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THE RELATIONSHIP BETWEEN MINORITY FACULTY AND ACADEMIC SUCCESS OF MINORITY STUDENTS IN CALIFORNIA COMMUNITY COLLEGES

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THE RELATIONSHIP BETWEEN MINORITY FACULTY AND ACADEMIC
SUCCESS OF MINORITY STUDENTS IN CALIFORNIA COMMUNITY
COLLEGES

A Dissertation
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Doctorate
in
Educational Leadership

by
Stephanie Ann Ingalls
May 2023

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ABSTRACT

California remains a populous and diverse state composed of more than 39 million residents (Census.gov, 2021). Serving such a diverse population can create challenges, especially in the education system. California has the largest community college system in the United States; this 117-community college system attempts to facilitate educational success for all students, regardless of their ethnicity. Currently the California Community College (CCC) system serves close to 70% non-white students, yet students of ethnic minority groups suffer from comparatively lower retention rates and lower academic success in course grades, overall GPA, and graduations rates (Leon, 1980; Clagett, 1998; Isik et al., 2018; McCoy, Winkle-Wagner, & Luedke, 2015; Morales 2010; Rodgers, 2012; RP Group 2018; 2022). The purpose of this study was to examine the relationships between increased presence of ethnic minority faculty and minority students' academic success as defined by passing grades, retention, and full-time unit enrollment during the combined 2018-2019 and 2019-2020 academic years. Additionally, this study also explored relationships with minority faculty and Hispanic and African American students' success during COVID-19 (2020-2021 academic year) and the increased use of online learning. A correlational design that included public academic data, disaggregated by student and faculty ethnicity from 115 CCC was used in this study. All data were collected from the CCCCCO's Data Mart website.

The results illustrated that there were statistically significant relationships

between higher percentages of minority faculty and the 1) full-time unit status (12+units in a semester) percentage and 2) the overall academic success rates of minority students in both the combined 2018-2020 academic years and the 2020-2021 academic year. As the percentage of minority faculty increased, the full-time status percentages increased for minority students as well as overall academic success percentages. The effect sizes were medium and large, respectively.

Keywords: minority, success, retention, full-time unit status, community college

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CHAPTER ONE

INTRODUCTION

Background of the Problem

While California's total population has decreased between 2019 and 2021, California remains the most populous state composed of more than 39 million residents (Census.gov, 2021). According to the 2021 census population estimates, California's ethnicity demographics consisted of 40% Latino/Hispanic (Note: Hispanic may be of any race and are included in multiple categories), 71% Caucasian/White, 16.4% Asian/Pacific Islander, 6.5% African American, 4.2% reported being multi-racial, and 1.7% Native American/Alaska Native (Census.gov, 2021). Serving such a diverse population can create challenges, especially in the education system. The California Community Colleges (CCC) is the largest community college in the USA; this 117-community college system aims to promote educational success for all students, regardless of their ethnicity.

From 2019 to 2021, California Community Colleges ethnicity demographics consisted of 46% Hispanic, 24% White, 11% Asian, 6% African American, 4% reported being multi-racial, 3% Filipino, and less than 1% Pacific Islander/American Indian/Alaska Native (CCCCO Datamart Student Count, 2019-2021). While the population ethnicity/racial demographics appear to be mirrored in the CCC ethnicity/racial demographics, the same cannot be said for the CCC demographics in success metrics. Success refers to letter grades such as A, B,

C, P that reflect “passing” a course for which a student will have successfully earned college credits. Retention refers to students who did not drop or withdraw from their courses which is represented by grades of DR, W, and WF.

Inequity exists within the success and retention for certain ethnic/racial groups. Student success demographics for 2021 (including spring, summer, fall, and winter semesters) was as follows: The overall success rate for 2021 was 76.2%. The success rate by ethnicity was as follows: Asian students 86%, White 82.7%, unknown ethnicity 80.1%, multi-ethnicity 78.3%, Hispanic 74.8%, American Indian 71.8%, Pacific Islander 71.1%, and African American students 69.1% (CCCCO Datamart Success/Retention, 2021). The ethnic groups that performed below the overall average success rate were the Hispanics, American Indians, Pacific Islanders, and African Americans.

Historically, education systems were created to facilitate the education of White students (Mirza, 2018). Currently the CCC system serves predominantly non-white students, however, the curriculum, andragogy, and the faculty’s cultural competency in the classroom have quite possibly not yet caught up with California’s changing demographics. The California Community Colleges Chancellor’s Office (CCCCO) has taken note of this issue and has created the Student Equity and Achievement Plan initiative to address the gaps in achievement for students from ethnic minority backgrounds (California Community College Chancellor’s Office, 2003). While the student equity plans were developed to increase the academic achievements of students from ethnic

minority groups, equity gaps still exist in the CCC.

Statement of the Problem

Several scholars have identified the problem, i.e., students of ethnic minority groups suffer from comparatively lower retention rates and lower academic success as defined by grades, GPA, and graduations rates (Leon, 1980; Clagett, 1998; McCoy, Winkle-Wagner, & Luedke, 2015; Rodgers, 2012). Researchers have sought to examine various factors that potentially have impacted minority student success, including participation in special programs or interventions (Leon, 1980), socio-demographic factors (Clagett, 1998), faculty perceptions and interactions with students (McCoy, Winkle-Wagner, & Luedke, 2015; Rodgers, 2012), and minority students' perceptions of their own academic abilities (McCoy, Winkle-Wagner, & Luedke, 2015).

Historically, community college's faculty members have been predominantly White (McCoy, Winkle-Wagner, & Luedke, 2015; Rodgers, 2012). The same can still be said today. Of all CCC tenured faculty, 56.97% are White. Coincidentally, 56.27% of the part-time/temporary academic faculty are White (CCCCO Data Mart, 2020). Combined, White faculty account for 56.5% of all faculty in the CCC. The disproportional representation of ethnic minority in faculty could potentially have an impact on the academic success for minority students, specifically, Hispanic and African American students.

Purpose of the Study

A plethora of research exists regarding the study of factors that can potentially impact (both positively and negatively) not only the academic success of all college students, but more specifically, the academic success of minority college students (Clagett, 1998; Isik, et al., 2018; Leon, 1980; McCoy, Winkle-Wagner, & Luedke, 2015; Morales, 2010) Rogers, 2012). Socio-demographic factors (i.e., low socio-economic-status (SES), living in impoverished areas, being in financial need, etc.) along with student personality traits have also been reported to have an impact on student success. For example, students who were described as coming from low SES were reported to be underprepared for college (i.e., in need of remediation in math and/or English, financial assistance, study skills, time management, etc.) and typically experienced lower success in college than students who were from higher SES and were prepared for college (Clagett, 1998). The Extended Opportunity Programs and Services (i.e., EOPS) has had positive impacts on Hispanic student success by providing additional supports and services to students with various needs (Leon, 1980; RP Group, 2018; 2022). Furthermore, personality traits such as motivation, persistence, commitment, and assistance seeking behaviors were also found to be positively correlated with student success (Clagett, 1998; Isik, et al., 2018; Morales, 2010). Additional factors that impacted minority students' success included faculty perceptions of their students' abilities and mentorship interactions between faculty and students of dissimilar ethnicities (McCoy, Winkle-Wagner, & Luedke,

2015).

This researcher's purpose for conducting this study was to explore additional variables that could be related to increased academic success for students from ethnic minority groups, and more specifically, Hispanic, and African American students. To this end, the purpose of this study was to examine the relationships between the presence of ethnic minority faculty and in minority students' academic success as defined by passing grades, retention, and full-time unit enrollment. Furthermore, this researcher intended to examine the relationships between the presence of minority faculty and the impacts on minority students' academic success during the 2020-2021 academic year, during increased use of online/distance education learning.

Research Questions

This study explored the potential relationships between minority students' (i.e., Hispanic and African Americans) academic success across the California community colleges and the percentage of minority faculty employed at those colleges. Additionally, this study also explored the potential relationships between minority students' academic success during COVID-19 (2020-2021 academic year) when all learning was restricted to an online modality, and the percentages of minority faculty present at CCC. Examining the data from the 2020-2021 academic year was done as an extension of the study to investigate this unique period.

The following research questions were addressed:

- 1) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) success percentage (i.e., percentage of passing grades) during the combined 2018-2019 and 2019-2020 academic years?
- 2) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) percentage of success (i.e., percentage of passing grades) for the 2020-2021 academic year?
- 3) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) percentage of retention during the combined 2018-2019 and 2019-2020 academic years?
- 4) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) percentage of retention for the 2020-2021 academic year?
- 5) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) percentage of full-time unit status during the combined 2018-2019 and 2019-2020 academic years?
- 6) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanics and African Americans) percentage of full-time unit status for the 2020-2021 academic year?
- 7) What was the relationship between the percentage of minority faculty and

- minority students' (i.e., Hispanic and African Americans) percentage of overall academic success (i.e., passing grades + retention + full-time unit status) during the combined 2018-2019 and 2019-2020 academic years?
- 8) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) percentage of overall academic success (i.e., percentages of passing grades + retention + full-time unit status) for the 2020-2021 academic year?

Significance of the Study

This quantitative study was significant on the following grounds:

1. This research created the opportunity to understand the academic impact (i.e., percentage of students with passing grades, retention, and full-time enrollment) of ethnic minority representation in the faculty within the California Community Colleges on Hispanic and African American students.
2. This research addressed several limitations discussed previously conducted studies including the need for larger sample sizes in research. Furthermore, this study also addressed the limitation of the need for more quantitative studies in the educational leadership field.
3. This research examined the needs and solutions for diverse hiring practices in California Community Colleges for faculty
4. This research added to the body of research in the educational leadership field by investigating additional variables that impact the academic

success of minority students that had not been previously studied.

Delimitations

The current study examined the ethnic minority groups of Hispanic and African American. As cited throughout Chapter Two, the academic success of Hispanic and African American students has been heavily examined. The current study relied on previous research to determine the use of these ethnic groups to add to the body of literature regarding impacts on academic success for these students. As a result, other ethnic minority groups such as Native American, or Pacific Islander groups were not examined, making this a delimitation for the current study. Research on these ethnic groups appears to be lacking. Research on the impacts on academic success for Native American, and Pacific Islander ethnicities requires additional study.

The current study combined the Hispanic and African American groups together. However, the percentage of African American faculty exceeded the percentage of enrollment for African American students. This could be an indication that African American representation exists in the CCC system as a whole. Quantitative studies should investigate ethnic minority groups separately to examine ethnic groups of students that are underrepresented by their corresponding ethnic faculty.

Definitions of Terms

Enrollment is defined as remaining in a course after census. *Enrollment* is

NOT to be confused with headcount. For example, *enrollment* counts refer to the number of courses a single student remains in (i.e., 1 student remains in 4 courses, enrollment = 4, headcount = 1).

Headcount/Count refers to the number of students at the college.

