 0.458% (economically disadvantaged), and 0.272% (academically unprepared), which are very similar results to Table 4. The last age group is students who are aged 40 or older. A one-percentage-point increase in this age group led to decreases in African American male completion rates overall by 0.357% (Table 4) and 0.339% (Table 5) and for African American males who are economically disadvantaged by 0.324% (Table 4) and 0.323% (Table 5). These findings align with previously reviewed literature that state that younger students, or "traditionally" aged students between 18-21, perform better than older students at this level[49].

[49] See: Hagedorn, Maxwell, and Hampton (2001); Wassmer, Moore, and Shulock (2004); Harris and Wood (2013).

The percentage of African American students (both male and female) also had an effect on African American male completion rates across all subgroups. A one-percentage-point increase in the African American student population decreases completion rates for African American males overall by 0.437% (Table 4) and 0.415% (Table 5), for those that are economically disadvantaged by 0.401% (Table 4) and 0.411% (Table 5), for those that are academically unprepared by 0.271% (Table 4) and 0.333% (Table 5), and for those that are economically disadvantaged and academically unprepared by 0.376% (Table 4) and 0.424% (Table 5). This is another interesting set of findings because it indicates that colleges with higher percentages of African American students had lower completion rates for African American males. This counters assertions from the literature such as Nora (2004) that emphasize sense of belonging and connection with other African American students on campus as significant in positively impacting student success. However, these findings may be getting at what Harris and Wood (2013) state about societal perceptions of men of color shaping their outcomes. These perceptions are not limited to non-white people or faculty and could pervade within the African American male student population studied here. Or, they could be aligning with Bush and Bush's (2010) findings that African American male students stated they had not encountered peers in college that could help them adjust or navigate college which would have been instrumental in their success.

Pell Grant recipient percentage, which is a measure of low socioeconomic status, was also statistically significant for all of the African American male subgroups in both tables aside from those who are both economically disadvantaged and academically unprepared. In Table 4, a one-percentage-point increase in Pell Grant recipients decreased completion rates for African American males by 0.228% (overall), 0.202% (economically disadvantaged), and 0.124% (academically unprepared). In Table 5, the same increase in this variable decreased African

American male completion rates by 0.230% (overall), 0.202% (economically disadvantaged), and 0.121% (academically unprepared). This is confirmation that students from low socioeconomic backgrounds are less likely to achieve completion or success in community colleges[50].

The last statistically significant results in this category of variables are for the percentage of full-time enrolled students. A one-percentage-point increase in full-time student percentage increases completion rates for African American males who are economically disadvantaged by 0.148% in both Tables 4 and 5 and for those who are economically disadvantaged and academically unprepared by 0.142% (Table 4) and 0.144% (Table 5). These results reaffirm findings in Hagedorn, Maxwell, and Hampton's (2001) and Wassmer, Moore, and Shulock's (2004) studies that students enrolled full-time are more likely to achieve completion.

Macroeconomic Characteristics

The last group of statistically significant variables was the macroeconomic characteristics. This group consists of five dummy variables for each of the cohort start years after the excluded base year of 2007. As outlined in previous chapters, this was done to determine the degree of influence that years drawn from before, during, and after the Great Recession (which occurred from 2007 to 2009) had on student outcomes. Of all of the variables included in my analyses, this group had the biggest effects while maintaining statistical significance.

Starting with the cohort that began in 2008, compared to the 2007 cohort, African American males who were economically disadvantaged had a decrease in completion rate by 2.536% in Table 4 and 2.573% in Table 5. For African American males who were economically disadvantaged and academically unprepared in the same cohort year (2008) the completion rate decreased by 1.439% in Table 4 and 1.620% in Table 5. This was the only cohort that didn't have statistically significant variables across the board and also had the smallest effects.

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[50] See: Hagedorn, Maxwell, and Hampton (2001) and Harris and Wood (2013).

