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## The Relationship Between Student Academic Performance, Pre And In-College Factors, And Trends Since Covid-19 At An HBCU

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THE RELATIONSHIP BETWEEN STUDENT ACADEMIC PERFORMANCE,  
PRE AND IN-COLLEGE FACTORS, AND TRENDS SINCE COVID-19 AT AN  
HBCU

A Dissertation

by

BEQUITA V. PEGRAM

Submitted to the Office for Graduate Studies of  
Prairie View A&M University  
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2023

Primary Subject: Educational Leadership

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Approved as to style and content by

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August 2023

Major Subject: Educational Leadership

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RELATIONSHIP BETWEEN STUDENT ACADEMIC PERFORMANCE, PRE AND  
IN-COLLEGE FACTORS, AND TRENDS SINCE THE IMPACT OF COVID-19 AT  
AN HBCU

## ABSTRACT

Relationship Between Student Academic Performance, Pre and In-College Factors, and  
Trends Since the Impact of Covid-19 at an HBCU

August 2023

Bequita Pegram, B.S., Jackson State University

M.A., Jackson State University

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This study used the Ecological System theory developed by Bronfenbrenner (1992) to understand African American students' academic performance at Historically Black Colleges and Universities (HBCU). The systems include the microsystem (for example, family, school, and peers), mesosystem (for example, relationships between different microsystems), exosystem (for example, community and societal institutions), and macrosystem (for example, cultural and societal values) (Pepler, 2017). These systems can all have an impact on student academic performance.

This quantitative study utilized archival data to examine three research questions to reveal the relationship between student academic performance and (a) pre-college factors (high school GPA and SAT), (b) student financial dependency status, and (c) the COVID-19 pandemic.

*Keywords:* covid-19 pandemic, dependent status, dependent student, independent student

## **DEDICATION**

To My Mother, Mary Ann Nolan Hudson, LBSW

## ACKNOWLEDGMENTS

I thank my committee chair, Dr. Lisa K. Thompson, and my committee members, Dr. Douglas Hermond, Dr. Fred A. Bonner II, and Dr. Elizabeth Whittington, for their guidance and support throughout this research.

I would also like to give special thanks to my husband, Alphonso F. Pegram Jr., for always supporting each one of my dreams and goals. I am grateful to my family for their continuous support, encouragement, and understanding when undertaking my research and writing my project. Your prayers for me were what sustained me this far.

As a mother, I always try to be an example to my children of what effort and dedication can do to an imperfect situation. Destiny and De'Sean you are my encouragement to strive for greatness because I always want to be an example to you to keep challenging yourself.

Finally, I thank God for carrying me through all my challenges on this journey. I have experienced your guidance day by day. You are the one who gave me the strength to finish my degree; I can do all things through Christ who strengthens me.

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# CHAPTER I

## INTRODUCTION

Historically Black Colleges and Universities (HBCUs) are essential because they allow African American communities to obtain undergraduate and graduate-level degrees (Williams et al., 2022). Currently, 101 HBCUs are located in the United States of America (Johnson et al., 2021). HBCUs have been responsible for educating students since the first HBCU, Cheyney University, was founded as the African Institute, in 1837, in Pennsylvania (Stein, 2017). State governments, local organizations, and individuals in isolation from the rest of higher education through legal segregation created HBCUs. Historically, HBCUs have endured systemic oppression, inadequate funding, deferred maintenance, and accreditation issues (Hill, 1985). HBCUs were established to provide educational opportunities for Black Americans who were denied access to mainstream colleges and universities due to segregationist policies.

First, HBCUs have faced systemic oppression through funding disparities and limited resources. For example, HBCUs receive less federal funding and philanthropic support than predominantly White institutions (PWIs). The lack of funding has resulted in inadequate facilities, outdated technology, and limited research opportunities (Gordan et al., 2020). The literature also points out that discriminatory policies and practices have made it difficult for HBCUs to attract and retain top faculty and students.

Secondly, HBCUs have also faced accreditation challenges due to discriminatory practices and policies by accrediting agencies. In the past, accrediting agencies have set higher standards for HBCUs. These higher standards placed by HBCUs accrediting

agencies resulted in a negative perception of HBCUs and a need for more confidence from potential students and employers (Burnett, 2020). Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) is one of several regional accrediting bodies in the United States responsible for accrediting institutions of higher education. SACSCOC's history with HBCUs dates back to the 1910s when it began accrediting Black institutions in the Southern region. Accreditation for HBCUs by SACSCOC was only sometimes smooth sailing (Burnett, 2020).

Literature shows that SACSCOC and other accrediting agencies have argued that the standards and criteria used in the accreditation process may need to consider the unique missions and historical contexts of HBCUs fully. They contend that the evaluation criteria must adequately capture HBCUs' cultural and educational contributions, leading to a perceived bias or unfair treatment (Burnett, 2020).

Burnett's research argued that the accreditation standards and criteria used by SACSCOC may not sufficiently recognize or value the educational approaches, curricula, and programs offered by HBCUs. Burnett argued that these institutions may be evaluated based on a predominantly White institutional model, which might not align with their historical and cultural contexts. Like many minority-serving institutions, HBCUs face financial challenges due to lower endowments and historical funding disparities. Literature contends that accrediting agencies might not consider the unique financial circumstances of HBCUs, leading to potential disadvantages during the accreditation process.

Today, SACSCOC continues to accredit HBCUs and other institutions in the Southern region. SACSCOC accreditation is essential for HBCUs because it ensures that

these institutions meet or exceed the minimum standards of quality and effectiveness in higher education. Accreditation also plays a crucial role in providing access to federal financial aid programs and attracting students and faculty to these institutions (Burnett, 2020).

Economic challenges have been a persistent issue for HBCUs, which have struggled to remain financially viable. HBCUs often have limited funding from state governments and receive less philanthropic support than PWIs (Burnett, 2020). Economic challenges have resulted in inadequate facilities, outdated technology, and limited research opportunities, making it difficult for HBCUs to attract and retain top faculty and students. In addition, HBCUs have lower endowments than other institutions, limiting their ability to offer financial aid to students and invest in academic programs (Burnett, 2020).

The decline in enrollment has also contributed to HBCUs' economic challenges (Burnett, 2020). The COVID-19 pandemic has further exacerbated these issues, with many HBCUs facing significant budget shortfalls due to decreased enrollment and rising costs associated with implementing safety measures. Lastly, HBCUs also face challenges with student retention. The retention rates are lower than other institutions, and for many, this is due to inadequate funding, lack of resources, and limited access to academic support (Burnett, 2020).

Despite contemporary and historical challenges, HBCUs are still crucial to the African-American community as a primary source of education. Comprising three percent of the higher education institutions, HBCUs enroll 10% of all Black students and produce almost 20% of African American graduates (Johnson et al., 2017; Williams et

al., 2022). HBCUs remain an essential part of the educational landscape for Black students, providing a supportive and nurturing environment that fosters academic excellence and personal growth.

On average, the cost of attendance at an HBCU is 28% less than attending a comparable non-HBCU. This more affordable education makes the American dream of obtaining a college degree a reality for many low-income African-American families. Some 40% of HBCU students report feeling financially secure during college, unlike 29% of African-American students at other schools (UNCF, 2012).

Enrollment is only the first step in obtaining a college degree for students. Student academic performance is the foundation of persistence, retention, and graduation rates, which lead to conferred degrees. Enrollment decline has also contributed to the economic challenges faced by HBCUs. The COVID-19 pandemic has further exacerbated these issues, with many HBCUs facing significant budget shortfalls due to decreased enrollment and rising costs associated with implementing safety measures (The Feed, Georgetown University, 2020).

On the road to graduation, students face financial, environmental, and social barriers that can derail or defer their dreams of obtaining a college degree (Battaglia, 2022). These barriers impact student academic performance in various ways. Therefore, implementing strategies to improve student academic performance at HBCUs is essential to the success of the student populations on these campuses.

This introductory chapter explains the problem's background and the purpose of the study. This chapter will conclude with the research questions, the study's significance,

and the definition of the keywords. The purpose of this chapter is to discuss the direction of this study.

### **Background of Study**

Current research shows that student academic achievement barriers present themselves in socioeconomic factors, social support, and academic preparedness (Battaglia, 2022; Johnson et al., 2017). These barriers have mostly remained the same since the findings of early researchers (Tinto, 1993; Tinto, 2006). Ezeala-Harrison (2014) suggested that while national completion rates are up, African-American and European-American college students still have a substantial academic achievement gap. The discussion of HBCUs' performance in graduating students takes a more critical tone in literature than the discussion of PWIs' performance in graduating African Americans.

Without understanding a picture of HBCU retention efforts, critics, scholars, and pundits will continue insinuating that these institutions are underperforming. Hence, intentional research on the academic performance of first-year students at HBCUs is imperative to suggest policies and strategies that improve student retention rates. This research is necessary to understand the impact of HBCUs on student performance.

### **Statement of the Problem**

Despite growing educational opportunities for minority students in America, HBCUs still hold a prominent place in the African-American community. Historically, HBCUs contributed to the growth of America's African-American middle class by being a dominant source of conferred degrees for African Americans. Individually, some HBCUs have earned a reputation for developing specific professions: educators and engineers. In addition to academics, HBCUs provide their students with a home away



from home. Blacknall (2011) found that students were attracted to HBCUs for the following reasons: family history, association with other alums, academic reputation, and campus fit.