Success is defined as receiving course grades of A, B, C, or P (i.e., “pass”), all of which indicate “passing” a course and obtaining the corresponding units for the course.

The *academic success percentage* is calculated by dividing the total number of successful students by the total number of enrolled students (success/enrolled) multiplied by 100.

Retention is defined as receiving course grades of A, B, C, D, F, P, NP, I, IPP, INP, FW a student received; *Retention* indicates that a student did not drop nor withdrew (i.e., receive a D, W, or WF) from a course but instead remained enrolled in the course through the term.

The *retention percentage* is calculated by dividing the total number of retained students by the total number of enrolled students (retained/enrolled).

The *Part-Time (PT)* status refers to the count of students enrolled in 11.9 units or fewer units in a term. *Full-time (FT)* status refers to students enrolled in 12+ units in a term.

For the purposes of this study, overall *academic success* was defined as the sum of counts of passing grades of A, B, C, or P (i.e., success rate), retention grades, and counts of students with full-time units (12+ units) which was then

divided by the total enrollment counts of all students into a single percentage.

Academic year was defined as the following academic terms: Fall, winter, spring, and summer. For example, the 2019-2020 *academic year* included fall2019, winter2019/2020, spring2020, and summer2020.

Calendar year was defined as all of the terms within a given year from January to December which would typically include spring, summer, fall and winter for each academic year (2019-2019, 2019-2020, 2020-2021).

Faculty members included in this study were from “Academic, Tenured/Tenure Track” faculty members and from the “Academic, Temporary” group of lecturers/faculty members. The counts of faculty members in these two groups were combined.

CCC abbreviation refers to California Community Colleges.

CCCCO abbreviation refers to California Community Colleges’ Chancellor’s Office.

Minority Students/Faculty, for the purpose of the current study, will include African American and Hispanic ethnic groups.

Diverse in the literature is meant to indicate all non-white ethnic groups.

CHAPTER TWO

LITERATURE REVIEW

Chapter two of the dissertation is intended to provide a review and synthesis of the existing research literature related to the purpose, research questions, and research methodology used in the current study. This chapter will provide a review of studies conducted to examine factors that impacted the academic success of minority students in higher education. The review included the identification of factors, the research methods used to examine the impacts of those factors on minority students' academic success, the results obtained by the research studies, as well as the limitations of those studies. The following databases were explored in the literature search: Educational Resources Information Center (ERIC), PsychInfo, Google Scholar, studies published by the Research, Planning, and Professional Development Group (RP Group), and studies published by the CCCCO researchers. The terms used in conducting the searches included "academic success", "minority students", "higher education", "institutional racism", "racism", and "minority faculty".

The Current State of Minority Students' Academic Success in CCC

The California Community Colleges have a very diverse population. The California Community Colleges Chancellor's Office reported a pre-pandemic student enrollment count of 2,186,884 students during the 2020-2021 academic year (CCCCO Data Mart, 2022). The student demographic breakdown consisted

of White students accounting for 24.72% (n = 540,655) of the student population, and all other ethnicities accounting for 70.88% of the student population (4.40% of ethnicities were unknown) (CCCCO Data Mart, 2022). Of the 70.88% of the minority student population, African American students made up 5.62% while Hispanic students made up 45.76% of the population (CCCCO Data Mart, 2022). Due to the increase of students described as ethnic minorities, or non-white ethnicity, becoming the majority of students served by the CCC, it was considered very important that the CCC adopt a more multicultural student-centered approach to facilitate the academic success for all students. Culturally competent approaches and other educational interventions are also considered effective in increasing equity in academic success (Taylor, Guy-Walls, Wilkerson, & Addae, 2019).

In Fall 2021, the CCCCCO reported student success rates for face-to-face/in-person education by student ethnicity were as follows: White students experienced passing grades at 81.77%, African American students at 70.69%, and Hispanic students at 71.01% (CCCCO Data Mart, 2022). Asian students were the only ethnic group with passing grade rates higher than White students at 83.04%. Thompson, Kiang, and Witkow (2016) explored the perceptions of Asian students as being “the model minority student” and described the existence of a bias in higher education towards expecting academic success from Asian students. Individuals within the study believed that Asian students tended to have higher intelligence, especially in mathematics, than other ethnic

or racial groups (Thompson, Kiang, & Witko, 2016). If this belief is generalized to faculty in higher education, then the “model minority” bias could potentially serve as one possible explanation as to why Asian students experience higher passing grade percentages than White students and other ethnic groups. For example, faculty members may be less rigorous in grading their Asian students due to a bias that this group of students is more intelligent than other groups. Additional factors including motivation, work ethic, and group collaboration values exist in Asian culture and cannot be ignored in examining Asian students’ academic success. Furthermore, researchers have also examined possible links to the perceptions and stereotyped beliefs that “Whiteness” was being linked to smartness, which may also explain higher academic success rates experienced by White students and students who appear to be White (Leonardo & Broderick, 2011; Skiba 2012).

Perceptions of higher intelligence may positively favor students from White and/or White appearing ethnicities. As mentioned, because the CCC serve predominantly non-white students, it is important to understand factors that impact academic success for student ethnic minorities.

Factors that Impacted Minority Student Academic Success

There are several factors that researchers have examined to understand the impacts (both beneficial and harmful) on the academic success for students of ethnic minorities, or non-white students. For example, supportive academic services and programs could potentially be beneficial in increasing the academic

success percentages for minority students. Alternatively, a lack of access to support services and programs in higher education, combined with other harmful personal and academic experiences could potentially explain the lower academic success percentages for minority students. Such factors that have been studied and will be reviewed in this section include program interventions and services (Leon, 1980, RP Group, 2018; 2022), students' socio-demographics (Clagett, 1998; Isik, et al., 2018; Morales, 2010), faculty perceptions and faculty mentorship effects, institutional racism, stereotypes, and biases (McCoy, Winkle-Wagner, & Luedke, 2015; Mirza, 2018; Rogers, 2012; Taylor, Guy-Walls, Wilkerson, & Addae, 2019).

Program Interventions and Services

Program interventions and services in higher education are meant to provide a number of resources for a specific population at any given CC. For example, a program may provide additional financial and academic resources above and beyond the institution's financial aid for a defined population (i.e., ethnic/racial, students with disabilities, veterans, etc.). Furthermore, interventions and services may include additional academic and personal counseling, access to mentors, and academic readiness and career readiness workshops. The CCC has several programs aimed at specifically serving minority students at their institutions.

Extended Opportunity Programs and Services (EOPS). From the early 1980's through today, the EOPS program has been aimed at facilitating the

academic success of Hispanic students in higher education, specifically, to increase the percentage of Hispanic students who are retained at colleges and could therefore be more likely to graduate. The academic success of graduation for any student cannot be achieved without persistence. The term *persistence* has become known to CCC as a measure of an institution's ability to retain a student through institutional factors such as supports, services, easy pathways to a degree/certificate, etc. (Leon, 1980). Leon (1980) sought to examine if an institutional program such as EOPS could be used to successfully increase retention for Hispanic students. Leon (1980) noted that while Hispanic students made up a large portion of student ethnic composition at community colleges, they also experienced much lower levels of retention. Leon (1980) examined EOPS as an intervention program to determine if Hispanic students who became EOPS students would also experience higher retention rates. Leon (1980) used an exploratory research design with questionnaires to examine the issue of retention. EOPS directors (n=87) responded to Leon's (1980) questionnaires regarding information and the design of their EOPS programs at their community colleges.

Leon (1980) found that the five key factors of program leadership and philosophy, organizational structure, college environment, faculty input, and community influence (Leon, 1980) most positively influenced EOPS student retention. Leon (1980) recognized the limitations of the qualitative study such that the study could have utilized a mixed-methods design and included quantitative

data (i.e., retention rates or EOPS student grades) to test for statistical correlations between involvement in the program and student academic success.

From 2010 to 2019, The RP Group conducted two longitudinal studies examining and comparing the success of minority students in EOPS and the success of minority students who were not members of EOPS. The RP Group (2018; 2022) found that the minority students who were members of EOPS were more likely to complete required courses in math and English more quickly, earn more college level units, persist over time, and experienced higher percentages of graduation than the minority students who were not members of EOPS. These reports aligned with Leon's initial findings in 1980 but also demonstrate that EOPS is a factor that positively impacts the success of minority students.

Diverse Students Program (DSP). The Diverse Students Program (DSP) was founded by the University of Maryland (Keeton, Clagett, & Engleberg, 1998). A six-year longitudinal study that included ten colleges and universities was conducted for the purposes of investigating both student attraction to and retention in higher education systems (Keeton, Clagett, & Engleberg, 1998). The researchers found that when educational and psychological theory was combined with institutional research to design and implement intervention programs with a focus on diversity, institutions were more likely to successfully recruit and retain African American students (Keeton, Clagett, & Engleberg, 1998). Not only were there benefits to recruitment and retention for African American students, but researchers also found positive impacts on the academic

success for African American students (Keeton, Clagett, & Engleberg, 1998). Implications of the longitudinal study provided evidence for the benefits of strategic intentions, institutional efforts, and use of research and educational theories to recruit, retain, and facilitate the academic success of African American students through various interventions and supports.

Socio-Demographics

In 1998, Craig Clagett presented a paper at Annual Meeting of the Association for Institutional Research that described a study that examined socio-demographic factors that could impact student success, more specifically, the graduation rates of Hispanic and African American students. The study was designed to investigate factors that could have been responsible for lower graduation rates for these minority groups of students. Additionally, Clagett (1998) was also interested in discovering if colleges were using effective interventions to increase the graduation rates of these minority groups at their institutions. Clagett (1998) compared academically successful Caucasian students to unsuccessful Hispanic and African American students to determine if a profile could be created based on the students' personal, socio, and environmental traits.

Clagett (1998) used a research design consisting of multivariate analysis, factor analysis, cluster analysis, and regression analysis which included a sample of 2,386 students. Clagett (1998) identified 90 traits that appeared to impact student academic success and created ten student profiles based on

those traits for which each profile was either positively or negatively related to successful academic outcomes. The students self-reported their socio-demographic and personality traits. Clagett (1998) found that socio-demographic background variables (SES, zip codes, etc.) were not statistically significantly correlated with success, while the existence of personal motivation was statistically significantly correlated with student academic success (Clagett, 1998). Cluster analysis revealed three profiles correlated to success and achievement: True Grit profile (high commitment to overcome adversity, related to high success), Full-time Strugglers who used institutional assistance (financial aid and programs, related to high success), and finally, the Underprepared cluster that correlated with low success (in need of remediation, help with study goals, help with course choices and course loads). Clagett (1998) found that commitment and motivation, getting/using financial aid and support services, completion of developmental requirements, and attendance correlated to academic success. Clagett (1998) noted a limitation of the study was the use of only one college.