Moving to the cohort that began in 2009, in Table 4 the completion rate declined by 3.808%-5.235%. The completion rate declined by 3.913%-5.258% in Table 5 for this cohort. The cohort that began in 2010 appears to have been negatively impacted the most with declines in completion between 4.357%-5.665% in Table 4 and 4.436%-5.682% in Table 5. The last cohort, which began in 2011, still had decreases in completion rate across the subgroups compared to the base year of 2007, but the size of the effects begins to shrink some. In Table 4, the completion rate decreased between 3.149%-5.016% and in Table 5 decreased between 3.209%-5.027%. In all of the cohorts from 2009-2011, the biggest decreases were seen for African American males who were economically disadvantaged.

Conclusion

This chapter presented my regression method, diagnostics, and the findings of my regression analyses. One regression included all of the variables outlined in my model chapter and the other dropped part-time African American faculty percentage due to the diagnostics that showed collinearity with full-time African American faculty percentage. Dropping this variable was appropriate as it led to more statistically significant results with higher magnitudes of effects for the faculty and administrator characteristics in the second regression. These results led me to reject my null hypothesis that higher percentages of African American faculty and administrators have no effect on completion rates for African American males. I also found statistically significant results that were consistent across both models and only varied slightly in magnitudes that were not faculty and administrator characteristics. Important to note, though, is that there was an entire group of variables, the institutional characteristics, that were statistically insignificant in both regressions. This is a surprising and interesting finding that has important policy implications for the California Community Colleges and their leadership. I discuss these

implications as well as those for the other statistically significant variables along with my concluding thoughts in the following, final chapter.

Table 4: Regression^ Results Using Completion Rate of Various Types of African American Male Students as Dependent Variable

	Dependent Variable			
Explanatory Variable	**Overall_ Comp_Rate**	**Econ_DisAdv Comp_Rate**	**Acad_UnPrep _Comp_Rate**	**Econ_DisAdv _Acad_Unprep _Comp_Rate**
Faculty Admin Characteristics				
Faculty_Full_Time_Percentage	-0.159	-0.229**	-0.156	-0.235**
	(0.108)	(0.109)	(0.106)	(0.113)
AfAm_Faculty_Full_Time_Percentage	0.260	0.310	0.338**	0.364**
	(0.177)	(0.207)	(0.144)	(0.168)
AfAm_Faculty_Part_Time_Percentage	-0.245*	-0.029	-0.179	-0.140
	(0.144)	(0.174)	(0.137)	(0.167)
AfAm_Admin_Percentage	-0.199**	-0.080	-0.098	-0.090
	(0.081)	(0.056)	(0.067)	(0.073)
Student Cohort Characteristics				
Female_Percentage	0.077	-0.009	0.143	0.115
	(0.089)	(0.102)	(0.108)	(0.123)
Age21to24_Percentage	-0.296***	-0.280***	-0.141	-0.170
	(0.097)	(0.107)	(0.132)	(0.134)
Age25to39_Percentage	-0.395***	-0.457**	-0.272*	-0.284
	(0.146)	(0.186)	(0.164)	(0.176)
Age40Plus_Percentage	-0.357**	-0.324**	-0.144	-0.151
	(0.141)	(0.160)	(0.179)	(0.174)
African_American_Percentage	-0.437***	-0.401**	-0.271**	-0.376***
	(0.154)	(0.191)	(0.128)	(0.141)
Asian_Percentage	0.020	0.091	0.083	0.022
	(0.103)	(0.134)	(0.116)	(0.144)
Filipino_Percentage	0.151	0.005	0.484	0.350
	(0.286)	(0.419)	(0.331)	(0.410)
Latinx_Percentage	-0.024	0.028	0.079	-0.008
	(0.096)	(0.126)	(0.110)	(0.123)
Native_American_Percentage	-0.345	-0.306	0.270	0.263
	(0.508)	(0.659)	(0.594)	(0.698)
Pacific_Islander_Percentage	-1.014	-0.584	-0.338	-0.135
	(0.989)	(1.010)	(1.032)	(1.043)
White_Percentage	-0.050	0.019	0.053	-0.024
	(0.114)	(0.139)	(0.118)	(0.124)
Pell_Grant_Recipient_Percentage	-0.228***	-0.202**	-0.124**	-0.094
	(0.065)	(0.089)	(0.059)	(0.072)
Full_Time_Student_Percentage	0.075	0.148**	0.093	0.142*
	(0.058)	(0.062)	(0.072)	(0.082)
Institutional Characteristics				
Number_Credit_Sections	0.0002	-0.0002	0.0007	0.0004
	(0.0005)	(0.0005)	(0.0005)	(0.0006)
Avg_Enrollment_Per_Credit_Section	-0.041	0.008	-0.066	0.031
	(0.084)	(0.102)	(0.095)	(0.104)
Evening_Credit_Section_Percentage	-0.112	-0.096	-0.170	0.176
	(0.139)	(0.163)	(0.133)	(0.156)
Hybrid_Credit_Section_Percentage	0.023	0.069	0.024	0.071
	(0.052)	(0.080)	(0.059)	(0.082)
Educ_Opp_Prog_Enroll_Percentage	-0.002	-0.003	0.030	0.030
	(0.017)	(0.018)	(0.025)	(0.025)
Macroeconomic Characteristics				