Lyn (2022) shared that HBCUs foster a learning environment without the pressure to code-switch. Students enrolled at HBCUs benefit from academic and social support through a culture of care. Despite students' access to social capital, HBCUs' academic performance remains a prevailing problem (Johnson et al., 2017).

Ample evidence exists that African Americans entering college with low high school grade point averages (GPAs) have high college dropout rates (Tinto, 1975). Additionally, the pre-college factor of scholastic aptitude tests (SAT) was found by Braxton (2000) to have a relationship to poor college retention rates. Students entering college with limited exposure to college-readiness classes in high school also have high college dropout rates (Alexander, 2017; Murtaugh et al., 1999). However, student academic success is an area of research that offers scarce strategies and recommendations to HBCUs stakeholders to build positive student academic performance rates. Historically Black Colleges and Universities (HBCUs) have some of the lowest African-American student academic performance rates compared to African-American students enrolled at non-HBCUs (NCES, 2021).

This study proposed that student academic performance has a relationship with (a) pre-college factors (gender, high school GPA, and SAT), (b) student dependency status, and (c) the COVID-19 pandemic. Specifically, this study raised the questions: What is the relationship between student academic performance at an HBCU and (a) pre-college factors, (b) student financial dependency status, and (c) the COVID-19 pandemic?

Previous research has primarily overlooked the relationship between first-year students enrolled in HBCUs and student academic performance. Increased research on student academic performance in HBCU campus environments brings awareness to resources and policies that can change the patterns of student academic performance. The lack of quantified research investigating student academic performance at HBCUs is a limitation of the previous research on student academic performance.

In addition, consideration of the relationship between the independent or dependent student financial dependency status of students and the student academic performance of students enrolled in HBCUs is another limitation of previous research. Lastly, there is a need for more research on the trends of student academic performance since the impact of the COVID-19 pandemic. As the world navigated through a global pandemic, HBCUs administrators were forced by the COVID-19 pandemic to address existing institutional challenges amplified by the pandemic, such as funding disparities, technology deficiencies, and infrastructure needs.

Student academic performance became even more problematic when considering a disruptive environmental force. The pandemic of 2020 affected all college students in the United States. Mostafa et al. (2022) examined the effect of the immediate transition to emergency remote instructions (ERI) on student performance and listed three main findings. Firstly, first-year students' academic performance was below the academic achievements of returning students. Secondly, students who expected their performance to be worse after transitioning to ERI had worse performance than those who transitioned to ERI without performance expectations. Lastly, students with prior online learning experience or exposure outperformed those without prior online learning experience.

This current study proposed that the environmental factor of COVID-19 had a significant association with student academic performance. While administrators and stakeholders prepare for a post-pandemic campus environment, they will reflect on how COVID-19 disrupted student academic performance to prepare for similar environmental events.

### **The Study Rationale**

This quantitative study examined the relationship between (a) student academic performance and pre-college factors and (b) COVID-19 pre- and post-years and student dependency status at a public HBCU. More specifically, this study explored the link between pre-college factors, COVID-19, and financial dependency status on the first-year retention rates of students at a public HBCU.

## Research Questions

The following questions will guide this research study:

RQ1 Is there a statistically significant relationship between a student's first semester GPA at an HBCU . and the pre-college variables, high school GPA, and SAT scores?

RQ2 Is there a statistically significant relationship between a student's first semester GPA at an HBCU and a student's financial dependency status?

RQ3 Is there a statistically significant relationship between student academic performance and the impact of COVID-19 (between 2019 and 2021)?

## Null Hypotheses

H<sub>01.1</sub> There is no statistically significant relationship between a student's first semester GPA at an HBCU and the pre-college variables, high school GPA, and SAT scores.

H<sub>01.2</sub> There is no statistically significant relationship between a student's first semester GPA at an HBCU and a student's financial dependency status.

H<sub>01.3</sub> There is no statistically significant difference in how student performance has changed since the impact of COVID-19 (between 2019 and 2021).

## Alternative Hypotheses

H<sub>a1.1</sub> There is a statistically significant relationship between a student's first semester GPA at an HBCU and the pre-college variables, high school GPA, and SAT scores.

H<sub>a1.2</sub> There is a statistically significant relationship between a student's first semester GPA at an HBCU and a student's financial dependency status.

H<sub>a1.3</sub> There is a statistically significant difference in how student performance has changed since the impact of COVID-19 (between 2019 and 2021).

### **Brief Overview of Methodology**

This quantitative study used archival data for students from a four-year public HBCU collected by the institution from 2012 to 2021. There were advantages to using secondary data. The first advantage of using secondary data was that there was no cost to obtain the data. Secondly, the data was formatted using a Microsoft Excel sheet. The data was received from the Open Records department and was ready to be analyzed using the commercial software SPSS. Because of these advantages, dedicating money or time to collecting data via survey instruments was unnecessary.

The theoretical framework for this study was based on the Ecological System Theory by Urie Bronfenbrenner. Bronfenbrenner's (1994) Ecological System Theory provides a framework for researchers to understand how various systems within an individual's environment interact to impact their development. This theory is particularly relevant to this study when considering student academic performance at HBCUs, as it highlights the multiple and interconnected factors that can influence a student's success.

The study participants were all first-year students enrolled at the institution's main campus from Fall 2011 to Fall 2021. The student population is from 27 states in the United States. Texas is the home state of 94% of the student population. Students make up 85.3% of the campus undergraduate racial-ethnic demographics. The institution accepts 2,000 African American first-year students per year across two-semester sessions.

African-American undergraduate students confer an average of 960 degrees annually (Prairie View A&M University, 2021).

## **Operational Definitions**

**COVID-19 Pandemic:** according to the World Health Organization (2021), COVID-19 was first identified in Wuhan, China, in December 2019 and has since spread globally, leading to a pandemic. According to the World Health Organization (2021), the COVID-19 pandemic has profoundly impacted global health, economies, and societies, leading to unprecedented disruptions and challenges.

**Dependent status:** Free Application for Federal Student Aid (FAFSA) (2021) states that student dependency status determines whether a student is independent or dependent on federal financial aid eligibility.

**Dependent student:** the U.S. Department of Education (2021) defines a dependent student as someone who must provide parental information when applying for financial aid or other educational resources. They are considered financially dependent on their parents or guardians. Dependent students typically include unmarried individuals under 24 years old who are unmarried and have no dependents (FAFSA, n.d.).

**Historically Black Colleges and Universities:** Historically Black Colleges and Universities (HBCUs) are higher education institutions in the United States that were established before the Civil Rights Act of 1964 to serve the Black community (U.S. Department of Education, n.d.).

**In-college factors** elements or circumstances within the college environment that impact students' academic experiences. This study focused on first-year grade point average (GPA) and student dependency status.

**Independent student:** according to the U.S. Department of Education (2021), independent students typically include individuals over 24 years old, are married, have

dependents, or serve on active duty in the U.S. Armed Forces. An independent student is defined as an individual not considered financially dependent on their parents or guardians and is responsible for their educational expenses (FAFSA, n.d)..

**Pre-college factors** are various experiences or aspects of an individual's life that occur before college and can impact their academic and personal success. This study will focus on high school grade point average (GPA) and Scholastic Aptitude Test (SAT) scores.

**Pre-COVID-19 years:** defined as the period prior to the outbreak of the COVID-19 pandemic (World Health Organization, 2019). The pre-COVID-19 years typically refer to the years before 2020—when the COVID-19 pandemic was declared by the World Health Organization (WHO) in March. However, the exact time frame can vary depending on the context and perspective of the person referring to the pre-COVID-19 years. This study refers to pre-Covid-19 as before Spring 2020.

**Student academic performance:** a measure of a student's success in educational pursuits, typically determined by their formative test scores, summative test scores, and other indicators of academic achievement.

### **Delimitations**

The findings and recommendations from this study are not generalizable to non-HBCUs. This study used numerical data to explain the phenomenon of student academic performance at an HBCU .. The findings and recommendations from this study are not generalizable for private HBCUs because of the difference in the students' socioeconomic status at each type of institution.



Pre-college and in-college factors were the focus of the study to determine what student academic integrations were necessary for student success at HBCUs. This study did not consider the student's experiences that may have impacted academic performance. This quantitative study aimed to discover quantifiable solutions to student academic performance at HBCUs ..

### **Limitations**

The limitation of this study is based on the evaluation of pre-college factors and in-college factors only. This research provides a unique opportunity to improve institutionalized support for HBCU students, allowing stakeholders and HBCU administrators to consider new strategies to improve student academic performance. This correlational study does not aim to find the causation of student academic performance but rather to discover the relationship between pre-college and in-college variables, student dependency status, pre-and post-COVID-19 years at a public four-year HBCU ., and student academic performance.

The data for pre-college and in-college factors is private information that could not be retrieved from public databases for this study. Student academic performance data was requested from five HBCUs; however, multi-institutional participation was not obtainable. Therefore, a sole HBCU was the focal point of this study about student academic performance. This institution provided a comprehensive data set with 10 years of institution-collected data.