In contrast to Clagett's study from 1998, additional and more current research has discovered that SES and living in impoverished areas could negatively impact the academic success of minority students. Financial aid is crucial to academic success for low-income populations because low-income students face more barriers to success in higher education (O'Brien & Shedd, 2001). They noted that low-income students had lower attendance and higher

part-time unit status at their respective higher education institutions. This may be because low-income students needed to work or attend to other personal/social issues. As a result, these students take longer to graduate if they do not drop out altogether (O'Brien & Shedd, 2001). The National Alliance of Homelessness (2021) reported that African American (21%) and Native Americans (25%) were more likely to live in poverty than other ethnic groups. These populations are more likely to experience more significant financial need in general, but especially financial aid to attend community college and be successful. As a result, financial aid is a major factor that directly impacts the academic support of minority groups in the CC's.

Morales (2010) also found that financial aid and scholarship programs were among the higher rated impacts of academic student success after conducting a quantitative study on a sample of 120 Hispanic males in college. Additional socio-demographic factors studied by Morales (2010) included familial support as well as community support. When these factors were missing for a student, access to academic services including library services, academic and career counseling, along with community-based mentorship became increasingly more important in increasing male Hispanic student success (Morales, 2010). Lastly, Morales (2010) also found that individual traits such as motivation was also a factor that impacted the academic success of Hispanic males. While motivation may not seem like a socio-demographic factor, both Clagett (1998) and Morales (2010) discovered that a minority student's motivation to be

academically successful was a major factor in that student's academic success in higher education. However, several social and demographic factors have been found to impact a student's academic motivation (Isik, et al., 2018). Specifically, issues pertaining to the student individually, a student's family, school, and social network could all negatively impact academic motivation and as a result, academic success. Through a meta-analysis of research studies and articles, Isik et al., (2018) found factors that impacted the student individually included health and well-being, which could also be impacted by family obligations, support, as well as SES. Furthermore, school related issues regarding safety and teacher support, which were also impacted by social factors including the neighborhood and social network also impacted the motivation and academic success of minority students (Isik et al., 2018). This research indicates that socio-demographic factors can have differential impacts on minority students' academic success in higher education. This research also highlighted the importance of the impacts of teachers and mentors on minority students' academic success.

Faculty Perceptions and Mentorship

McCoy, Winkle-Wagner, and Luedke (2015) studied faculty effects on minority students' perceptions of their own abilities and success in STEM disciplines. Since faculty at colleges and universities are predominantly white, minority students seeking a mentor would be more likely to have a white faculty member (McCoy, Winkle-Wagner, & Luedke, 2015). Additionally, research on

mentoring students of color in STEM has been inconclusive (McCoy, Winkle-Wagner, & Luedke, 2015). The researchers sought to determine the manner in which White faculty members would describe their relationships with their minority students and whether or not faculty perceptions of this relationship could impact minority students' perceptions of their own abilities to succeed (McCoy, Winkle-Wagner, & Luedke, 2015).

McCoy et al., (2015) utilized a qualitative multi-site case study exploratory research design for the purpose of their study. Open-ended questions were used to obtain student perceptions. The sample included students from two Mid-Atlantic institutions: a predominantly White institution and a predominantly Black, both with STEM programs. Chain sampling procedures were used to recruit 10 faculty members from each institution. Semi-structured interviews were conducted and demographic data collected. The project trained interviewers included seven White, one African American, and one Hispanic (McCoy, Winkle-Wagner, & Luedke, 2015).

Two themes emerged from the faculty descriptions of their mentoring practices; desire to treat all students the same regardless of color, and describing minority mentees as being not top students (McCoy, et al., 2015). The participating faculty members described making allowances for minority mentees, but not White mentees, and described the need to get their minority student mentees "up to speed" in their academic abilities (McCoy, et al., 2015). The white faculty mentors considered their minority student mentees to be "academically

inferior” and “academically underprepared.” The researchers identified that the limitation of their study was primarily the small sample size.

California community colleges provide few faculty mentoring opportunities for students, although this relationship has been cited as a variable known to positively impact student success (Rodgers, 2012). Additionally, California community colleges struggle with hiring diverse faculty (Rodgers, 2012). Rodgers (2012) sought to qualitatively explore faculty knowledge and perceptions of their role in the academic success of students from underrepresented racial and ethnic groups attending California community colleges using self-reported data from faculty. The survey sample included 84 California community colleges which were selected from urban areas that served underrepresented populations (data source included data mart) (Rodgers, 2012).

Rodgers (2012) found that, although most faculty members who participated in this study indicated that they had above average to excellent knowledge of diversity issues at their colleges, and that their perceived level of knowledge was not reflected in answers to specific questions about students from underrepresented groups and faculty involvement with these students. A majority of the online survey respondents indicated that they had average to below average knowledge of the success rates (degrees or certificates completed) of their students from underrepresented racial and ethnic groups (Rodgers, 2012). It was noted that the small sample size was a limitation of the current study, and interviewer bias could have existed.

Additional researchers have also cited mentorship as being an important factor in supporting the academic success of minority students. Flournoy (2017) conducted a qualitative study consisting of male African American students in community college. A small sample of students were surveyed regarding their negative experiences in community college and their perceptions regarding how they believed their community college was responsible for supporting their academic success. Flournoy (2017) found that counseling, mentorship, and financial aid among other factors to be necessary in supporting the academic success of African American male students in community college. These factors were believed to be especially important in combating the negative experiences of institutional racism and stereotyping this sample of students reported experiencing (Flournoy, 2017).

Institutional Racism

In higher education, there are several mechanisms that create barriers to student success, including the applications and admissions process, the process of enrolling in required and/or necessary courses, passing courses, and the processes of graduating with a degree to name a few. Mirza (2018) identified institutionalized racism as a barrier to success for non-white students. Institutionalized racism was not only believed to be entrenched throughout the institutional processes, but as well as within the interactions between non-white students and institutional personnel in the form of everyday microaggressions (Mirza, 2018). Ethnic biases and stereotypes against non-white students are also

variables that impact the academic success for minority students.

Stereotypes and Biases. Stereotyping occurs when knowledge or perceived beliefs and expectations about a social group result in a generalized application onto an individual (Mackie & Smith, 1998). It is important to note that stereotypes are not inherently negative, but function to help organize information from which an individual can then use to make an informed decision. The term stereotyping is not meant to be confused with the term bias. The literature on bias has illustrated that there are two forms: implicit and explicit. Implicit bias is believed to be a result of underlying cognitive processes such as stereotyping and categorization (Greenwald & Krieger, 2006). Explicit bias has been described as the observable behavior that results from an implicit bias (Agerstrom & Rooth, 2011; Rooth, 2010). As Mirza (2018), and Agerstrom and Rooth (2011) illustrated separately, stereotypes and biases impacted both educational and employment outcomes.

Students' racial and ethnic identities are often revealed in their physical appearance but also can be revealed by their names, which could mean the online classroom includes stereotyping and biases to a similar extent as the physical classroom. Conaway and Bethune (2015) sought to investigate the extent to which student names could trigger the biases and stereotypes of online instructors in higher education. In a study that included 147 online instructors who perceived themselves to be welcoming of students with stereotypical names of ethnic minorities, Conaway and Bethune (2015) found that a small degree of

bias and stereotype did exist towards students from ethnic minority backgrounds. This study illustrated that online classrooms also possess a degree of stereotyping and biases for ethnic minority students. Such stereotyping and biases could potentially be factors that hinder the academic success of minority students, namely African American and Hispanic students.

The science, technology, engineering, and math (STEM) fields are considered challenging disciplines in the higher education system, and ones in which students are particularly prone to experiencing prejudice, discrimination, stereotyping, and biases (McGee, 2016). McGee (2016) conducted a study that included 38 African American and Hispanic students revealed that not only did these students experience racial hostilities as well as racial microaggressions, but these high-achieving students also experienced the need to practice stereotype management as a coping mechanism (McGee, 2016). As a result of this institutional experience in the STEM field, these high achieving students from ethnic minority backgrounds experienced doubt of their own academic abilities (McGee, 2016). Doubt in students' academic abilities creates problems with retention for all students, regardless of their ethnic background. Students who have to focus on deploying coping mechanisms along with altering their authentic racial identity experience more internal challenges than students who only need to focus on their academics, this making academic success more difficult to achieve for students from ethnic minority backgrounds. This cognitive and emotional overloading could be another explanation for the lower academic

success rates for students from ethnic minority backgrounds, specifically African American and Hispanic students. Lacovino and James (2016) proposed a similar line of thinking, such that psychosocial adjustment, a relatively unstudied topic, was necessary now more than ever as African American and Hispanic students suffer lower academic success rates and higher rates of racial prejudice.

Mirza (2018) also discussed the ways in which microaggressions present in everyday interactions between institutional employees and non-white students not only interfered with the academic success of these students but also served to maintain the privilege of White students and their academic success. African American students not only experience microaggressions but also experience stereotypes and biases that impact their academic success. Historically, African American individuals have been more likely to be perceived as being lazy, unintelligent, and violent in comparison to other ethnicities (Priest, Slopen, Woolford, Philip, Singer, Kauffman, et al., 2018; Taylor, Guy-Walls, Wilkerson, & Addae, 2019). Furthermore, these stereotypes have been more firmly held against African American males (Priest, Slopen, Woolford, Philip, Singer, Kauffman, et al., 2018; Taylor, Guy-Walls, Wilkerson, & Addae, 2019). These historical and strongly held beliefs against African Americans certainly impacts not only educational outcomes, but employment and socioeconomic outcomes as well (Taylor, Guy-Walls, Wilkerson, & Addae, 2019). Institutionalized cultural competence and interventions were purported to decrease historical stereotypes of African American males and increase social justice in all systems (Taylor,

Guy-Walls, Wilkerson, & Addae, 2019).

Due to achievement gaps present between white students and non-white students, specifically African American and Hispanic students, researchers sought to explore instructor biases further in math classrooms to investigate how, if at all, instructor biases impacted ethnic minority student success (Copur-Gencturck et al., 2019). In a study that included a sample of 390 instructors, researchers observed no overt biases in instructors' evaluations of students' mathematical solutions correctness and problem solving during a review process in which student names, genders, and racial/ethnic information were randomly assigned (Copur-Gencturck et al., 2019). However, the faculty's assessment of students' mathematical abilities did result in observable implicit biases against students from African American and Hispanic ethnic backgrounds (Copur-Gencturck et al., 2019). non-white instructors evaluated white students' mathematical abilities as more favorable than students of African American and Hispanic ethnic backgrounds (Copur-Gencturck, Cimpian, Lubienski, & Thacker, 2019).