2008_Cohort_Start	-1.031	-2.536***	-1.174	-1.439*
	(0.972)	(0.912)	(0.923)	(0.862)
2009_Cohort_Start	-4.808***	-5.235**	-3.808**	-3.808*
	(1.832)	(2.214)	(1.885)	(0.847)
2010_Cohort_Start	-4.400***	-5.665***	-4.357***	-5.479***
	(1.294)	(1.378)	(1.190)	(1.126)
2011_Cohort_Start	-3.655***	-5.016***	-3.149**	-4.020***
	(0.965)	(1.048)	(1.426)	(1.329)
Constant	78.094***	72.624***	44.920***	51.307***
	(9.746)	(14.537)	(13.277)	(15.201)

^ Using STATA “xtreg” command with random effects, clustered by district number, using robust standard errors.
Statistical Significance in Two-Tailed Test: ***99% +, **95 to 98.9%, and *90 to 94.9%.

Table 5: Regression^ Results Using Completion Rate of Various Types of African American Male Students as Dependent Variable (After Dropping African American Part-Time Faculty Variable)

	Dependent Variable			
Explanatory Variable	**Overall_ Comp_Rate**	**Econ_DisAdv Comp_Rate**	**Acad_UnPrep _Comp_Rate**	**Econ_DisAdv _Acad_Unprep _Comp_Rate**
Faculty Admin Characteristics				
Faculty_Full_Time_Percentage	-0.159	-0.228**	-0.153	-0.233**
	(0.104)	(0.110)	(0.104)	(0.113)
AfAm_Faculty_Full_Time_Percentage	0.231*	0.299*	0.267**	0.310**
	(0.129)	(0.162)	(0.115)	(0.124)
AfAm_Admin_Percentage	-0.102**	-0.081	-0.102	-0.094
	(0.051)	(0.057)	(0.070)	(0.074)
Student Cohort Characteristics				
Female_Percentage	0.042	-0.012	0.125	0.101
	(0.100)	(0.111)	(0.115)	(0.130)
Age21to24_Percentage	-0.284***	-0.278***	-0.131	-0.162
	(0.094)	(0.106)	(0.130)	(0.133)
Age25to39_Percentage	-0.416***	-0.458**	-0.272*	-0.284
	(0.145)	(0.185)	(0.161)	(0.173)
Age40Plus_Percentage	-0.339**	-0.323**	-0.140	-0.148
	(0.141)	(0.161)	(0.180)	(0.175)
African_American_Percentage	-0.415***	-0.411*	-0.333***	-0.424**
	(0.152)	(0.210)	(0.128)	(0.168)
Asian_Percentage	0.019	0.090	0.083	0.022
	(0.105)	(0.135)	(0.116)	(0.144)
Filipino_Percentage	0.097	0.007	0.491	0.356
	(0.296)	(0.418)	(0.339)	(0.414)
Latinx_Percentage	-0.016	0.028	0.080	-0.007
	(0.098)	(0.125)	(0.110)	(0.122)
Native_American_Percentage	-0.316	-0.309	0.228	0.232
	(0.490)	(0.679)	(0.605)	(0.720)
Pacific_Islander_Percentage	-0.876	-0.574	-0.240	-0.060
	(1.001)	(1.040)	(1.054)	(1.088)
White_Percentage	-0.022	0.020	0.063	-0.017
	(0.116)	(0.137)	(0.117)	(0.120)
Pell_Grant_Recipient_Percentage	-0.230***	-0.202**	-0.121**	-0.092
	(0.064)	(0.090)	(0.060)	(0.073)
Full_Time_Student_Percentage	0.085	0.148**	0.095	0.144*
	(0.061)	(0.063)	(0.074)	(0.084)
Institutional Characteristics				
Number_Credit_Sections	0.0001	-0.0002	0.0007	0.0004
	(0.0005)	(0.0005)	(0.0005)	(0.0006)
Avg_Enrollment_Per_Credit_Section	-0.056	0.008	-0.070	0.028
	(0.083)	(0.102)	(0.094)	(0.104)
Evening_Credit_Section_Percentage	-0.104	-0.097	-0.171	-0.176
	(0.145)	(0.163)	(0.138)	(0.159)
Hybrid_Credit_Section_Percentage	0.016	0.071	0.034	0.079
	(0.047)	(0.081)	(0.055)	(0.084)
Educ_Opp_Prog_Enroll_Percentage	-0.007	-0.003	0.027	0.028
	(0.018)	(0.019)	(0.024)	(0.024)
Macroeconomic Characteristics				