The generalizability of the results is limited by only having access to one HBCU. The main limitation of conducting a quantitative study on student academic performance

with only one HBCU is the need for more generalizability to other HBCUs or institutions with different characteristics. Each HBCU has its unique history, mission, culture, student demographics, academic programs, and support services. Therefore, the findings from this quantitative study conducted at a HBCU may not represent other HBCUs or other institutions, limiting the generalizability of the results.

The focus of this study was not generalizability but rather to provide a depth of understanding of the relationship between student academic performance and pre and in-college factors. This study aimed to identify trends and relationships within the data rather than generalizing the findings to other populations. Moreover, the experiences and challenges of students at one HBCU may differ from those at another HBCU, making it challenging to draw meaningful conclusions or develop interventions that can be effectively implemented across different institutions.

The literature available on student financial dependency also presents some limitations. Firstly, comprehensive and up-to-date literature on student financial dependency is scarce. While some studies touch upon aspects of financial dependency, a unified framework or standardized measures exist to assess and compare financial dependency across different studies. This makes it challenging to draw definitive conclusions or develop a comprehensive understanding of the topic. Moreover, as the landscape of student finances evolves with changing economic conditions and policies, there is a need for ongoing research to keep pace with these changes.

Secondly, the literature on student financial dependency often lacks diverse perspectives and experiences. Many studies predominantly draw from Western contexts, particularly the United States, limiting the generalizability of findings to other cultural or

educational settings. The experiences of students from marginalized groups, including students of color, international students, or students from low-income backgrounds, are often underrepresented in the literature. This limits our understanding of how financial dependency impacts different student populations and hinders the development of tailored strategies and interventions to address their specific needs.

The research available on financially independent and dependent students has several limitations. Firstly, there is a lack of consensus on defining and operationalizing financial independence and dependency. Different studies may use varying criteria and measures to determine financial independence and dependence, leading to inconsistencies in findings and difficulty in comparing across studies. Additionally, self-reporting is often relied upon to assess financial independence and dependency, which can introduce biases and inaccuracies as individuals may have different interpretations of what it means to be financially independent and dependent. Furthermore, most research in this area focuses on undergraduate students, while the experiences of financially independent and dependent graduate students or non-traditional students are relatively understudied. This limitation hampers our understanding of the unique challenges and support needs of financially independent and dependent students across different educational contexts and stages of academic pursuit.

In conclusion, the limitations of the available literature on student financial dependency include a lack of comprehensive and up-to-date research, a lack of a standardized framework, and a limited representation of diverse student populations. Overcoming these limitations requires continued research efforts that span multiple contexts, incorporate diverse perspectives, and adapt to changing financial landscapes.

By addressing these limitations, researchers can provide a more nuanced understanding of student financial dependency and contribute to developing effective support mechanisms for students facing financial challenges.

### **Significance of Study**

The significance of a correlational study about the impact of COVID-19 on student academic performance at Historically Black Colleges and Universities (HBCUs) is crucial in understanding the specific challenges faced by these institutions and their students during the pandemic. HBCUs have a lengthy and rich history of serving African-American communities. They have faced unique challenges related to underfunding, inadequate resources, and limited access to technology, which may have compounded the impact of the pandemic on their students.

Understanding how COVID-19 has affected student academic performance at HBCUs could help to identify and address these disparities and inform efforts to support students and institutions as they navigate the ongoing challenges posed by the pandemic. The results of such a study also provide a greater understanding of the role of HBCUs in promoting academic success for African-American students. They could inform policies and practices to support and strengthen these institutions.

### **Summary**

This chapter provides the context for the research study to determine the relationship between student academic performance and pre-college and in-college rates, student dependency status, and pre-COVID-19 years at a public four-year HBCU. This

quantitative study used a statistical regression analysis method to examine all variables. Archival data was requested from the study's selected institution's open records database to retrieve data on the first-year students from 2011 to 2021. The theoretical framework for this study is based on the ecological system theory by Urie Bronfenbrenner.

In Chapter 2, the literature review presents a review of related research to this study. Previous theoretical frameworks of student academic performance theories were reviewed to understand which variables have already been examined. Next follows a historical and present-day review of HBCU student retention, student barriers to retention, first-year student academic performance, pre-college and in-college factors, student academic performance, end-of-semester GPA, COVID-19, and student dependency status literature.

## **CHAPTER II**

### **LITERATURE REVIEW**

The focal point of this chapter is to summarize student academic performance theories relevant to the current study. Academic performance theories related to this study are discussed in the next section, followed by the evolution of HBCUs. The variables pre and in-college factors and financial dependency status that have been considered to impact student academic performance are discussed in this section. There is also a description of the impact of the COVID-19 pandemic on higher education and HBCUs. Lastly, the research on academic performance specific to HBCU students is reviewed.

This study is concerned with the student academic performance of students at a public HBCU. Therefore, only those theories and research significant to the current study were reviewed. The selected theories for this current study are devoted to studying student academic performance in the unique environments of an HBCU, and the trends of student academic performance since the impact of the COVID-19 pandemic.

This literature review also analyzed how Bronfenbrenner's Ecological Systems Theory highlights the complex interactions between individuals and their environment. Emphasizing that an individual's development is shaped not only by their immediate surroundings but also by the broader social, cultural, economic, and political contexts they live within during their development. This theory has important implications for understanding student academic performance because many contextual factors impact academic performance.

### **The Evolution of Academic Success at HBCUs**

At the end of the Civil War, formal education was not obtainable for African Americans. A 1915 federal government report noted that private groups - the African-American community, Northern churches, freedmen's societies, and philanthropists- were still responsible for cultivating African-American educational opportunities (Hill 1979). Early in the development of HBCUs, academics were not comparable to White schools. Those enrolled after the Civil War were not receiving a college education. The move from simply socializing African Americans to educating African Americans was critical to the fight for racial equality in the United States.

Before the establishment of HBCUs, opportunities for African-American people to receive higher education were minimal. Racism relegated many African-American people to menial jobs with limited upward mobility, and those who did pursue higher education faced discrimination and prejudice in academic institutions. The establishment of normal schools provided a space for African-American people to pursue higher education without facing the same systemic barriers and discrimination they would have encountered at PWIs (Cantey et al., 2011).

Normal schools did not provide a liberal arts education. Instead, normal African-American schools, also known as teacher training schools, were established in the United States during the late 19th and early 20th centuries to educate and train African-American teachers (Cantey et al., 2011). Before this time, society often excluded African Americans from teacher education programs and teaching positions at PWIs. As a result,

African Americans lacked access to quality education, and African-American communities suffered from a shortage of trained teachers.

Cincinnati Conference of the Methodist Episcopal Church and the African Methodist Episcopal Church (AME) established the first African-American normal school in 1854 in Ohio. However, the most significant growth in African-American normal schools occurred after the Civil War (Cantey et al., 2011). Religious organizations and philanthropic groups, such as the American Missionary Association, founded several Black normal schools throughout the South. African-American normal schools faced numerous challenges, including inadequate funding, lack of resources, and discrimination.

Despite these challenges, they played a critical role in expanding access to education and promoting the professionalization of teaching among African Americans. African-American normal schools developed new teacher training models that combined classroom instruction with hands-on teaching experience. They also emphasized the importance of education in promoting social and economic mobility for African Americans.

Some of the most well-known African-American normal schools include the Tuskegee Institute in Alabama, established in 1881 by Booker T. Washington, and Hampton Normal and Agricultural Institute in Virginia, founded in 1868. These schools and many others served as models for teacher education and community development in African-American communities throughout the United States.

In the mid-20th century, court cases began to dismantle segregation, and African Americans gained greater access to mainstream educational institutions. State



governments converted many African-American normal schools into four-year colleges and universities. HBCUs continue to play a critical role in providing education and opportunities to African-American people in the United States. When normal African-American schools transitioned into full-fledged colleges and universities, their academic programs expanded beyond teacher education to include a broader range of fields and disciplines. However, HBCUs continued to place a strong emphasis on teacher education, and many of them still have highly regarded education programs. In addition to education, HBCUs offer business, agriculture, nursing, social work, and science programs. Some HBCUs also established law and medical schools, providing African Americans access to these professions when segregation and discrimination in higher education were still widespread.

Several generalizations about the academic performance of HBCU students often need to be more accurate (Manyanga et al., 2017). The gap in literature reveals a need for more research efforts to find solutions that help close the performance gap, specifically for the HBCU student population. Closing the academic performance gap is critical for HBCUs because it ensures African-American students have the same opportunities and access to high-quality education as their White peers. State governments established HBCUs to provide higher education to African Americans systematically excluded from PWIs.

However, persistent racial inequalities in education, including funding, resources, and access to advanced coursework, have resulted in an academic achievement gap between Black and White students. Less than seven percent of the research dedicated to the problem of low student academic performance is focused on helping the people it

most affects. Sparse research is available to help HBCUs with straightforward solutions for their special student populations. Mfume (2019) stated that studies must consider what HBCUs have done well when evaluating student success. For example, NCES (2019) uses a limiting measurement of retention and graduation rates that undermine the value disadvantaged institutions offer in social capital by not considering the pre-college factors that impact their minority and underserved student populations. This measurement does not consider the special population groups of transfer students, part-time students, commuter students, or students who take longer than six years to graduate.