The results of this study are significant because the results illustrated that ethnic minority faculty evaluated their ethnic minority students more harshly than their white students. However, more recently in higher education, the rhetoric of "representation matters" is meant to imply that increasing ethnic minority representation in faculty composition could be related to increasing ethnic minority students' academic success. Quite simply, the idea is that diverse

representation achieved by employing faculty from ethnic minority groups could close the equity gaps in student success by increasing the academic success of ethnic minority students. There have been no quantitative studies to investigate the hypothesis that ethnic minority students experience increased academic success in educational institutions that employ higher rates of diverse, non-white faculty. This study aimed to investigate if there were any statistically significant relationships between the percentage of minority faculty and the percentage of academic success of minority students in CCC.

CHAPTER THREE

METHODOLOGY

Chapter three of the dissertation is intended to describe the methodology and procedures in the study, including the design, sample, data, data analysis, as well as the limitations.

Previous research studies surrounding the performance and assessment of minority students in higher education settings consisted of qualitative and/or mixed method designs which were used to investigate factors that impacted minority student performance and success in higher education. The current study sought to examine if any relationships existed between the percentage of minority faculty and the percentages of success, retention, full-time unit status, and overall academic success in California Community Colleges.

- 1) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) success percentage (i.e., percentage of passing grades) during the combined 2018-2019 and 2019-2020 academic years?
- 2) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) percentage of success (i.e., percentage of passing grades) for the 2020-2021 academic year?
- 3) What was the relationship between the percentage of minority faculty and

- minority students' (i.e., Hispanic and African Americans) percentage of retention during the combined 2018-2019 and 2019-2020 academic years?
- 4) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) percentage of retention for the 2020-2021 academic year?
 - 5) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) percentage of full-time unit status during the combined 2018-2019 and 2019-2020 academic years?
 - 6) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanics and African Americans) percentage of full-time unit status for the 2020-2021 academic year?
 - 7) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) percentage of overall academic success (i.e., passing grades + retention + full-time unit status) during the combined 2018-2019 and 2019-2020 academic years?
 - 8) What was the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African Americans) percentage of overall academic success (i.e., percentages of passing grades + retention + full-time unit status) for the 2020-2021 academic year?

The study utilized a quantitative approach to answer the above listed research questions to determine if minority students' academic success was

associated with the percentages of minority faculty at the community colleges. Quantitative data included percentages of minority faculty ethnicity, percentages of student ethnicity, success, retention, and the full-time unit status (FT) for African American and Hispanic students at all California Community Colleges that had data available on the California Community Colleges Chancellor's Office Data Mart website.

Sample

While there are 117 California Community Colleges, this researcher excluded the two newest California Community Colleges, i.e., Calbright and Madera Community Colleges. Calbright Community College is California's first online only community college and since this researcher is examining in person and online minority student success, Calbright was excluded from the CCC's included in the study. Additionally, Madera Community College was established in 2020 and lacks pre-COVID-19 in-person academic data, so this CCC was also excluded from the list of colleges in the study (See Appendix A for a list of 115 CCC's included in the study).

For the 115 CCC's between the 2018-2019 and 2020-2021 academic years, there were a total of 149,222 faculty members. The number of African American and Hispanic faculty were averaged separately by years and together across years. Additionally, faculty counts were obtained by combining full-time/tenure track and adjunct/part-time counts. In CCC's, all faculty members have the ability to serve in multiple roles such as lecturers, mentors, and

committee leaders. As a result, it is more difficult to determine with which group students may have more interaction or impacted by. Please see Table 1 for the minority faculty data.

Table 1. Minority Faculty Counts

Minority Faculty	Count	Percentage
African American	17,516	11.7%
Hispanic	20,520	13.8%
Combined	38,036	25.5%
Total Faculty (all ethnicities)	149,222	100%

The total student enrollment at the 115 CCC's during the 2018-2019 and 2020-2021 academic years was 24,068,835 and there was a total headcount of Fulltime (FT) students of 2,702,442 (23.9%). The number of African American and Hispanic students were averaged separately by years and together across years. Please see Table 2 for the minority student data.

Table 2. Minority Student Counts

Minority Students	Enrollment	Enrollment Percent	Headcount Fulltime	Fulltime Percent
African American	1,369,170	5.7%	150,777	5.6%
Hispanic	11,383,735	47.3%	1,202,958	44.50%
Combined	12,752,905	53%	1,353,735	50.10%
Total Students (all ethnicities)	24,068,835	100%	2,702,442	23.9%

The normality and homoscedasticity of the participant percentages were analyzed. All groups met the assumption of equal or similar variances. Cases in which a CCC employed few to no diverse faculty, or a CCC that employed a

higher percentage than all other CCC's were noted as outliers. All cases were retained as there was no impact on the results with removal of the outliers.

Research Design

The current study utilized a cross-sectional, correlational design. Archival data were obtained from the CCCCCO Data Mart informational system for the purposes of answering the eight research questions. The analyses included obtaining correlations coefficients and conducting ANOVA's that compared student success, retention, and full-time enrollment for artificially created minority faculty groups. Effect sizes were reported as coefficients of determination (R^2) and eta squares (η^2).

Correlation coefficients were obtained to measure the relationships between the percentage of minority faculty and (a) minority student success, (b) minority student retention, (c) minority student full-time unit status, and (e) overall academic success rates for the combined 2018-2019 and 2019-2020 academic years and for the 2020-2021 academic year when online learning rates were the only learning modality during the COVID-19 pandemic.

For the ANOVA tests, that compared student outcome variables, the percentage of minority faculty were classified into three arbitrary groups of "low percentage faculty minority", "medium percentage faculty minority", and "high percentage faculty minority". The percentage of minority faculty across the 115 colleges ranged between 0% and 29.6%. The Low category ranged from 0-5% (2018-2020 n = 22; 2020-2021 n = 21), the Medium category ranged from 5.1-

15% (2018-2020 n = 67; 2020-2021 n = 66), and the High category ranged from 15.1-30% (2018-2020n = 26; 2020-2021 n = 28) for the combined 2018-2019 and 2020 academic years as well as separately for the 2020-2021 academic year.

Correlation and ANOVA were used in this exploratory study to determine if relationships existed between percentages of minority faculty and percentages of minority students' academic performance, the strength of those relationships, and if differences existed between the groups of minority students who enrolled at CCC's with low, medium, or high percentages of minority faculty.

Data Collection Sources and Procedure

Several data files were downloaded from the California Community College Chancellor's (CCCCO) Data Mart website (<https://datamart.cccco.edu/datamart.aspx>). The "Faculty and Staff Demographics" file, disaggregated by the 115 CCC and by faculty and staff ethnicity, was downloaded for the following terms: Fall 2018, Fall 2019, Fall 2020, and Fall 2021. This information is only made available annually, at the end of each Fall term. The data from the separate files were then combined/merged into one excel file. The CCCCCO "Outcomes/Success/Retention" file, disaggregated by the selected 115 CCC and by student ethnicity, was downloaded for the calendar years of 2018, 2019, 2020, and 2021. The data from these separate files were then combined/merged to include the terms from the 2018-2019, 2019-2020, and 2020-2021 academic years into one excel file. Since these data files are automatically disaggregated by terms (Fall, Winter,

Spring, Summer), the data from the appropriate terms were combined (counts were summed) to create academic year data (i.e., Fall 2018, Winter 2018, Spring 2019, and Summer 2019 data were combined for the 2018-2019 academic year). The CCCCO “Student Part-time/Full-time Unit Load” file, disaggregated by the selected 115 CCC, by unit load ranges, and by student ethnicity was downloaded for the calendar years of 2018, 2019, 2020, and 2021. Since these files are automatically disaggregated by terms (Fall, Winter, Spring, Summer), the data from the appropriate terms were combined/merged to create academic year data (i.e., Fall 2018, Winter 2018, Spring 2019, and Summer 2019 data were combined (counts were summed) for the 2018-2019 academic year). Additionally, these files are disaggregated by unit load ranges (i.e., 0, 0.1-2.9, 3.0-5.9, etc.) therefore unit load counts were combined to create FT (12+ units) status counts and percentages.

The percentages reported for metrics in the CCCCO Data Mart were not used. Instead, count totals were summed from the terms in the appropriate academic years first, and then new percentages were created from those totals. Recalculation was necessary because the original CCCCO calculations included colleges and metrics that were not included in the study. Lastly, the overall percentage of academic success was computed by summing the counts of success, retention, and full-time status rates into a single variable. This variable was created to align with the CCCCO’s definition of academic success for students. Additionally, previous studies also noted academic “success” as a

combination of course grades and retention. The CCCCO considers full-time unit status as a “leading indicator” success metric (RP Group, 2020).

Data Analysis

Correlation coefficients along with significance tests and effect sizes from ANOVA analyses were obtained to determine the existence, strength, and statistical significance of the relationships outlined in research questions one through eight. Specifically, 8 tests of statistical significance for the correlation coefficients and 8 ANOVA tests with effect sizes were conducted to determine if higher percentages of minority faculty were related to the following for African Americans and Hispanic students combined: 1) higher percentages of success through the 2018-2020 combined academic years and 2) in the 2021-2022 academic year; 3) higher percentages of retention through the 2018-2020 combined academic years and 4) in the 2021-2022 academic year; 5) higher percentages of full-time unit enrollment through the 2018-2020 combined academic years, and 6) in the 2021-2022 academic year; 7) overall academic success percentages during the combined 2018-2019 and 2019-2020 academic years and 8) in the 2021-2022 academic year.

Limitations

The current study was strictly quantitative. This study did not attempt to account for curriculum, andragogy, culturally competent training, or culturally competent applications in the classroom as possible impacts on the academic success of students from ethnic minority groups. Although the current study

included data from almost all the CCC, the current study simply sought to examine if statistically significant relationships existed between the academic success of students from ethnic minority groups and their enrollment in CCC of varying levels of minority faculty. As such, explanations regarding the nature of the relationships, or the lack thereof, may be difficult to derive if additional factors or confounding factors existed. Interpretations of this study may be limited to whether or not relationships exist between academic success of ethnic minority students and the presence of ethnic minority faculty.

Summary

Chapter three of the dissertation outlined the methodology utilized in the quantitative study, the characteristics of the sample included within this study, the research design, the quantitative data collection process, analyses of data, and data interpretation, along with limitations of the current study.

CHAPTER FOUR

RESULTS

Chapter four of the dissertation presents the results obtained with the methodology and procedures including the design, sample, data, data analysis, as well as the limitations and summary outlined in chapter three of the study. This quantitative study examined whether relationships existed between rates of minority faculty and the rates of success, retention, full-time unit enrollment, and overall academic success rate for minority students in CCC's between the 2018-2019 and 2020-2021 academic years. All data were obtained from the CCCCO's Data Mart. The counts of minority faculty and minority students included in the study from the 115 CCC can be reviewed in Table 1 and Table 2 (pp. 36-37)

There were four research questions formulated using the combined 2018-2019 and 2019-2020 academic years data and four research questions formulated using the 2020-2021 academic year data (COVID pandemic and online learning) for a total of eight research questions to examine if relationships existed between the percentage of minority faculty and the percentage of minority students' a) success b) retention, c) full-time unit status, and d) overall academic success rate of minority students during the combined 2018-2019 and 2019-2020 academic years. Correlational and ANOVA tests were used to address the research questions. The level of significance was evaluated with $\alpha = .01$ instead of $.05$ for all eight tests to protect against inflation.