2008_Cohort_Start	-1.295	-2.573**	-1.404	-1.620*
	(1.118)	(1.020)	(1.058)	(0.972)
2009_Cohort_Start	-4.955***	-5.258**	-3.941**	-3.913*
	(1.811)	(2.176)	(1.875)	(2.019)
2010_Cohort_Start	-4.436***	-5.682***	-4.448***	-5.552***
	(1.300)	(1.377)	(1.196)	(1.089)
2011_Cohort_Start	-3.716***	-5.027***	-3.209**	-4.069***
	(1.005)	(1.060)	(1.442)	(1.334)
Constant	77.708***	72.698***	44.944***	51.341***
	(9.408)	(14.550)	(13.147)	(15.137)

^ Using STATA “xtreg” command with random effects, clustered by district number, using robust standard errors.
Statistical Significance in Two-Tailed Test: ***99% +, **95 to 98.9%, and *90 to 94.9%.

Chapter 5

CONCLUSION AND RECOMMENDATIONS

This purpose of this thesis was to identify the type of relationship (positive, negative, or none) between a California community college with higher percentages of African American faculty or administrators (the policy variables) and the community college's African American male completion rate. The results of my regressions, as discussed in the previous chapter, indicate that the strongest and most significant positive relationship exists between African American full-time faculty and African American male students. In this chapter I briefly summarize the previous four chapters and revisit my initial research question and how my regression results held up to it. Then, I provide policy implications and recommendations based on these results and conclude with the limitations of my research, where future research could go, and a note about the unique time in which this thesis was written and the implications of that.

Summary of Chapters

The preceding chapters in this thesis set the stage for my research question, discussed the previous research on this topic, established a model for my regressions based on the research, and presented my results. The first chapter, my introduction, provided contextual information on why this particular student group, community college system, and state were ideal to examine my research question. I provided figures that illuminated the racial/ethnic achievement gap that persists from the K-12 level into the community college level. I also discussed recent reforms in the California Community Colleges system, such as Assembly Bill 705, that are aiming to increase student success and completion. I touched on how the K-12 system ties into African American male student achievement and concluded with an explanation of how higher rates of African American male completion and education positively impact them and society as a whole.

The second chapter of this thesis was a literature review organized around three key themes of explanatory variables: academic preparedness, psychosocial factors, and faculty impact. I used Harris and Wood's (2013) review of published literature about men of color in community colleges as my conceptual framework to organize the literature. The first theme, academic preparedness, included literature that states that high school performance and preparation for college are the strongest predictors of student success in community colleges. The second theme, psychosocial factors, included literature that examines how students' psychosocial needs and their perception of the college meeting those needs impacts their senses of belonging on campus and perceived support, with higher levels leading to higher rates of student success. The last theme, faculty impact, is the focus of this thesis. This theme included literature that specifically looks at how faculty practices and actions as well as racial/ethnic composition influence underrepresented minority student success.