The expansion of the Federal Student Aid programs influenced HBCUs' continuous enrollment growth from 1954 to 1980. While African-American enrollment increased by 11% at HBCUs between 1976 and 2018, the total number of students doubled at all postsecondary degree-granting institutions (NCES, 2019). The expansion of the Federal Student Aid Program created financial opportunities for African Americans to enroll in degree-granting institutions, which caused an influx in enrollment during this period (Hill, 1985). However, many non-HBCUs were unwilling or unable to create inclusive educational environments for African-American students (Blanco Ramirez et al., 2012). For example, non-HBCUs created admission requirements that only high-performing African-American students could not meet due to inadequate public education available in African-American communities.

### **Student Academic Performance at HBCUs**

Inefficient education systems in African-American communities have historically impacted student academic performance rates. The disparities found in educating African-American communities have left many students unprepared for college. (Blanco

Ramirez et al., 2012). HBCUs have developed a long-lasting reputation for promoting academic success among at-risk students, drawing students to HBCUs. The nurturing that provides the social support that at-risk students need to be successful in college continues the necessity for HBCUs in the African-American community (Williams et al., 2022). However, despite the herculean effort, the research literature indicates that HBCUs have lower student academic performance rates than non-HBCU institutions (Williams et al., 2022). For example, the National Student Clearinghouse Research Center (2019) reported that in comparison, students had a retention rate of 10.1% lower than White students with a retention rate of 62.2%. More than half of the student population who started college in 2017 returned 2018 to the same college (NSCRC, 2019).

HBCUs are known for accepting more at-risk students into their institutions (Williams et al., 2022). Some students have socioeconomic challenges that require social support, faculty support, and self-efficacy. HBCUs are crucial in closing the educational inequities in African-American communities (Mallory, 2021). The support students receive at HBCUs is connected to the ability of students to persist (Mallory, 2021). Because of the shallow research available, HBCUs require a more extensive analysis than those received from previous researchers.

In conclusion, student academic performance at HBCUs is a critical study area.

Understanding the factors that contribute to academic success at HBCUs, institutions, and policymakers can help promote academic achievement and support the continued success of these essential institutions.

### **Student Barriers to Student Academic Performance at HBCUs**

Buck (2019) conducted a quantitative study that included 37 HBCU institutions (17 private and 17 public institutions) that surveyed HBCU administrators' perceptions of retention and academic achievement strategies. The HBCU administrators shared what they believed to be the dominant barriers to retention and degree achievement for their respective institutions. The results were listed in order: (a) financial aid, (b) institutional resources (for example, the absence of the following services: dedicated retention department, pre-college and outreach programs, advising, interventions for students, and academic support), and academic preparedness tied or #2, (c) economic conditions, (d) personal barriers and student family commitments tied for #4, (e) social factors (f) familial support and motivators.

This research is significant to the current study in showing barriers students who attend HBCUs face. Buck's (2019) research has identified six dominant shared barriers by HBCU administrators. Some researchers have connected these barriers to factors that impact retention rates (Haverila et al., 2020; Manyanga et al., 2017; Strayhorn, 2018, 2021). The current study will examine pre-college and in-college variables related to three of the six barriers: (1) financial aid, (2) institutional resources and academic preparedness, and (3) economic conditions. These variables are significant in building strategies to improve student academic performance in educational settings.

## **Pre-college Factors and Student Academic Performance**

The literature shows that when stakeholders and administrators examine key performance rates to indicate the success of HBCUs, the differences in pre-college characteristics often need to be considered in research. These pre-college characteristics are evident in most retention theories (Astin, 1977, 1991, 1993; Bean & Eaton, 2000; Braxton et al., 2004). Researchers have tested many variables such as pre-college factors, standardized tests including the (ACT and SAT), high school grades, gender, and race to find that all have been linked to predicting student attrition (Astin, 1999; Battaglia, 2022). This study will use the variables of high school GPA, and SAT scores to measure pre-college factors in student academic performance.

The literature on pre-college factors and student academic performance research highlights the importance of considering the experiences and background of students prior to their enrollment in higher education. This literature suggests that students' pre-college experiences, such as family background, socioeconomic status, and prior educational experiences can influence academic performance in college (Terenzini & Reason, 2006, 2010; Tinto, 1975, 1993).

Research has exposed that students from lower socioeconomic backgrounds are more likely to struggle academically in college and are less likely to persist to graduation compared to their wealthier peers (Museus, 2014). Museus's research showed that this disparity could be partially attributed to differences in pre-college experiences, such as access to high-quality K-12 education, exposure to enrichment programs, and academic and personal growth opportunities. Additionally, research has shown that students from households where education is highly valued and parents are involved in their education

tend to perform better academically in college (Braxton et al., 2004). This research suggests that students with solid educational backgrounds and a supportive family environment are more likely to succeed in college.

In conclusion, the literature on pre-college factors and student academic performance highlights the need for higher education institutions to consider students' pre-college experiences and backgrounds to support their academic success. This academic success support includes providing students with access to resources and support that can help address any disparities in pre-college experiences and the factors contributing to disparities in academic outcomes.

### ***High School GPA***

The literature on high school GPA and student academic performance consistently highlights GPA's significant role in predicting educational outcomes (Murtaugh et al., 1999; Reason, 2003). High school GPA provides a comprehensive snapshot of a student's academic performance over their high school years (Reason, 2003). It considers multiple subjects and coursework, providing a holistic view of their abilities and achievements. High school GPA offers a longitudinal perspective, reflecting a student's consistency and growth in their academic performance (Reason, 2003). It captures their academic trajectory and provides insights into their ability to handle coursework demands over an extended period. High school GPA is crucial in determining eligibility for scholarships and financial aid. Many scholarship programs consider GPA as a key criterion for awarding merit-based scholarships. A higher GPA increases the chances of securing financial support for a college education (Reason, 2003).

Research consistently demonstrates that a high school GPA strongly predicts future academic success (Allensworth & Clark, 2020). Students with higher GPAs in high school are more likely to perform well in college and beyond. It is a better predictor than standardized test scores, as it encompasses a broader range of academic skills and work ethic. Several key findings emerge from research in this area (Allensworth & Clark, 2020).

First, research has shown high school GPA to predict college success strongly. Numerous studies have found a positive correlation between high school GPA and college GPA, indicating that students who perform well academically in high school are more likely to excel in college (Allensworth & Clark, 2020). Researchers have found that a high school GPA better predicts college performance than standardized test scores, suggesting that it captures a more comprehensive picture of a student's abilities and study habits (Allensworth & Clark, 2020).

Second, high school GPA is associated with other positive academic outcomes beyond college performance. Research indicates that students with higher GPAs in high school are more likely to graduate from college, have higher enrollment rates in advanced courses, and demonstrate better critical thinking and problem-solving skills (Allensworth & Clark, 2020). It is important to note that the relationship between high school GPA and academic performance has limitations. Some research suggests that grade inflation or variations influence GPAs through school grading practices (Colorado State University, 2020). Additionally, the predictive power of GPA may vary depending on the specific college or university setting (Colorado State University, 2020).

In conclusion, the literature consistently demonstrates that high school GPA is a robust predictor of academic performance and success in college and beyond. It provides valuable information about a student's academic abilities, study habits, and potential for future achievements. However, it is essential to consider other factors alongside GPA to gain a comprehensive understanding of a student's capabilities and potential. HBCUs should consider other factors alongside high school GPA as valuable predictors of academic performance, such as standardized test scores, extracurricular activities, and personal circumstances. These factors provide a more comprehensive understanding of a student's abilities, potential, and overall fit for academic pursuits.

### ***SAT Scores***

Scholastic Assessment Test (SAT) measures a student's readiness for college-level coursework (College Board Research, 2021). The SAT provides a standardized measure of a student's academic abilities. The SAT assesses critical reading, writing, and mathematical skills essential for college-level coursework success. It assesses critical reading, writing, and mathematical skills essential for higher education success. Students who perform well on the SAT are more likely to have the necessary academic foundation to excel in college (College Board Research, 2021). Many colleges and universities use SAT scores as part of their admissions criteria. Higher SAT scores can enhance a student's chances of admission to competitive programs and institutions (College Board Research, 2021). Admissions officers at HBCUs consider SAT scores along with other factors like high school GPA, extracurricular activities, essays, and recommendations when evaluating an applicant's academic potential.



Research studies have shown a positive correlation between SAT scores and future academic performance (University of California, 2020). Higher SAT scores are associated with better grades in college, higher graduation rates, and improved retention. Institutions may use SAT scores to determine whether students need remedial courses or are eligible for advanced coursework (University of California, 2020). SAT scores can help institutions assess students' preparedness for specific academic programs or courses. SAT scores can also be a factor in determining eligibility for scholarships and financial aid. Many merit-based scholarships consider SAT scores as part of the application process. Higher scores may increase the chances of receiving financial assistance, making college more accessible and affordable (College Board Research, 2021).