Research Questions 1 and 2

Research question 1) What is the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African American) success rate (i.e., passing grades) during the combined 2018-2019 and 2019-2020 academic years? The results from the correlational test and the ANOVA test illustrated that there was no statistically significant relationship between the minority faculty percentage and minority student success percentage: Pearson's $r = -.024$ ($p = .802$), $F(2, 112) = 0.889$, $p = 0.414$, $\eta^2 = .016$. The effect sizes from both analyses were small.

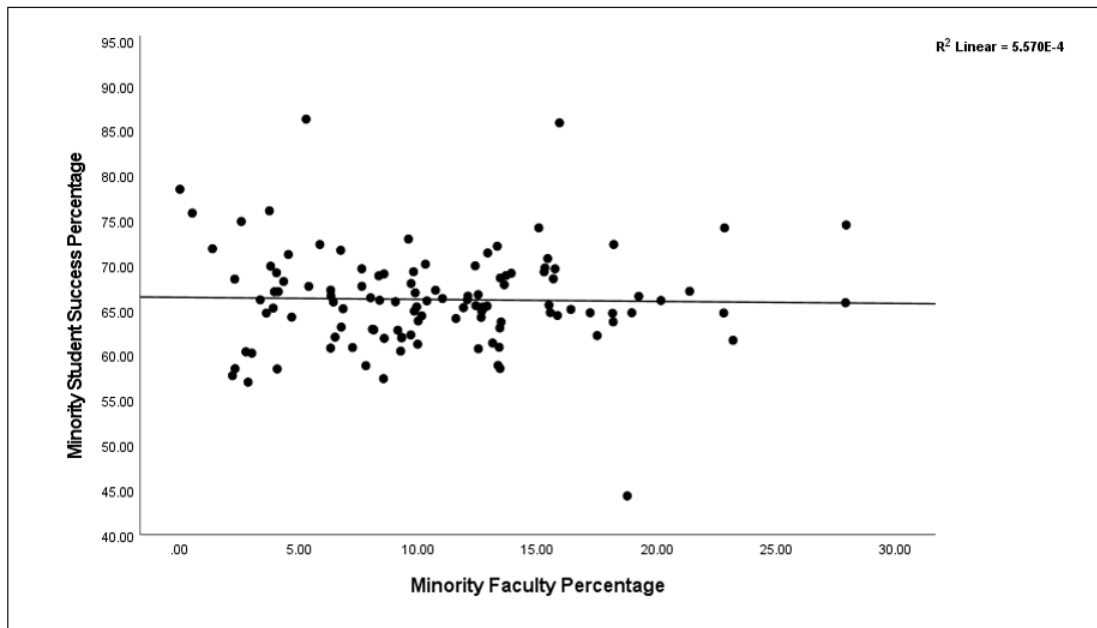


Figure 1. 2018-2020 Percentages for Minority Student Success and Faculty.

Research question 2) What is the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African American) success rate (i.e., passing grades) during the 2020-2021 academic year? The results from the correlational test and the ANOVA test illustrated that there was no statistically significant relationship between the minority faculty percentage and minority student success percentage during online learning in the 2020-2021 academic year: Pearson's $r = .108$ ($p = .249$), $F(2, 112) = 1.928$, $p = .150$, $\eta^2 = .033$. The effect sizes from both analyses were small.

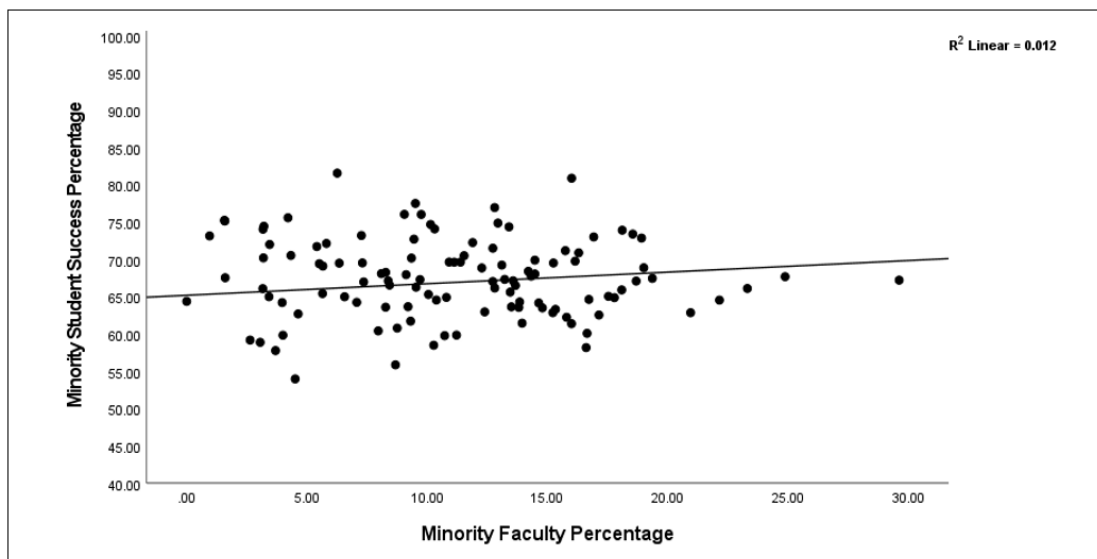


Figure 2. 2020-2021 Percentages for Minority Student Success and Faculty.

Table 3. *F*-test Results for Research Questions 1 and 2.

Minority Student Success Percentages	MNSQ	<i>df</i>	<i>F</i>	<i>p</i>	η^2
2018-2020					
Between Groups	0.003	2	0.889	0.414	0.016
Within Groups	0.003	112			
2020-2021					
Between Groups	0.013	2	1.928	0.150	0.033
Within Groups	0.007	112			

Research Questions 3 and 4

Research question 3) What is the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African American) retention rates during the combined 2018-2019 and 2019-2020 academic years? The results from the correlational test and the ANOVA test illustrated that there was no statistically significant relationship between the minority faculty percentage and minority student retention percentage: Pearson's $r = -.071$ ($p = .452$), $F(2, 112) = 1.566$, $p = 0.213$, $\eta^2 = .027$. The effect sizes from both analyses were small.

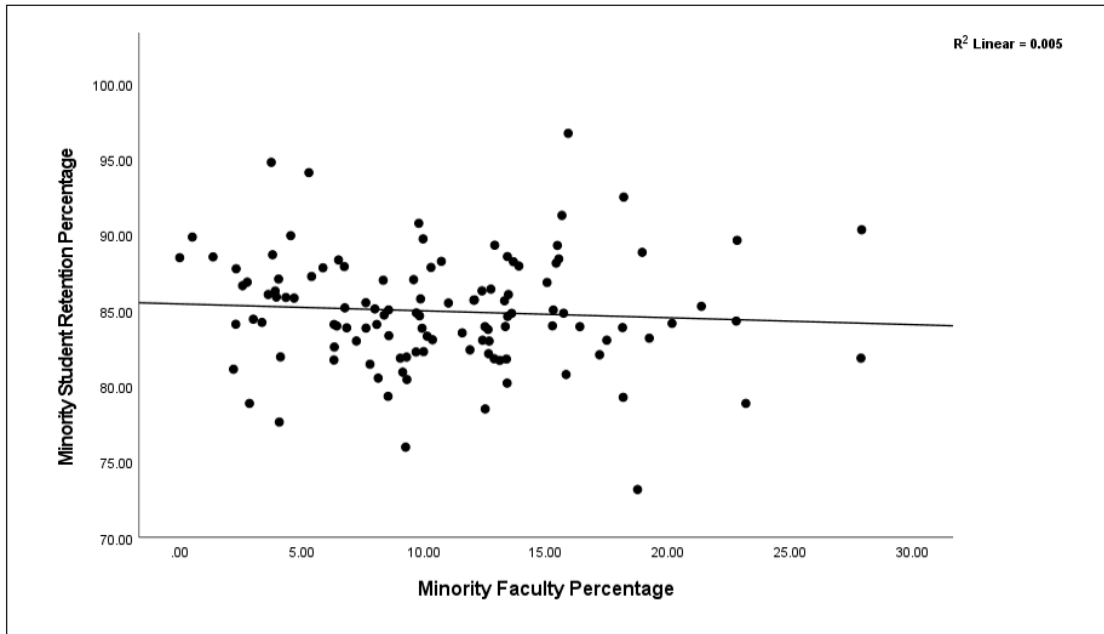


Figure 3. 2018-2020 Percentages for Minority Student Retention and Faculty.

Research question 4) What is the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African American) retention rates during the 2020-2021 academic year? The results from the correlational test and the ANOVA test illustrated that there was no statistically significant relationship between the minority faculty percentage and minority student retention percentage during online learning in the 2020-2021 academic year: Pearson's $r = .124$ ($p = .188$), $F(2, 112) = 1.632$, $p = .200$, $\eta^2 = .028$. The effect sizes from both analyses were small.

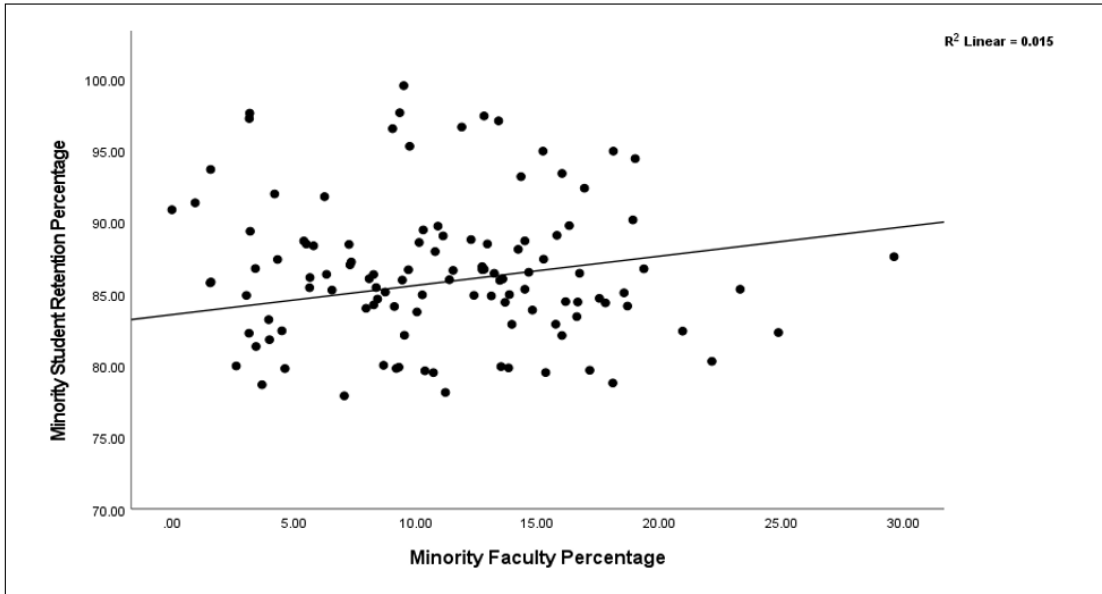


Figure 4. 2020-2021 Percentages for Minority Student Retention and Faculty.