In the third chapter I began by presenting my hypothesis for the variables of interest (African American faculty and administrator percentages), which stated that higher percentages of these variables lead to higher rates of completion for African American male students. Following my hypothesis, I laid out my model which consisted of four general groups of factors expected to influence completion rates of a given cohort: faculty and administrator characteristics, student cohort characteristics, institutional characteristics, and macroeconomic characteristics. I also provided hypotheses of the effects of variables I expected to have an influence on student success based on the literature. Lastly, I detailed the nature of how the data was collected and the data limitations and issues such as the presence of collinearity.

The fourth chapter presented the results of my two regressions. I began with the diagnostics I ran in order to determine which type of regression method to use and concluded that I should run two separate regressions, one with both part-time and full-time African American

faculty percentage and one with just full-time, due to the collinearity shown between the two variables. The results in Tables 4 and 5 reaffirmed that dropping part-time African American faculty percentage was appropriate as it rendered more significant results in Table 5. Of the policy variables of interest, African American full-time faculty percentage was the only consistent variable across the different African American male student groups that had an effect. Under the student cohort characteristics category, the variables that maintained significance across the two regressions were the age variables, which were meant to capture "nontraditional" aged students, the percentage of African American students overall on campus, and Pell Grant recipient percentage, which is a measure of low socioeconomic status. Interestingly, the institutional characteristics were insignificant across both tables. Some of the largest effects, and most significant, were the macroeconomic characteristics, which consisted of five dummy variables for each of the cohort start years after the excluded base year of 2007. This was done, as previously stated, to determine the degree of impact the Great Recession from 2007-2009 had on student outcomes. Throughout the chapter I also discussed how these results held up to the findings in the reviewed literature and the implications of that. The following section discusses my initial research question and how my results held up to it.

Revisiting My Research Question

My initial research question aimed to determine what impact institutional (or policy) variables have on the completion rates of African American males in California community colleges, specifically focusing on faculty and administrator characteristics. Interestingly, my regression results showed that only full-time African American faculty percentage had a positive impact on African American male completion rates across the four different subgroups. The strength of these relationships became stronger after dropping the part-time faculty variable (as seen in Table 5). Another interesting finding was that full-time faculty percentage exerted a

negative influence on African American male completion rates for those who were economically disadvantaged and those who were both economically disadvantaged and academically unprepared. As discussed in the previous chapter, this counters existing literature and conventional wisdom that asserts that more full-time faculty increases student success (Xu, 2019). However, I hypothesize that this finding reaffirms the previously reviewed literature that states that the extent to which faculty engage and interact with students is more influential on student success than just their full-time status (Bush and Bush, 2010; Sandoval-Lucero, Maes, and Klingsmith, 2014). Additionally, I think this finding also points to the need for a more diverse full-time faculty body due to the potential positive influence of same-race instructors who produce role model effects and understand student's cultural backgrounds and their challenges better (Fairlie, Hoffmann, and Oreopolous, 2014). The other set of variables in my analysis that are under the control of the institution, labeled the institutional characteristics as measured in Tables 4 and 5, were statistically insignificant across all regressions. This was another surprising result and may point to the need to focus on faculty and administrator characteristics to help with the completion rates of African American male students. But remember, this regression analysis also included a set of college-specific fixed effects which serves to control for differences in college-specific activities that help or hinder African American completion rates that remain fixed over the years under observation.

Only a handful of the student cohort characteristics were statistically significant. The age variables, meant to capture "nontraditional" aged students, African American student percentage, and Pell Grant recipient percentage all had negative influences on African American male completion rates. However, it was the macroeconomic characteristics, which were the five dummy variables for each of the cohort start years after the excluded base year of 2007, that had the largest negative impacts on African American male completion rates. While these variables

are not directly in the control of the institution, they have important policy implications that I will discuss in the next section along with my recommendations. It is important to note, though, that the magnitudes of the effects of most of the explanatory variables were relatively small aside from the macroeconomic characteristics. For instance, when looking at the statistically significant variables of interest in Table 6 below, a one-percentage-point increase in full-time African American faculty percentage had the biggest impact on economically disadvantaged and academically unprepared African American male students, but the increase in completion rate is less than 1% at 0.310% (in Table 5).