It is important to note that while the SAT is connected to student academic performance, it is not the sole determinant of success. Other factors such as high school GPA, extracurricular involvement, personal characteristics, and motivation also contribute to academic performance (Frey, 2019). There has also been an ongoing debate about the fairness and limitations of standardized tests like the SAT in accurately assessing a student's abilities and potential (Frey, 2019). As a result, many colleges and universities are adopting a more holistic approach to admissions, considering a more comprehensive range of factors in evaluating students' readiness for higher education.

### **In-Colleges Factors and Student Academic Performance**

Murtaugh et al. (1999) found a significant association between first-year and student academic performance. Reason (2003) advanced that retention research should

include the first-year academic GPA. Al-Alawi (2020) reviewed the in-college GPA of nursing students and determined that the in-college GPA of students was a valuable predictor of student success. Therefore, this study will examine the association of first-semester GPA impacts on student academic performance for students enrolled at an HBCU.

The literature on in-college academic factors and student academic performance highlights the impact that various aspects of the college academic environment can have on students' academic outcomes. Various factors shape student academic performance, including the quality of instruction, course difficulty and workload, and availability of resources and support. Studies have revealed that the quality of instruction can significantly impact student academic performance, with students who have experienced high-quality instruction being more likely to perform better academically (Reason, 2003). Success in academic performance is the influence that instructors can have on students' motivation, engagement, and understanding of course material.

Additionally, Reason posited that the difficulty and workload of courses impact students' academic performance. Students taking courses that are too challenging or overburdened with coursework are more likely to struggle academically. Research has shown that effective academic advising and support can be vital in promoting student success in college (Clemons, 2022). This support includes providing students with information on academic requirements, offering guidance on course selection, and helping students navigate challenges and obstacles (Clemons, 2022).

In conclusion, the literature on in-college academic factors and student academic performance highlights the need for higher education institutions to focus on creating

academic environments that are supportive and effective for students. Student academic support includes providing high-quality instruction, manageable course difficulty and workload, and access to resources and support to help students succeed academically. Student academic support includes access to academic support services, such as tutoring and advising, and access to technology and other resources to help students succeed in their coursework.

### ***End of the Semester GPA***

Studies show that first-year college GPAs indicate academic success (Allen, 1999; Mitchel et al., 1999; Murtaugh et al., 1999; Reason, 2003). Murtaugh et al. (1999) examined first-semester GPA indicators of first and second-year academic success. Students who earned a college GPA of 3.3 or higher had a probability of 91% of persisting (Murtaugh et al., 1999). In contrast, students with a GPA of 2.0 or less had a probability of 57% persisting through the academic semester (Murtaugh et al., 1999). Student academic performance in this current study was measurable by the end of the semester GPA of students at an HBCU .. Using the end of the first semester GPA will allow for early detection of students' need for support tools and strategies.

The end-of-semester GPA is an essential indicator of a student's academic performance (Allen, 1999). A student's GPA reflects their overall academic achievement each semester and can provide a snapshot of their strengths and weaknesses in their coursework (Murtaugh et al., 1999). It is also a valuable tool for tracking progress over time and can be used to assess a student's readiness for graduation or further academic pursuits. The end-of-semester GPA can also significantly impact a student's short- and long-term academic performance. In the short term, a high end-of-semester GPA can

boost a student's confidence and motivation to strive for academic success. Conversely, a low GPA can be demoralizing and may lead to decreased motivation and effort (Murtaugh et al., 1999).

In the long term, a high end-of-semester GPA can lead to academic success and improved prospects for post-graduation opportunities (Mitchell et al., 1999). A strong GPA can make a student more competitive for scholarships, internships, and graduate programs (Mitchel et al., 1999). Lastly, a high GPA can demonstrate to future employers a student's ability to successfully manage academic demands and achieve academic success. In contrast, a low end-of-semester GPA can negatively affect a student's academic performance and prospects. A low GPA can make a student less competitive for scholarships, internships, and graduate programs. A low GPA can also negatively impact a student's chances of acceptance into a graduate program.

In conclusion, the end-of-semester GPA is a critical indicator of a student's academic performance. A high end-of-semester GPA can lead to academic success and improved prospects for post-graduation opportunities. At the same time, a low GPA can negatively affect a student's academic performance and prospects. Thus, students must strive for academic excellence and maintain a strong GPA throughout their careers.

### ***Student Financial Dependency***

Student financial dependency refers to how much students rely on financial support from external sources, such as parents or guardians, to meet their educational expenses. The relationship between financial dependency and academic performance is important to this study. The relationship between student financial dependency and academic performance is complex and can vary depending on various factors. Students

financially dependent on others, such as parents or guardians, may experience financial stress, which can negatively affect their academic performance. Numerous studies have highlighted the negative impact of financial stress on student academic performance. Financially dependent students may experience higher stress levels due to concerns about tuition fees, living expenses, and limited financial resources. Financial concerns can distract students from their studies, leading to increased anxiety, reduced focus, and limited time available for academic pursuits.

The topic of student financial dependency has garnered significant attention in the field of higher education. Dr. Sara Goldrick-Rab is a prominent scholar known for researching college affordability and student financial challenges. Goldrick-Rab (2009) has extensively studied the impact of financial barriers on students' access to higher education and has shed light on the consequences of financial instability on students' academic outcomes. However, there remains a noticeable gap in the literature regarding comprehensive research on this subject. While some studies have examined the financial challenges students face and their impact on their educational experiences, there is still a need for more nuanced investigations into the various factors influencing student financial dependency. A deeper understanding of this issue is crucial for policymakers and institutions to develop effective strategies and support systems to alleviate the burden on financially dependent students.

One aspect that deserves further exploration is the intersectionality of student financial dependency. Dr. Tressie McMillan Cottom is a sociologist and author who has investigated issues of inequality in higher education, including the financial challenges faced by students from marginalized backgrounds. Cottom's (2015) work often explores

the intersectionality of race, class, and gender in relation to student financial dependency. Research has predominantly focused on traditional-age, full-time students, often overlooking the experiences of part-time, non-traditional, and marginalized student populations. There is a pressing need to investigate how financial dependency differs among various student groups, considering factors such as age, gender, race, socioeconomic status, and family structure. By acknowledging and addressing the unique challenges faced by these diverse student populations, policymakers and institutions can better tailor their support programs and policies to meet their specific needs. This current study looked at financially independent and dependent students.

The literature gap also extends to the long-term consequences of student financial dependency on academic performance, persistence, and post-graduation outcomes. While existing studies like Goldrick-Rab's (2009) research have highlighted the immediate financial constraints on students, limited research explores the broader impact on educational attainment and career trajectories. Dr. Robert Kelchen is a researcher who has explored various aspects of student financial dependency, including the effects of financial aid policies, student debt, and the socioeconomic factors that contribute to financial challenges for students. Kelchen's (2021) research highlighted the financial restraints on parents of financially dependent students. Understanding how financial dependency affects students' ability to succeed academically and transition into the workforce is essential for designing interventions that foster long-term economic mobility and reduce inequalities.

In conclusion, the literature on student financial dependency is still developing and requires further exploration to fully comprehend its complex dynamics and

implications. Future research should strive to address the intersectionality of financial dependency and examine its long-term consequences on students' educational and career outcomes. By filling this gap in knowledge, researchers can contribute to developing more targeted and effective support systems that promote equitable access to education and alleviate the financial burdens students face.

***Financially Dependent Students.***

Financially dependent students may face challenges accessing necessary resources for academic success. They may have limited funds for textbooks, technology, or other educational materials. Lack of access to resources can hinder their ability to fully engage in coursework and perform at their highest potential (Potter et al., 2020). Financially dependent students primarily receive support from their parents. Therefore, the parent's income determines what type of federal financial aid a dependent student will qualify to receive. HBCUs admit a high population of students from low-income families, leading HBCU financially dependent students to need part-time or full-time jobs to support themselves or contribute to their family's financial needs. Balancing work and academic responsibilities can be demanding, potentially affecting their ability to allocate sufficient time and energy to their studies (Potter et al., 2020). Financially dependent students may have varying support and guidance from their families or financial sponsors (Saint Leo University, 2020). Family support and encouragement can contribute to higher academic performance, while lacking support or conflicting responsibilities can hinder progress.

Financial dependency can also impact a student's eligibility for financial aid and scholarships. Students who depend financially on their parents may have their financial aid eligibility determined based on their parent's income and assets (Archuleta et al.,

2013). Financial dependency can affect their access to financial support, which could alleviate some of the financial burdens and positively impact their academic performance (Britt et al., 2017). It is important to note that financial dependency alone does not determine academic performance. Many financially dependent students excel academically by leveraging available support systems, seeking resources, and demonstrating resilience. Motivation, study habits, and personal circumstances significantly determine academic performance (Britt et al., 2017).

In conclusion, research consistently demonstrates a correlation between student financial dependency and academic performance. Financial stress, work commitments, limited access to resources, psychological factors, and the presence or absence of support systems all contribute to this relationship. Educators, policymakers, and institutions must recognize the challenges financially dependent students face and implement strategies to mitigate the negative effects on their academic performance. Such strategies may include providing financial literacy education, targeted support services, and expanding scholarship and financial aid opportunities. It is worth noting that while financial dependency can pose challenges, various factors, including personal characteristics, study habits, and educational opportunities, influence students' academic performance. Future research should continue to explore the complexities of the relationship between financial dependency and academic performance to inform interventions and support mechanisms for students facing financial challenges.