Table 4. *F*-test Results for Research Questions 3 and 4.

Minority Student Retention Percentages	MNSQ	<i>df</i>	<i>F</i>	<i>p</i>	η^2
2018-2020					
Between Groups	0.002	2	1.566	0.213	0.027
Within Groups	0.001	112			
2020-2021					
Between Groups	0.014	2	1.632	0.200	0.028
Within Groups	0.009	112			

Research Questions 5 and 6

Research question 5) What is the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African American) full-time unit status during the combined 2018-2019 and 2019-2020 academic years?

The results from the correlational test and the ANOVA test illustrated that there

was a statistically significant relationship between the minority faculty percentage and minority student full-time status percentage: Pearson's $r = .619$ ($p < .001$), $F(2, 112) = 25.952$, $p < .001$, $\eta^2 = .317$. The effect sizes from the Pearson correlation and ANOVA test were large. As the rate of minority faculty increased, the rate of full-time unit status increased for minority students.

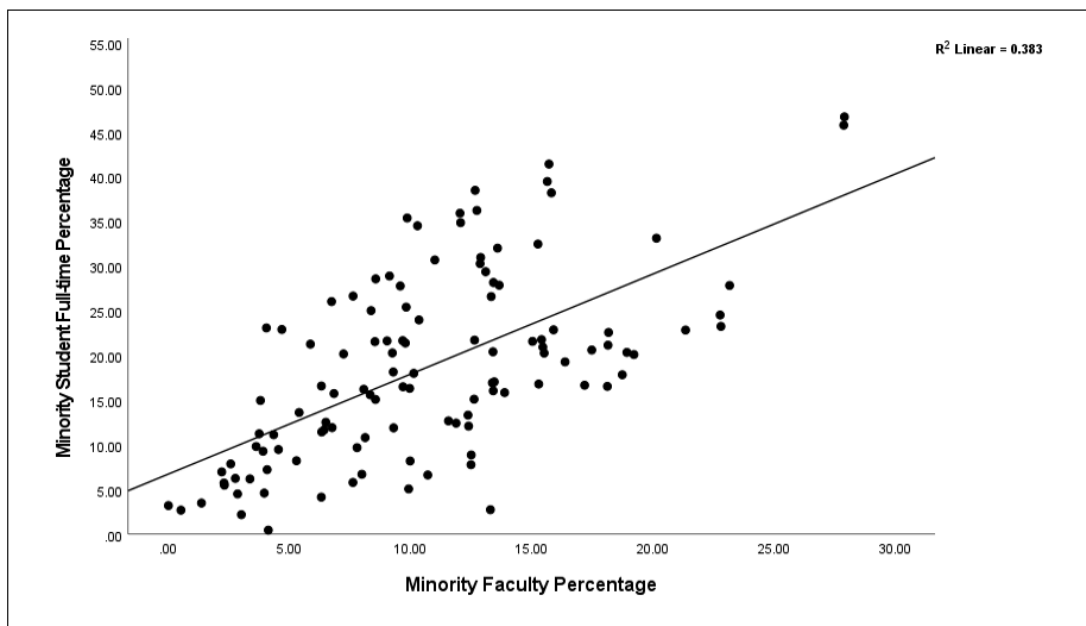


Figure 5. 2018-2020 Percentages for Minority Student FT Status and Faculty.

Research question 6) What is the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African American) full-time unit status during the 2020-2021 academic year? The results from the correlational test and the ANOVA test illustrated that there was a statistically significant relationship between the minority faculty percentage and minority

student full-time status percentage during online learning in the 2020-2021 academic year: Pearson's $r = .701$ ($p < .001$), $F(2, 112) = 32.172$, $p < .001$, $\eta^2 = .365$. The effect size from the Pearson correlation and the ANOVA test were large. As the rate of minority faculty increased, the rate of full-time unit status increased for minority students during online learning in the 2020-2021 academic year.

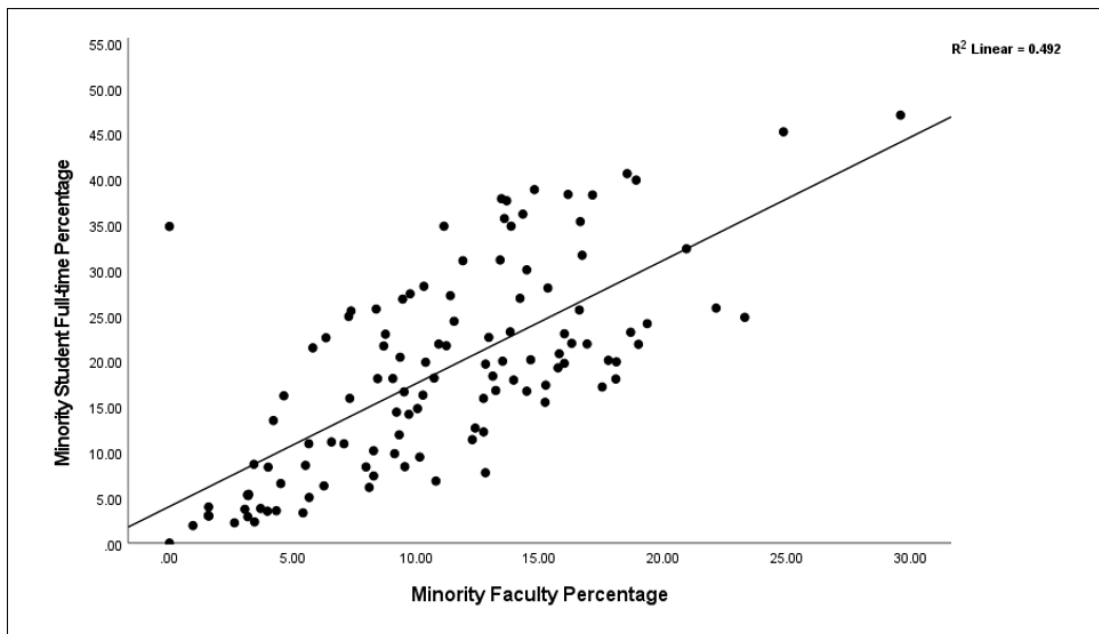


Figure 6. 200-2021 Percentages for Minority Student FT Status and Faculty.

Table 5. *F*-test Results for Research Questions 5 and 6.

Minority Student FT Percentages	MNSQ	<i>df</i>	<i>F</i>	<i>p</i>	η^2
2018-2020					
Between Groups	0.193	2	25.952	< .001	0.317
Within Groups	0.007	112			
2020-2021					
Between Groups	0.253	2	32.172	< .001	0.365
Within Groups	0.008	112			

Research Questions 7 and 8

Research question 7) What is the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African American) overall academic success rate (i.e., passing grades) during the combined 2018-2019 and 2019-2020 academic years? The results from the correlational test and the ANOVA test illustrated that there was a statistically significant relationship between the minority faculty percentage and minority student overall academic success percentage: Pearson's $r = .436$ ($p < .001$), $F(2, 112) = 11.540$, $p < .001$, $\eta^2 = .171$. The effect sizes from the Pearson correlation and the ANOVA test were medium and large. As the percentage of minority faculty increased, the overall academic success percentage increased for minority students during online learning in the combined 2018-2019 and 2019-2020 academic years.

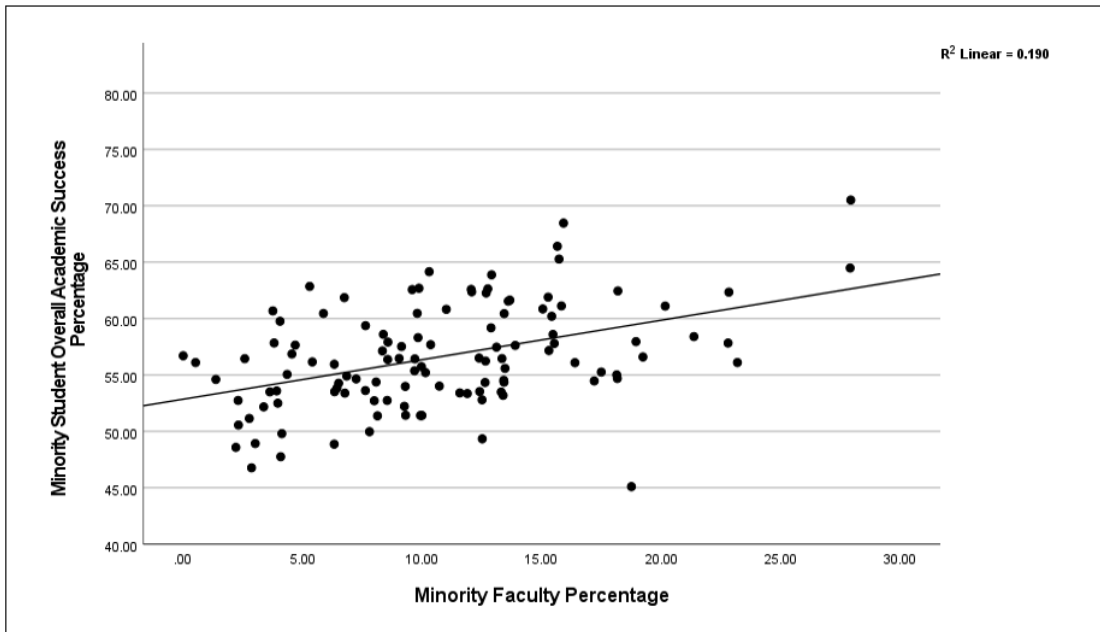


Figure 7. 2018-2020 Percentages for Minority Student Overall Academic Success and Faculty.

Research question 8) What is the relationship between the percentage of minority faculty and minority students' (i.e., Hispanic and African American) overall academic success rate (i.e., passing grades) during the 2020-2021 academic year? The results from the correlational test and the ANOVA test illustrated that there was a statistically significant relationship between the minority faculty percentage and minority student overall academic success percentage during online learning in the 2020-2021 academic year: Pearson's $r = .454$ ($p < .001$), $F(2, 112) = 12.687$, $p < .001$, $\eta^2 = .185$. The effect size from the Pearson correlation and the ANOVA test were medium and large. As the percentage of minority faculty increased, the overall academic success

percentage increased for minority students during online learning in the 2020-2021 academic year.