Table 6: Magnitude of Detected Statistically Significant Influences of One Percent Greater African American Representation in Faculty or Administrators on African American Male Completion Rates

Table 4 Regression Results

Explanatory Variable	Overall	Economically Disadvantaged	Academically Unprepared	Economically Disadvantaged and Academically Unprepared
African American Full-Time Faculty %	none	none	+0.338%	+0.364%
African American Part-Time Faculty %	-0.245%	none	none	none
African American Administrator %	-0.199%	none	none	none

Table 5 Regression Results

Explanatory Variable	Overall	Economically Disadvantaged	Academically Unprepared	Economically Disadvantaged and Academically Unprepared
African American Full-Time Faculty %	+0.231%	+0.299%	+0.267%	+0.310
African American Administrator %	-0.102%	none	none	none

Policy Implications and Recommendations

The findings of my regressions, as well as the figures I included in my first chapter illustrating the low completion rates of African American males in California community colleges compared to peers of different races, clearly point to a need to help improve the outcomes for this group of students. Thankfully, the literature and my findings provide indications of how to achieve this. Firstly, there needs to be more racial/ethnic diversity among full-time faculty. This can be achieved in a variety of ways, but one method that has emerged recently is cluster hiring. Cluster hiring is a practice in which a group of new faculty are hired at the same time into multiple departments, or schools, but that center around an interdisciplinary research topic. The aim of cluster hiring is to break down institutional barriers and issues with collaboration by having the cluster represented in multiple departments while also increasing diversity, not just in terms of racial/ethnic background, but also gender, ideology, and methodology (Urban Universities for HEALTH, 2015). This practice has most often been seen in academia, but has also carried over into the health and medical fields, due to low levels of diversity in those fields. While this is not an entirely new practice[51], it is still not a well-established one and the way in which these types of practices are pursued and implemented still varies greatly from institution to institution. In order for cluster hiring to be successful and increase faculty diversity, there are some key considerations to take into account. First, diversity has to be an explicit goal for the cluster hiring program. If the institution wants to aid underrepresented students, the clusters need to be reflective of those student populations. This can be achieved in different ways including, recruiting faculty for the clusters in disciplines where there are higher degrees of diversity, rethinking recruitment efforts to include publications or events not normally targeted that have

[51] The University of Wisconsin-Madison was the first institution the implement cluster hiring in the late 1990s (Urban Universities for HEALTH, 2015).

greater representation across race/ethnicity, and providing bias and diversity training to hiring committees (Urban Universities for HEALTH, 2015).

However, despite the promise of cluster hiring, the implementation often comes with resistance. Buy-in from deans and senior leadership is essential in carrying out this practice as well as engaging existing faculty to be excited about it. This buy-in is more difficult to gain under budgetary constraints[52], which is why a clear plan for how the cluster hiring program is funded and for adapting to senior leadership changes is essential. Another challenge to anticipate when implementing cluster hiring is a potential shortage of African Americans with PhDs or Master's degrees. While the number of African Americans being awarded these degrees has increased over recent years, in 2015-16 only 9% of doctoral degrees and 14% of master's degrees were awarded to African Americans[53]. Therefore, if multiple institutions implement cluster hiring or diversity hiring practices targeted at increasing African American representation, then there may be a shortage of talent to pull from which necessitates examining how to increase the number of African Americans attaining postbaccalaureate degrees.

Still, hiring more diverse faculty alone will not make as big of an impact without other supplemental measures. As Bush and Bush (2010) discuss in their study of African American male achievement in community colleges, and as has been discussed previously in this thesis, having faculty who actively engage with and mentor students is vital. In that study, African American men expressed greater dissatisfaction and lack of engagement with the institution than any of the other subgroups examined. They were less likely to meet with faculty or have contact

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[52] Additionally, as noted in the Urban Universities for HEALTH (2015) report, there are sometimes unanticipated start-up costs associated with implementing cluster hiring which can reduce buy-in from senior leadership.