### ***Financially Independent Students.***

Independent student financial status refers to students who are financially responsible for funding their education without relying on external sources, such as



parental support or financial aid. To be considered an independent student on the Free Application for Federal Student Aid (FAFSA), several requirements determine your eligibility for financial aid without considering your parents' income and assets. These requirements include age, marital status, graduate or professional program enrollment, dependents, military service, foster care or ward of the court status, and homelessness (FAFSA, 2023).

Firstly, if a student is 24 or older by December 31 of the academic year and is applying for financial aid, they are automatically considered independent. This recognizes that individuals are typically self-sufficient and responsible for their financial obligations at this age. Marital status also plays a role in determining independence. Students are considered independent if they are married or separated but not divorced. This includes same-sex or opposite-sex marriages that are legally recognized (FAFSA, 2023).

Students pursuing graduate or professional programs, such as law or medical school, are also categorized as independent students (FAFSA, 2023). Graduate and professional students are often older and more financially independent, leading to the recognition of their independence for financial aid purposes. Another criterion for independence is having dependents other than a spouse (FAFSA, 2023). Students may qualify as independent students if they provide more than half the financial support for legal dependents, such as children.

Veterans of the U.S. Armed Forces or individuals currently serving on active duty are automatically considered independent students (FAFSA, 2023). The recognition of their military service acknowledges their self-sufficiency and independence. Students

who have been in foster care or were a ward of the court at any time after turning 13 years old also qualify as independent students (FAFSA, 2023). This recognizes the unique circumstances faced by individuals who may not have the support or financial resources of their parents or legal guardians.

Lastly, unaccompanied youth who are homeless or at risk of homelessness can be classified as independent students. These students often lack stable housing and may be financially self-supporting, making it appropriate to consider them as independent for financial aid purposes. Understanding these requirements is crucial when completing the FAFSA to determine your federal student aid eligibility accurately. It is recommended to consult the official FAFSA website and review the specific guidelines provided by the United States Department of Education to ensure accurate and up-to-date information for students' situations.

The relationship between independent financial status and academic performance has been a subject of interest among researchers. Dr. Darris R. Means is a scholar who has researched college affordability and financially independent students' experiences. Means' (2019, 2022) work often explores the financial challenges faced by students who are not financially dependent on their families and examines strategies to support their success. Independent students often demonstrate higher self-reliance and motivation in their academic pursuits. Being solely responsible for their financial obligations fosters a sense of ownership and determination, leading to increased dedication to their studies. This heightened motivation can positively impact academic performance.

Independent students are typically more inclined to manage their time efficiently and commit to their studies (Britt et al., 2017). They are often motivated to make the

most of their educational opportunities without the financial safety net provided by external sources. This disciplined approach to time management contributes to better academic performance. Independent students develop a greater sense of financial responsibility and accountability. They are often more aware of the value of their education and the financial sacrifices they have made to pursue it. This awareness can translate into a high commitment to academic success and improving performance.

Independent students often develop strong problem-solving skills and resilience. They are more likely to seek resources and opportunities to support their academic endeavors (Britt et al., 2017). The ability to navigate financial challenges and find innovative solutions enhances their adaptability and resilience, positively impacting their academic performance. Independent students may need to balance work and academic responsibilities to finance their education. While this can pose challenges, it can also foster valuable skills, such as time management, multitasking, and prioritization. Successfully managing these competing commitments can enhance their ability to perform well academically (Britt et al., 2017). Independently financing their education can provide a sense of financial stability for students. Knowing they are responsible for their financial well-being and educational expenses can alleviate financial stress, allowing them to focus more on their studies. This stability can positively influence their academic performance (Britt et al., 2017).

In closing, research suggests that independent student financial status can positively impact student academic performance. The self-reliance, motivation, time management, financial responsibility, resourcefulness, and resilience cultivated by independent students contribute to their academic success. However, it is important to

acknowledge that individual circumstances may vary, and financial independence does not guarantee academic success. Other factors, such as personal characteristics, study habits, and support systems, also play significant roles.

Educational institutions and policymakers should recognize the unique challenges faced by independent students and provide support mechanisms tailored to their needs. Institutions can enhance independent students' academic performance and well-being by promoting financial literacy, offering guidance on balancing work and academics, and providing resources for success. Further research should continue exploring the factors contributing to the positive correlation between independent student financial status and academic performance. This knowledge can inform the development of effective strategies to support and empower independent students on their educational journey.

### **COVID-19 Pandemic and Higher Education**

The COVID-19 pandemic has profoundly impacted higher education worldwide. The sudden shift to remote and online learning has created new challenges for students, faculty, and universities (Mostafa et al., 2022; Strayhorn, 2023). One of the most significant impacts has been on student academic performance, as remote learning has made it difficult for many students to stay engaged and motivated. Additionally, the pandemic has disrupted students' social and emotional well-being, with many experiencing increased stress, anxiety, and isolation (Mostafa et al., 2022).

For universities, the pandemic has presented financial challenges, as many have experienced significant declines in enrollment and revenue. The shift to remote learning has also created new technology and infrastructure needs, increasing costs for many

universities (Mostafa et al., 2022). Furthermore, the pandemic has disrupted universities' research and innovation capacities, as many researchers have had to halt or delay their work due to travel restrictions and social distancing requirements.

There needs to be more research on the pre and in-college characteristics of students who attend HBCUs. The impact of COVID-19 on the retention of African-American students at HBCUs is also an essential issue as administrators and stakeholders determine how to move forward in a post-pandemic world. The current study examined the relationship between pre-college and in-college factors and the retention of first-year students at a public HBCU.

This study analyzed institutional archival data of first-year students at an HBCU to understand the relationship between student academic performance and pre and in-college factors. Lastly, this study will investigate the relationship between student academic performance, financial dependency status, and COVID-19 years over 10 years.

### ***COVID and HBCUs***

The significant impact of the COVID-19 pandemic on HBCUs has forced these institutions to reexamine how they serve their student populations. The pandemic disrupted traditional classroom learning and forced colleges to shift to remote instruction, leading to new challenges for HBCUs (Strayhorn, 2023). These challenges include limited access to technology, decreased student engagement and support, and increased financial strain on the institutions. The pandemic has also exposed disparities in digital equity and the socio-economic challenges faced by HBCU students, leading to concerns about the long-term impact on student academic performance (Dahl et al., 2022). Thus,

HBCUs need to assess the impact of the pandemic and provide support and resources to their students to mitigate its effects on student academic success.

Strayhorn's (2023) study aimed to understand the institutional responses of HBCUs during the COVID-19 pandemic and the lessons learned from their experiences. Through a qualitative approach, Strayhorn collected data from various sources such as interviews, documents, and observations. The findings showed that HBCUs faced multiple challenges, including lack of funding, limited technology access, and inadequate preparation. However, Strayhorn also found that some HBCUs could effectively respond by offering remote learning, expanding online resources, and supporting students. Strayhorn concluded that HBCUs could use these lessons to improve their preparedness for future emergencies and enhance their students' academic performance.

### ***Widening Existing Disparities***

HBCUs have been particularly affected due to their unique challenges. The pandemic has created numerous difficulties for HBCUs, including limited access to technology, reduced funding, and a lack of support from government organizations (Strayhorn, 2023; Weissman, 2022). Limited access to technology has been a significant challenge for HBCUs transitioning to remote learning. Many students and faculty at HBCUs need access to reliable internet and computing resources, making participating in online classes and performing academic tasks challenging (Weissman, 2022). Additionally, the lack of technology infrastructure at HBCUs has made it challenging to

implement virtual learning initiatives, further exacerbating the digital divide between HBCUs and other institutions (Strayhorn, 2023).

The COVID-19 pandemic also exacerbated existing funding disparities at HBCUs. Historically, HBCUs have received less funding than their counterparts, hindering their ability to provide high-quality education and support services (Weissman, 2022). The pandemic further reduced funding as HBCUs struggled to secure the necessary resources to adapt to the new learning environment (Weissman, 2022). The lack of resources led to a decline in student academic performance, as students need access to the support and resources they need to succeed.

Furthermore, many HBCUs did not receive adequate support from government organizations during the pandemic (Weissman, 2022). “HBCUs are struggling to make difficult decisions about reopening and cope with daunting shortfalls in critical tuition and room and board revenue resulting from enrollment drops and campus closures” (Guy & Jackson, 2021). The absence of government support further perpetuated the existing disparities at HBCUs, making it even more difficult for these institutions to provide high-quality education to their students.

In conclusion, the COVID-19 pandemic has widened the existing disparities at HBCUs by exacerbating the limited access to technology, reduced funding, and lack of support from government organizations (Strayhorn, 2023; Weissman, 2022). Addressing these disparities is crucial to ensuring that HBCUs can provide high-quality education to their students despite the challenges posed by the pandemic. A portion of this study is dedicated to reviewing the trends of student academic performance before COVID-19

(Fall 2012- Fall 2019) and after COVID-19 (Spring 2020- Fall 2021) to analyze the impact of COVID-19 on student academic performance at an HBCU.