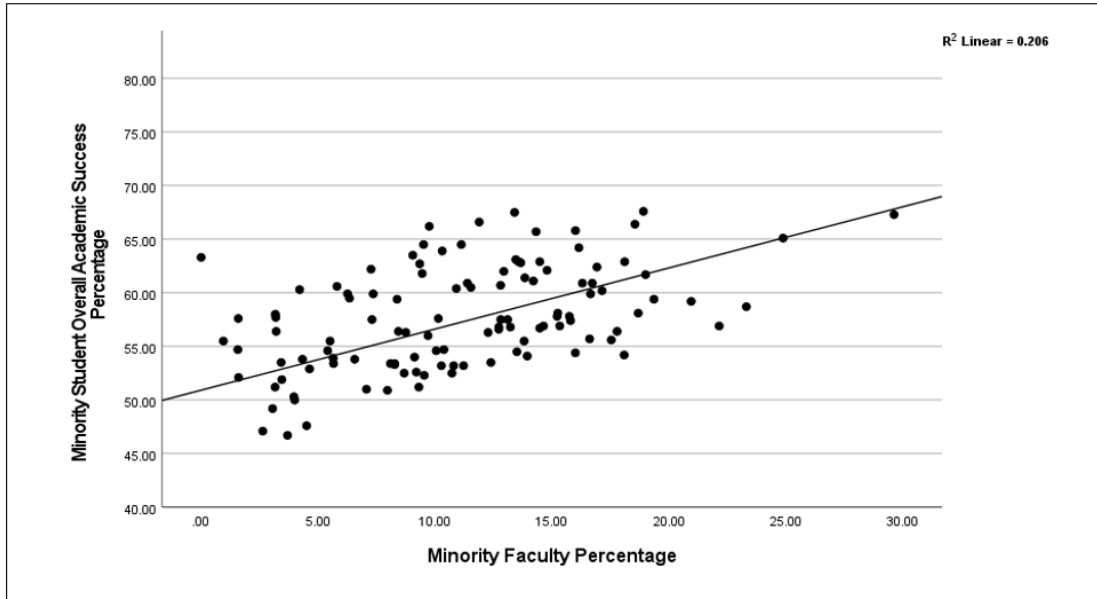


Figure 8. 2020-2021 Percentages for Minority Student Overall Academic Success and Faculty.

Table 6. *F*-test Results for Research Questions 7 and 8.

Minority Student Academic Success Percentages	MNSQ	<i>df</i>	<i>F</i>	<i>p</i>	η^2
2018-2020					
Between Groups	0.021	2	11.540	< .001	0.171
Within Groups	0.002	112			
2020-2021					
Between Groups	0.054	2	12.687	< .001	0.185
Within Groups	0.004	112			

Summary

This chapter reported the findings from the tests of statistical significance of the correlations and ANOVA conducted with data from the 115 CCC's that had an average composition of 11.7% African American faculty and 13.8% Hispanic faculty for a combined total of 25.5% for the two academic years of 2018-2019 and 2020-2021. The student enrollment at the 115 CCC's between the 2018-2019 and 2020-2021 academic years consisted of 5.7% African American student and 47.3% Hispanic students for a combined total of 53%. The percentage of FT African American students was 5.6% and 44.5% FT Hispanic students for a total of 51.1% FT minority students across all 115 CCC campuses. The mean success percentage of minority students was 66.53% and 85.35% for retention. The overall academic success percentage average for the minority student population was 56.88%. Statistical tests of significance for Correlation and ANOVA were used to examine if relationships existed between the minority faculty rate and the rates of a) success, b) retention, c) FT status, and d) overall academic success rate from 2018-2019 to 2020-2021.

The results illustrated that there was a statistically significant relationship between higher percentage of minority faculty and the full-time unit status percentage of minority students in both the combined 2018-2020 academic years and the 2020-2021 academic year. As the percentage of minority faculty increased, the percentage of full-time students increased for minority students. The effect sizes of the analyses were medium and large. Additionally, there was

a statistically significant relationship between higher percentages of minority faculty and overall academic success percentages of minority students in both the combined 2018-2020 academic years and the 2020-2021 academic year. As percentages increased for minority faculty, full-time overall academic percentages increased for minority students. The effect sizes of the analyses were medium and large.

CHAPTER FIVE

DISCUSSION, CONCLUSION, AND IMPLICATIONS

Chapter five includes a discussion and interpretations of the results of the current study, and the proposed recommendations for future research regarding the effects of the representation of diverse faculty on the academic success of minority student populations. Chapter 5 is organized as follows: discussion and interpretations of the results, limitations of the findings, relationship of findings to previous literature, implications of the study on higher education practices, recommendations for future research, and the conclusion.

The purpose of the current study was to examine if minority students, namely African American and Hispanic students, performed with higher rates of success, retention, full-time unit status, and overall academic success at California Community Colleges that employed higher rates of diverse faculty as opposed to minority students at CCC with lower rates of minority faculty.

Discussion of the Findings

To further the study of factors that impact the academic success of minority students in higher education is important since CCC are predominantly composed of students from ethnic minority groups. Hispanic and African American students have lower success rates in passing courses and retention rates for those courses, indicating that these students either fail or drop courses at higher rates than their ethnic counterparts. Minority students from these

groups also had low enrollment rates as full-time students (12+ units per term). Additionally, the CCC faculty composition percentages of Hispanic and African American instructors are also low in comparison to the percentage of White faculty. In an attempt to understand if relationships existed between the academic success of minority students and the representation of minority faculty, publicly available data from the CCCCCO Data Mart information system were examined. Specifically, in this quantitative study, data from the 2018-2019 to the 2020-2021 academic years that included student success, retention, and unit load information for Hispanic and African American students as well as minority faculty data from 115 CCC were downloaded and analyzed to answer the eight research questions.

The descriptive statistics regarding the ethnic composition of faculty illustrated in the current study (see Table 1) aligned with existing research which also reported on the small percentages of minority faculty in higher education (McCoy, Winkle-Wagner, & Luedke, 2015; Rodgers, 2012). Scholars in higher education discovered that students of ethnic minority groups experienced lower academic success rates than White and Asian students (Leon, 1980; Clagett, 1998; McCoy, Winkle-Wagner, & Luedke, 2015; Rodgers, 2012) over the years. Researchers in previous studies have examined factors that impacted the academic success of minority students to understand this phenomenon. In the 2020-2021 academic year, the CCC reported an overall statewide success rate of 76% with Hispanic students' success at 74.8% and African American students'

success at 69%. This data illustrated that minority students are still experiencing lower academic success, which aligns with previous studies. The current study aligned with previous studies in examining additional factors that impact minority student success. However, minority faculty representation has yet to be studied as a possible factor that might impact minority students' success in higher education. The current study added to the existing body of literature by examining the impacts of the percentages of minority faculty on minority students' academic success.

Factors that have an Impact on Minority Student Success

To examine the low performance of minority students, several variables have been investigated to better understand which factors appear to positively impact the academic success of minority students and which factors seemed to either have no impact or even had a negative impact on the outcomes of these students. Variables that have been studied include program interventions and services (Leon, 1980; RP Group 2018; 2022), students' socio-demographics (Clagett, 1998; Isik et al., 2018; Morales, 2010), faculty perceptions and faculty mentorship effects (McCoy, Winkle-Wagner, & Luedke, 2015; Rogers, 2012), institutional racism (Mirza, 2018), stereotypes and biases (Taylor, Guy-Walls, Wilkerson, & Addae, 2019). The current study was designed to continue the examination of one additional factor i.e., percentage of minority faculty that may have a relationship with and/or impact on the academic success of minority students.

Interpretation of Research Questions 1 and 2. The Pearson correlation and the ANOVA with effect size indicated that there was not a statistically significant relationship between the percentage of minority faculty in the combined 115 CCC and minority students' success percentages (i.e., passing grades) during the combined 2018-2020 academic years (R1) nor during the 2020-2021 academic year when all learning was restricted to online instruction during the COVID pandemic (R2). This could be an indication that the representation and presence of African American and Hispanic faculty members does not have a direct impact on African American and Hispanic students successfully passing their courses in community colleges in California. In a further analysis of the statistical tests run with effect sizes, minority student success positively correlated with minority student retention and reached statistical significance. The relationship between minority student success and minority student retention could be such that when a minority student successfully passes their courses, they are more likely to remain enrolled in their courses (ergo, be retained). The percentage of minority faculty may not have had a direct impact on minority students' success (i.e., higher percentage of minority students with passing grades) in the current study. This may be because other factors could exist that have stronger relationships with minority student success. It is important to continue to study other factors that do have an impact.

Additionally, while the study was intended to examine the relationships between the percentage of minority faculty and the percentages of minority

student success, a review of the success percentages of minority students and corresponding percentages of minority faculty within the same colleges illustrated an interesting finding worth interpretation. Of the top twenty community colleges with the highest percentages of minority student success in the combined 2018-2020 academic years, nine colleges had the lowest percentages (less than 5%) of minority faculty, and three had a medium percentage of minority faculty (between 9% and 12%). This finding regarding the percentages of minority faculty and minority student success could present an explanation for the lack of relationships found in the first and second research questions. A possible interpretation of this conflicting data trend could be the occurrence of grade inflation at these 12 community colleges that employed lower percentages of minority faculty. Grade inflation may occur for a number of reasons, including a need to advertise the college as being one of the best at facilitating student success. Another possible explanation could be that faculty are succumbing to institutional pressures to grade in accordance with a standard bell curve. The study of minority faculty representation and its impacts on minority student success should continue to be researched.

Interpretation of Research Questions 3 and 4. The findings from the correlational and ANOVA tests, with effect sizes, illustrated that no statistically significant relationship was found between the percentage of minority faculty in the 115 CCC and the percentage of minority student retention in courses during the combined 2018-2020 academic years (R3). The same non-significant results

were present during the 2020-2021 academic year when all learning was restricted to the online modality during the COVID pandemic (R4). This could be an indication that the representation and presence of African American and Hispanic faculty members does not have a direct impact on African American and Hispanic students' retention percentages in their community college courses. As noted above in the interpretation of research questions one and two, the only statistically significant positive correlation for retention percentages was the success percentages for minority students. The relationship between minority student retention and minority student success could be such that when minority students remain enrolled in their courses (instead of dropping them) they may experience increased success percentages. While the percentage of minority faculty may not be related to minority students' retention percentages, this may be because other factors exist with stronger relationships with minority student retention.

Interpretation of Research Questions 5 and 6. The analysis of the correlational and ANOVA tests with effect sizes indicated that there was a statistically significant relationship between the percentages of minority faculty in the combined 115 CCC's and percentages of minority students with full-time unit status for the combined 2018-2020 academic years (R5) and for the 2020-2021 academic year when all learning was restricted to the online modality during the COVID pandemic (R6). This could be an indication that the representation and presence of African American and Hispanic faculty members could be related to

African American and Hispanic students' full-time unit status percentages in community colleges in California. This relationship warrants further study to determine the nature of this positive correlation, and additional factors that may impact this relationship.