[53] This was an increase of 2% and 4%, respectively from 2000-2001. For more, see: National Center for Education Statistics. (2019, February). *Status and trends in the education of racial and ethnic groups 2018*. Retrieved from https://nces.ed.gov/pubs2019/2019038.pdf

with them outside of class. But faculty interaction was a significant predictor of three measures of achievement for African American male students. This is what led Bush and Bush (2010) to "call out the elephant" of institutional responsibility in ensuring African American men's success. I echo their recommendations of establishing formal mentorship programs between faculty members and African American male students. Mentorship for this group of students would assist in multiple ways including increasing navigational capital, which is possessing the skills and information required to move through social institutions (like colleges), increasing feelings of campus engagement and support, and increasing accessibility to faculty, all of which lead to higher rates of success (Sandoval-Lucero, Maes, and Klingsmith, 2014). Buy-in for a mentorship program would most likely be the biggest hurdle to overcome for creating and implementing one. Faculty would have to want to be involved and their deans would also have to sign-off. If there are time or workload constraints then this could be increasingly difficult. There would likely be start-up costs to establish the program and to develop how to execute and recruit for it. Additionally, great care would need to be taken to ensure faculty participating have the cultural competency and understanding to help underrepresented students if they are not from the same racial/ethnic background.

A noted previously (and as shown in Table 6), while my findings showed that increases in African American full-time faculty percentage increased African American male completion rates across the board, the effects were relatively small, between 0.231%-0.310% (in Table 5), depending on which subgroup examined. Additionally, African American administrator percentage and full-time faculty (all races) percentage had negative impacts on African American male student success. These findings point to the need for more full-time African American faculty, but also for faculty and administrators who are more engaged with African American male students. That is why I think that the two practices outlined above would help this student

group greatly, despite the challenges that may arise from trying to implement them. However, it is also important to acknowledge the factors outside of the institution's control that impact completion rates for African American males. The macroeconomic variables had comparatively large effects on completion rate, decreasing them between 1.620%-5.682% in Table 5. This strongly suggests that outside factors and institutional factors are intertwined when it comes to African American male completion rates. Therefore, I would also recommend that institutions pay particular attention to these students during economic downturns as they are more likely to be heavily impacted by them[54].

Limitations and Future Research

Despite the number of observations in my data, the longitudinal nature of it, as well as the amount and variety of explanatory variables included in my analyses, there are still limitations to my data and study. First, as has been previously discussed, the data is cohort-level for each individual institution. Therefore, I am not able to make direct connections between individual student characteristics and performance and that of the instructors. This means I cannot know for sure which students interacted with faculty and administrators, how they did so, and the impact of those actions on the students. My data looks at overall racial/ethnic representation by examining the effect of higher percentages of African American faculty and administrators on African American male students' success broken into four different subgroups. The subgroups are meant to isolate factors that impact student success that occur prior to college enrollment – academic preparedness and socioeconomic status.

My analyses included a robust set of variables and controls and my results clearly indicated the directions to go in to increase African American male student completion rates in

[54] This, of course, is a challenge in economic downturns due to reduced budgets and capacity, however, if the programs to help these students are established while the economy is doing well (or more stable) and they are prioritized as important at the college, then it does not necessarily have to be a big challenge.

California community colleges, but further research is still needed. Firstly, more research should be done to assess the impact of same-race instructors on the individual level, rather than cohort-level. This could be done through a mixed methods approach, or purely qualitative, but the aim should be to determine which actions, policies, and practices faculty implemented that influenced African American male student success in the classroom and beyond. Second, the administrator level should also be examined more closely, with specific focus on how policies and procedures at that level impact African American male students in community colleges and how African American administrators perceive their impact and role. Lastly, my analyses did not control for teacher quality. This is an exceedingly tricky indicator to measure, but there is merit in examining it as well. If higher education is to truly serve African American male students well, then this future research is essential in determining how to do so effectively.

Concluding Remarks and Important Context

This chapter provided a summary of my previous chapters and findings, revisited my research question in light of these findings, outlined the policy implications and my recommendations, and discussed the limitations of my research and where future research could and should go regarding this topic. However, before concluding, I have to note the unique time in which this thesis was written and the implications of it.