### ***The Response to COVID-19 by HBCUs***

The response of HBCUs to the COVID-19 pandemic varied. Some HBCUs transitioned to online learning and implemented safety measures on campus to prevent the spread of the virus (Strayhorn, 2023). Others faced challenges such as limited technology and internet access among students, leading to disparities in educational opportunities. The pandemic also significantly impacted the financial stability of HBCUs, as they faced reductions in enrollment and state funding (Dahl et al., 2022). Overall, HBCUs had to quickly adapt to the unprecedented challenges posed by the pandemic while continuing to serve their communities and address the unique needs of their students.

The government response to the needs of HBCUs during the COVID-19 pandemic was a combination of support and challenges. On the one hand, various government agencies and departments provided financial and technical support to HBCUs to help manage the pandemic's impact. For example, President Trump signed the CARES Act into law in March 2020, which provided billions of dollars in emergency funding for higher education institutions, including HBCUs (U.S. Department of the Treasury, n.d.).

However, HBCUs faced numerous challenges in accessing the funding and support needed to continue serving their students during the pandemic (U.S. Department of Education & Office of Inspector General, 2020). Some HBCUs needed help navigating the complex application processes and regulations associated with the funding programs



(U.S. Department of Education & Office of Inspector General, 2020). Other HBCUs struggled with a lack of transparency and fairness in allocating funds, with some institutions being left out altogether.

In addition, HBCUs faced various operational and educational challenges due to the pandemic, including transitioning to remote learning, providing student technological resources, and managing increased health and safety requirements (U.S. Department of Education & Office of Inspector General, 2020). The government's response to these challenges was mixed, with some departments providing guidance and resources. In contrast, others left HBCUs to navigate the difficulties independently (U.S. Department of Education & Office of Inspector General, 2020). Overall, the government's response to the needs of HBCUs during the COVID-19 pandemic was complex and varied, with support and challenges. While some institutions could access funding and resources, others have faced barriers and limitations in their efforts to continue serving their students (U.S. Department of Education & Office of Inspector General, 2020).

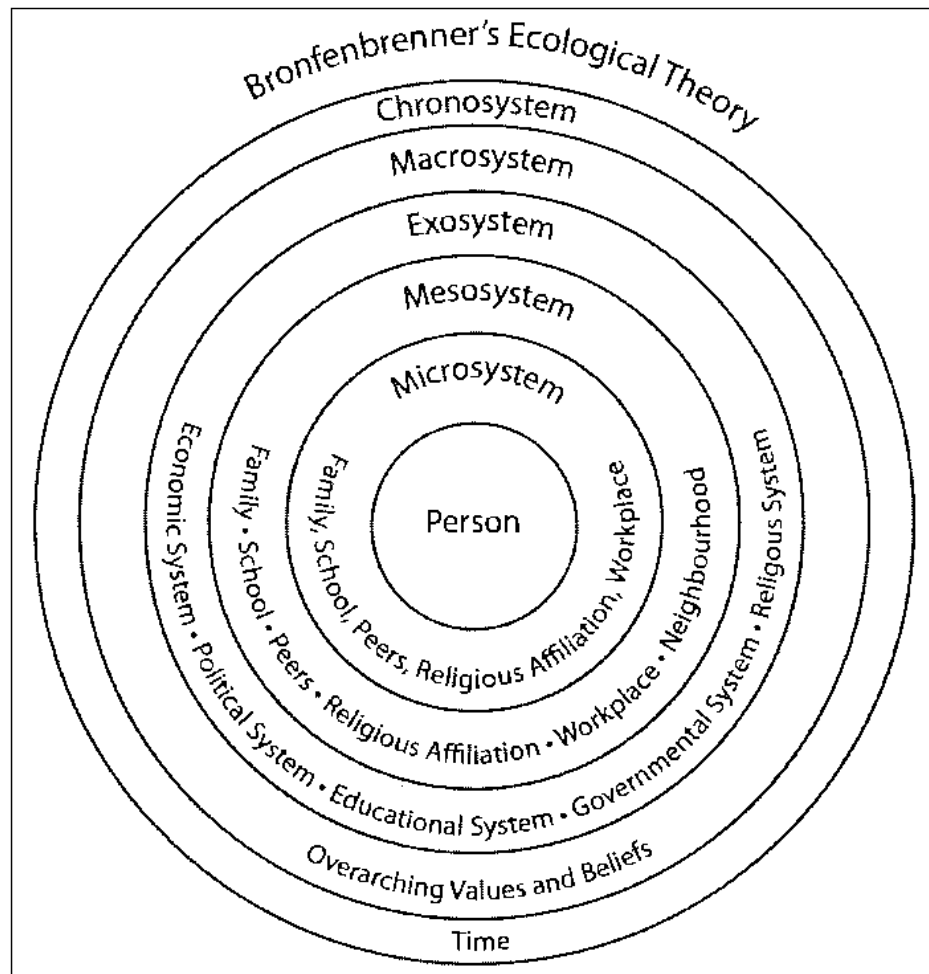
### **Theoretical Framework Related to Study**

For several reasons, Bronfenbrenner's (1979) Ecological System Theory is a valuable framework for a quantitative study of student academic performance at HBCUs. According to this theory, an individual's development is shaped by various interconnected systems. The systems include the microsystem (for example, family, school, and peers), mesosystem (e.g., relationships between different microsystems), exosystem (for example, community and societal institutions), macrosystem (for example, cultural and societal values), and chronosystem (development over time) (Peppler, 2017). These systems can all impact on student academic performance.

Firstly, HBCUs are a unique context with distinct historical, cultural, and socio-economic factors that shape student experiences and academic performance.

Bronfenbrenner's (1979) theory emphasizes the importance of considering the broader societal and cultural contexts in which individuals develop. It is a relevant framework for understanding the complex factors that impact student academic performance at HBCUs. Understanding the relationship between this study's variables is essential to this study because of the unique environmental factors found in HBCUs.

Secondly, Bronfenbrenner's theory emphasizes the interconnectedness of different systems, from the microsystem to the macrosystem, and how these systems impact individuals' development. For a quantitative study on student academic performance at HBCUs, this framework can help explore the interplay between factors that impact academic performance, such as student-family relationships, peer support, institutional resources, and cultural values around education. This study examined the relationship between student academic performance and pre and in-college factors. It focused on the interconnection of the microsystem and exosystem and the impact on student academic performance.

**Figure 1***Bronfenbrenner's Ecological Systems*

The microsystem includes the immediate environment in which students live and learn, such as their family, school, and peers. Research has shown that students who have positive relationships with their parents, teachers, and peers are more likely to perform academically than those who do not (Bronfenbrenner, 1979). Additionally, Bronfenbrenner's (1979) research showed that students who felt a sense of belonging at

school and positively interacted with their peers would be engaged in their learning and perform better academically.

Additionally, the mesosystem refers to the relationships between different microsystems. For example, a student's academic performance may be impacted by the quality of communication and collaboration between their family and school. If parents and teachers work together to support students' learning and development, this can positively impact their academic performance. In contrast, if there is a lack of communication and collaboration between these systems, this can negatively impact student academic performance.

Bronfenbrenner (1979) stated that the exosystem included the broader societal and community contexts in which a student lived, such as the availability of community resources and the policies that impacted education. For example, funding and resource allocation policies can impact the quality of education available to students. Additionally, the availability of community resources, such as libraries and after-school programs, can impact students' academic performance by providing additional support and opportunities for learning.

The macrosystem refers to the broader cultural and societal values and beliefs that shape individuals' attitudes and behaviors (Bronfenbrenner, 1979). For example, cultural values around education can impact students' motivation and engagement with learning. Also, societal norms around academic achievement can pressure students to perform well academically, positively and negatively affecting their academic performance.

The chronosystem emphasizes the importance of considering the historical and developmental context in which a student lives (Bronfenbrenner, 1979). For example, students living through a pandemic may face unique challenges that impact their academic performance, such as increased stress and disrupted routines. Understanding these contextual factors' impact on student academic performance is essential for creating supportive and nurturing environments that promote positive academic outcomes for all students.

Thirdly, Bronfenbrenner's (1979) theory is a holistic framework that acknowledges the dynamic and constantly evolving nature of individual development and the environments in which individuals live. For a quantitative study on student academic performance at HBCUs, this framework helped consider how varied factors impact students over time as they move through various stages of their academic journey. This theory helped understand the trends in student academic performance since the impact of the COVID-19 pandemic.

Finally, Bronfenbrenner's theory provided a comprehensive framework that guided the development of the study's research questions and data analysis methods. This framework can helped identify the most relevant and essential factors to investigate in this study and the most appropriate statistical methods for analyzing the data. Bronfenbrenner's theory guided the understanding the interconnectedness of variables related to student academic performance. Bronfenbrenner's Ecological System Theory is

a relevant and valuable framework for a quantitative study of student academic performance at HBCUs.

In conclusion, Bronfenbrenner's Ecological Systems Theory provided a valuable framework for understanding the complex interactions between individuals and their environments and has important implications for understanding student academic performance. By considering pressure meso, exo, macro, and chronosystem factors that impact students, educators and policymakers can create supportive and nurturing environments that promote positive academic outcomes for all students.