While this was the only statistically significant relationship regarding the percentage of minority faculty pertaining to the research questions studied, it is important to remember that correlations are not meant to indicate causation. The representation and presence of minority faculty may or may not have a direct impact on minority students' success, and the relationship of these two variables should be examined with context and other variables. First, other events during the academic years included in the current study, 2018-2021 may have occurred which could explain the simultaneous increase in both the percentage of representation of minority faculty and in minority student's full-time unit status during this time in CCC. For example, the CCCCO marketed increased efforts to support diversity, equity, and inclusion (DEI) across CCC during this time. A review of the CCCCO website demonstrates these efforts in the vision for success (<https://www.cccco.edu/About-Us/Vision-for-Success>) and in their newsletter (<https://www.cccco.edu/About-Us/News-and-Media/California-Community-Colleges-Outlook-Newsletter/campus-policing>). The CCCCO has remained active in advertising support for increased DEI and decreased systemic racism throughout the CCC system. Furthermore, in 2020, the CCCCO released memos to address concerns about DEI during the Trump Administration when

threats to DEI efforts had become increasingly visible. These statewide efforts through 2018-2021 could explain the increased percentage of minority faculty.

The increased full-time unit status percentages in minority students through 2018-2021 could have also been impacted by the CCCCO's statewide campaign for *Fifteen to Finish* (<https://completecollege.org/strategy/15-to-finish/>). This campaign can be found across any number of CCC websites. The intention of the campaign is to encourage all college students to enroll in fifteen units during all semesters to graduate with a degree in two years. Graduation within two years has been a longstanding mission of the CCCCO and the CCC (<https://www.cccco.edu/About-Us/Vision-for-Success>). Low graduation rates resulted in an increased emphasis on encouraging students to enroll in more units per semester which would explain the increased full-time unit status percentages for minority students during this time.

Interpretation of Research Questions 7 and 8. The analysis of the correlational and ANOVA tests with effect sizes illustrated that there was a statistically significant relationship between the percentages of minority faculty in the combined 115 CCC and minority students' overall academic success percentages during the combined 2018-2020 academic years (R7) and during 2020-2021 academic year when all learning was restricted to the online modality during the COVID pandemic (R8). This could be an indication that the representation and presence of African American and Hispanic faculty members does have a direct impact on African American and Hispanic students' overall

academic success in community colleges in California.

While no statistically significant relationships existed between minority faculty percentages and the percentages of the separate metrics including success and retention separately, the combination of success, retention, and full-time status metrics into one academic success variable did result in illustrating that there is a relationship between the presence of minority faculty and academic success for minority students. This may be an indication that the representation and presence of minority faculty is a variable that impacts the academic success for minority students. Furthermore, it is worth noting the importance of studying multiple variables when examining statistical relationships.

Limitations of the Findings

As noted in Chapter three, several limitations were present in the current study. The current study was strictly quantitative, which limits triangulation and the ability for the researcher to fully understand context, confounding and extraneous variables, and other factors that might have helped develop a more thorough understanding of the results obtained in the study. A strictly quantitative study such as this may not provide a thorough explanation for the results obtained in a study. However, quantitative studies create justification and rationale for additional studies to further explore the relationships of variables using qualitative or mixed methods to create a more thorough understanding of results obtained.

Furthermore, this study did not account for the diversity of curriculum or culturally relevant andragogy for the college classroom as possible factors that could impact the academic success of students from ethnic minority groups. Relying on a small number of variables is a limitation in this study. Additionally, this study did not account for the types of levels of interpersonal interactions of minority students with their minority faculty members. It is quite possible that the percentage of minority faculty was not comparable to the percentage of minority students that were instructed by the faculty.

The current study examined data from the CCC to examine if relationships existed between the academic success of ethnic minority students and the percentage of minority faculty. As such, conclusions, or explanations regarding relationships or the lack thereof may be difficult to derive. Interpretations of this study may be limited to whether relationships exist between academic success of ethnic minority students and level of representation of ethnic minority faculty. Understanding the impacts on the success for minority students will require further study with methods that provide more in depth understanding of such relationships.

Implications for Higher Education Practices

There are several implications that can be drawn from the results and interpretations of the results from the current study. Implications for higher education practices include matters that may be addressed by human resources, professional development, and research.

Human Resources and Diversity, Equity, and Inclusion Efforts

Though it was not the aim of the current study, both previous research and the current study illustrated that African American and Hispanic individuals were underrepresented in the community college faculty group of employees. Addressing the underrepresentation of minority groups in faculty is critical not only to continue addressing DEI efforts but also in addressing the low academic success percentages for minority students. Human resource departments along with hiring committees are often responsible for recruiting and hiring qualified individuals within organizations and must strive to be more committed to recruiting qualified diverse individuals. This will require engaging in various new recruiting tactics, which may be difficult or take longer, but the possible positive impacts on both DEI efforts and minority students would be beneficial to maintaining a culture of supporting diversity and decreasing equity gaps between various ethnic groups.

Professional Development in Higher Education

As noted by the limitations of the current, factors such as updated andragogy, curriculum, cultural competency in the classroom were not explored. However, these factors may all be areas worth exploring through professional development opportunities in community colleges. For example, traditional curriculum and traditional grading systems are often still in use in the education system but may no longer be best practice in serving such a diverse student population. Community Colleges should be committed to understanding the

factors that support the learning and success of their minority students as well as to ensuring that faculty and staff receive relevant professional development in this area.

Continued Research on Equity Gaps in Academic Success

The current study added to the body of research in education regarding the equity gaps that exist in achieving successful academic outcomes for minority students. Specifically, the current study addressed the topic through a quantitative design that ethnic representation does matter in terms of minority students' academic success. Educational research is comprised highly of qualitative methods, moderate mixed method designs, and very few quantitative methods. Studies such as this one can create additional groundwork for further quantitative studies, which is needed in educational research. Additionally, grade inflation in higher education should be examined more closely as well as its impact, or appearance of an impact, on closing equity gaps in academic success. Furthermore, newer grading systems should be studied regarding a possible impact on equity gaps. The traditional method of grading may no longer be the best method for assessing students' learning and may be negatively impacting students from ethnic minority groups.

Recommendations for Future Research

Future research is needed to continue to explore the importance of minority representation. Limited research exists in addressing first, that

representation does matter, but second, how and in what ways does minority representation matter. Systemic racism is still an issue for community colleges as is evidenced by the continued equity gaps in access and achievement. More research is needed to understand and illustrate the importance of minority representation and the impacts of representation on other ethnic groups. This maybe a useful step in addressing systemic racism and the impacts on minority students. Furthermore, investigation is needed for other ethnic groups defined as being “minority” groups, such as Native American and Pacific Islander groups and the impacts on academic success for those groups. Less research has been conducted on the academic success for other minority groups in comparison to Hispanic and African American students. Research should address this gap in the body of literature.

Additionally, Further research is needed in expanding the use of quantitative studies in the field of education and educational research. Limitations of research can be addressed by true triangulation methods, however, the lack of quantitative methods in the studies makes this difficult. Qualitative studies are needed for several reasons including creating transformative research that includes people and their experiences as narrated by themselves. However, quantitative studies add complex information to creating an understanding of variables that statistically impact the larger population. Quantitative information is necessary when researching and applying empirically supported best practices in higher education, especially for a system that serves one of the largest diverse

populations in the United States.

Research should also continue to study variables and factors that impact the academic success of minority students. Especially after the COVID pandemic changed the way institutions, instructors, and students engage in and interact through learning environments. More research will be needed to create an understanding of whether different groups were/are impacted differently as the learning environment, technology, and teaching continue to adapt. Furthermore, future research could be done on the possible impacts of the representation of minority faculty separately for tenured/full-time faculty and adjunct/part-time faculty to determine if representation in either group impacts minority student success differently. Additional success metrics should also be studied with the percentages of minority faculty, such as minority student GPA and graduation percentages. Finally, additional quantitative investigation could be conducted to examine each minority student group independently.

Conclusion

As of January 2023, it is hard to describe any ethnic group as being the majority as the population demographics continue to shift. The most recent US census (PPIC, 2020) reported that California's population demographics included 39% Hispanic and 35% White, 15% Asian/Pacific Islander, 5% African American, 4% Multi-Ethnicity, and less than 1% Native American/Native Alaskan (Johnson., McGee, & Mejia, 2023). However, the shift in the populations demographics continues to make it easier to determine which groups are considered minority

groups. As such, strategies to support the success and equity of individuals in those minority groups need to be explored and implemented in higher education to deliver on the promises made by our higher education system. Such promises include closing equity gaps, making higher education accessible and achievable, as well as supporting diversity. The continued existence of equity gaps in higher education demonstrates that the California Community Colleges still have more work to do to support the success of their students.

APPENDIX A

LIST OF 115 CCC'S IN THE CURRENT STUDY

COLLEGE	COLLEGE	COLLEGE
Alameda	Glendale	Pasadena
Allan Hancock	Golden West	Porterville
American River	Grossmont	Redwoods
Antelope Valley	Hartnell	Reedley College
Bakersfield	Imperial	Rio Hondo
Barstow	Irvine	Riverside
Berkeley City	LA City	Sacramento City
Butte	LA Harbor	Saddleback
Cabrillo	LA ITV	San Bernardino
Canada	LA Mission	San Diego City
Canyons	LA Pierce	San Diego Mesa
Cerritos	LA Swest	San Diego Miramar
Cerro Coso	LA Trade	San Francisco
Chabot Hayward	LA Valley	San Joaquin Delta
Chaffey	Lake Tahoe	San Jose City
Citrus	Laney	San Mateo
Clovis	Las Positas	Santa Ana
Coastline	Lassen	Santa Barbara
Columbia	Long Beach	Santa Monica
Compton	Los Medanos	Santa Rosa
Contra Costa	Marin	Santiago Canyon
Copper Mountain	Mendocino	Sequoias
Cosumnes River	Merced	Shasta
Crafton Hills	Merritt	Sierra
Cuesta	MiraCosta	Siskiyou
Cuyamaca	Mission	Skyline
Cypress	Modesto	Solano
Deanza	Monterey	Southwestern
Desert	Moorpark	Taft
Diablo Valley	Moreno Valley	Ventura
East LA	Mt San Antonio	Victor Valley
El Camino	Mt. San Jacinto	West Hills Coalinga
Evergreen Valley	Napa	West Hills Lemoore
Feather River	Norco College	West LA
Folsom Lake	Ohlone	West Valley
Foothill	Orange Coast	Woodland
Fresno City	Oxnard	Yuba
Fullerton	Palo Verde	
Gavilan	Palomar	

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