This thesis was written between 2019 and 2020 which coincided with a particularly tumultuous time in the United States on several levels. Early in 2020, news of the novel Coronavirus (COVID-19) broke in the United States and by March 4th California Governor Gavin Newsom declared a statewide state of emergency quickly followed by a stay-at-home order on March 19th. The stay-at-home order closed most work places and all schools which catapulted the state and educators into a frenzied dash to implement distance learning and incorporate more flexibility for teachers and students in regard to assessment and grading, among other practices.

As of this writing, it has been eight months since the initial state of emergency was called and there is still no clear end in sight for a vaccine or cure. Additionally, COVID-19 has exacerbated racial and socioeconomic disparities by disproportionately impacting Black and Latinx Americans, with Americans of color overall being hospitalized at rates roughly four times higher than white Americans[55]. The effects of the ongoing pandemic on higher education will certainly be great, but it is still unknown just how much. However, it is even more dire for Americans of color and the impacts on them could lead to lower college enrollment and success. Therefore, it is important to take my findings into consideration given the virtual nature of much of higher education now.

In November of 2020 there were local, state, and national elections, including that for President. In California, there was a promising proposition on the ballot, Proposition 16, which would have restored affirmative action in the state. Affirmative action allows employers and higher education institutions to consider race, ethnicity, and gender in their hiring and admissions decisions. Proponents of the proposition said it would help close the opportunity gap while opponents said that admission and hiring should go to the most qualified candidate regardless of race, ethnicity, or gender. Voters rejected the proposition and many experts and advocates asserted this was due to poor understanding of the proposition and its language rather than the purpose itself[56]. Others assert that Californians, despite being more progressive and diverse than when the original ban on Affirmative Action was passed in 1996, are skeptical of the

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[55] Rabin, R. C. (2020, November 15). The U.S. surpasses 11 million infections; Blacks and Latinos still shoulder an outsize share. *The New York Times*. Retrieved from https://www.nytimes.com/live/2020/11/15/world/covid-19-coronavirus/the-us-surpasses-11-million-infections-blacks-and-latinos-still-shoulder-an-outsize-share

[56] Peele, T. (2020, November 5). Unclear ballot language, lack of time to connect with voters explain affirmative action loss, backers say. *EdSource*. Retrieved from https://edsource.org/2020/unclear-ballot-language-lack-of-time-to-connect-with-voters-explain-affirmative-action-loss-backers-say/643021

government's ability to factor in race and ethnicity without being biased[57]. Regardless of the reasons, the result is discouraging and points to a need to further understand what measures are most impactful for increasing diversity and student success for underrepresented students.

The year 2020 also coincided with some of the most widespread protests against police brutality and systemic racism in the United States. On May 25th, 2020 a 46-year-old Black man, George Floyd, was murdered by a white police officer in Minneapolis, Minnesota after they were called because Floyd paid for cigarettes with a counterfeit $20 bill. The event was captured on video and went viral shortly after. In the weeks and months following there were widespread protests in over 150 American cities against police brutality and systemic racism. Protests grew further with more murders of Black Americans by white Americans and police officers gaining attention, such as Breonna Taylor, Atatiana Jefferson, and Ahmaud Arbery[58]. These murders, along with many other non-well-publicized ones, of Black Americans further revealed the deep cracks in our foundation when it comes to racial justice and equity. I think this is the most vital context I can discuss when it comes to understanding my research in 2020 and beyond. We, as a society, educators, researchers, policymakers, etc., cannot ensure success at the higher education level for African American men if we do not address the core, systemic racism present in our country that disproportionately impacts them starting from the very beginning of their lives. This does not mean that efforts at the higher education, institutional level are not worthwhile, in fact, they are important steps to take, but these steps must be grounded in anti-racist work and methods and acknowledge the systemic barriers and harm done to this group of Americans if we are to move forward successfully.

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[57] Friedersdorf, C. (2020, November 10). Why California rejected racial preferences, again. *The Atlantic*. Retrieved from https://www.theatlantic.com/ideas/archive/2020/11/why-california-rejected-affirmative-action-again/617049/

[58] Everette, T. (2020, June 16). Ahmaud Arbery. Breonna Taylor. George Floyd. Say their names. *Yale School of Public Health Responds*. Retrieved from https://medicine.yale.edu/news-article/25410/

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