### **Overview of Related Academic Success Literature**

The topic of student academic performance has yet to be extensively researched. Research on retention rates in higher education has been the focus of the research area of renowned scholars (Spady, 1971; Tinto, 1975, 1982,1999). Retention rates are a topic researched as a part of the literature that predicts why students leave higher education institutions without matriculating. These models focus on integrating students into institutional academic and social systems. Tinto (2012) argued that student retention and graduation rates were contingent on student academic performance in the classroom. Most college retention and completion efforts are "at the margin of students' educational life." (Tinto, 2012, p. 2) Tinto's research findings show the connection between student academic performance and retention rates. Institutions should ask how improved student academic performance can increase retention rates (Tinto, 201).

The student integration model (SIM) is not intended to predict individual behavior. Instead, SIM is supposed to explain the individual attributes of students in specific situations and account for the patterns of that behavior (Tinto, 2006). Tinto's (1999) model included pre-college attributes, goals and commitments, institutional experiences, academic integration, social integration, and outcome. Despite Tinto's revisions to the SIM, he still found that the academic system continued to reflect the student's academic performance (Manyanga et al., 2017).

The student integration model is essential to this current study because Tinto's (1999) research revealed that evaluating pre-college and in-college factors, institutional experiences, and academic and social integration were critical in understanding the behavioral patterns of students that influence the decision to leave school. This current study evaluated pre-college and in-college factors the students attending HBCUs bring into their institutional experiences. Pre-college factors such as high school GPA and SAT scores were analyzed concerning first-year students' preparation for college. In-college factors analyze students' grade performance during their first and second semesters.

The model of student retention presented by Bean and Eaton (2001) emphasized the intent of students to persist. The ability of the student to persist was contingent on pre-college characteristics, such as skills and abilities, past behavior, personality, initial self-efficacy, initial attributions, normative beliefs, coping skills, and motivation to attend), environmental interactions like bureaucratic interactions, academic interactions, social interactions, and interactions external to the institution, psychological processes, and outcomes. This model allowed for more direct influence options and accounted for more factors simultaneously.

Bean and Eaton (2001) found that students must believe they control their academic outcomes to succeed. The current study reviewed the relationship between student academic performance and pre-college factors. The current study also reviewed external environmental factors such as the need for financial aid and whether the student was independent or dependent. The current study also reviewed this to understand the relationship with student academic performance at HBCUs.

Swail (2014) credited the lack of social and academic integration as one of the reasons students leave college. Factors related to student academic performance and social and academic integration at the student's institution are essential to improving student success. Swail's Geometric Model of Student Persistence and Achievement offers a simplistic representation of student persistence and achievement. He offered three components of persistence and achievement: cognitive, social, and institutional factors and the model's center is the student experience. Student academic performance is impacted by cognitive factors measured by the strengths and weaknesses of academic ability, such as study skills and time management.

Five Components of the Student Retention Framework developed by Swail (1995) offer administrators and practitioners strategies that involve the campus instead of relying on one department to retain students. Swail's (2003) research is significant because he focused on retaining minority higher-education students. This current study proffers strategies for stakeholders to improve student academic performance at HBCUs in chapter five.

A call for new theoretical frameworks that reflect the racially diverse experiences of higher education students emerged out of the concern of limitations of current



prominent retention theories. Museus (2014). One limitation is the belief that students' cultural and racial realities do not shape the institutional culture. Museus (2014) called this myth a failure of traditional frameworks. The Culturally Engaging Campus Environments (CECE) emerged as a model for college success from a qualitative study of 150 diverse undergraduate students.

Museus' (2014) CECE is a theoretical model that addressed four main critiques of Tinto's theory and explains that college success includes diverse population voices. The first critique, the cultural foundation critique, pointed out the culturally biased foundations of SIM. The second critique, the self-determination critique, spotlighted the limitations of the self-deterministic nature theory. Next, the integration viability critique targeted the debatable effectiveness of academic and social integration as a predictor of college student success outcomes. The fourth critique, the psychological dimensions critique, highlighted that Tinto's theory does not account for a student's connection to the institution (Museus, 2014).

Undergraduate students are predicted to be more likely to persist by the CECE model if the student displays a sense of belonging, the positive academic character increases, and improved academic performance. Museus' model (2014) posited nine indicators that predict culturally engaging campuses that influence student success: (a) cultural familiarity, (b) culturally relevant knowledge, (c) cultural community service, (d) opportunities for meaningful cross-cultural engagement, E. collectivist F. cultural orientations, (g) culturally validating environments, (h) humanized educational environments (i) proactive philosophies, and (j) availability of holistic support. These

indicators are necessary for establishing a culturally engaging campus environment, according to Museus (2014).

The Museus' (2014) CECE model consists of four components that led to the prediction of student persistence: a. external influences such as employment, economic influences, and family influences; b. pre-college inputs such as demographics, academic disposition, and preparation; c. previously discussed culturally engaging campus environments; and d. individual influences include a sense of belonging, academic dispositions, and academic performance.

The current study found value in the indicators the Museus' (2014) model used to predict college student success. Cultural familiarity indicator is offered to the student populations at HBCUs through the ability to connect with peers, staff, and faculty with common backgrounds (Museus, 2014). Culturally relevant knowledge indicator is disseminated to students by "involvement in ethnic studies courses, culturally relevant courses and programming, and ethnic student organizations on campus might be a salient vehicle for developing and maintaining epistemological, cultural connection" (Museus, 2014, p. 211). The ability of students to give back to their communities, the cultural community service indicator, is related to more robust connections to their campuses (Museus, 2014). Success in college can also be predicted by access to postsecondary educators who validate students' cultural backgrounds and identities, the culturally validating environment indicator (Museus, 2014). Humanized educational environments are identified by campuses providing institutional agents who build meaningful student relationships.

Turner and Thompson's (2014) qualitative study aimed to explain the experience of transitioning into a college environment and explored the opinions and perceptions of millennial first-year students. First-year students' social and academic integration into college depends on the following strategies: ongoing academic guidance, learning communities, and skill development training (Turner & Thompson, 2014). The findings reveal four obstacles or enablers: freshman-centered activities, developing practical study skills, faculty-student relationships, and academic advice support (Turner & Thompson, 2014).

Lastly, Turner and Thompson (2014) suggest that aggressive academic support systems could benefit institutions. Turner's and Thompson's (2014) qualitative study showed the importance of ongoing interaction between students and institutions to influence student academic success positively. Research shows that ongoing interaction between students and institutions influences improvement in student academic performance.

Researcher Tiffany Mfume (2016) noted the need for more information about HBCU retention and graduation rates. Mfume (2016) added that when HBCU research is published, it is usually from a perspective not directly involved. The literature must present studies beyond the subpopulations at HBCUs. Mfume's (2016) book aimed to provide strategies for administrators to increase the retention and graduation rates at HBCUs. The book is intended to serve as a manual.

Mfume (2016) conducted a case study of Morgan State University, an HBCU. The researcher used data collected from the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS), Morgan State University's archival data,

and the Maryland Higher Education Commission (MHEC) to study student success.

Mfume (2016) combined her 16 years as an administrator at Morgan State University, a data-driven student success model backed by evidence, and a case study of the student success model to proffer nine strategies to increase retention and graduation rates.

The first strategy that Mfume (2016) discussed was leadership; in the HBCU context, this leader must focus on student success and improving retention and graduation rates. Branding was the second strategy: Mfume recommended identifying the institutional brand and communicating what is great about the university. Third, data mining will determine who students are and what they need. Frontloading is the fourth strategy discussed by Mfume, first-year foundations for first-year students. The fifth strategy, case management, can track and monitor students according to determined criteria by graduation cohort.

Following case management, Mfume shared the sixth strategy of strategic initiatives programs that allow for the systematic tracking and monitoring of students that will improve the data. Seventh was leveraging grants strategy to get the most out of grants by using them to support student success initiatives. The eighth strategy was technology, which included using tools and systems helped to work smarter, not more complex. Mfume shared the last strategy, networking. She argued there is no need to unnecessarily repeat existing work when peer institutions' conclusions and recommendations could contribute to decision-making.

Mfume's succinct case study offered strategies for using institutional data to move retention rates positively. The current study found Mfume's case study of interest because quantitative data was examined in this study to determine the relationship

between student academic performance rates and pre-college and in-college data. The case management strategy used by Morgan State University used data and systematic monitoring to increase student retention rates; HBCUs can utilize this strategy to improve academic performance.

Harper's (2016, 2019, 2022) research has shown that HBCU students often face significant challenges in accessing the resources and support they need to succeed academically, including limited access to technology, inadequate funding, and a lack of support services. His work has also revealed that HBCU students often experience discrimination, bias, and other microaggressions that can negatively impact their academic performance and overall well-being.

Despite these challenges, Harper's (2016, 2019, 2022) work also highlighted the resilience and determination of HBCU students and the critical role that these institutions play in promoting academic success for African-American students. Through his research, he has sought to identify strategies for supporting the academic success of HBCU students and promoting equity and opportunity in higher education.

Harper's (2016, 2019) work sheds light on the complex interplay of factors that impact student academic performance at HBCUs and highlights the importance of addressing these challenges to promote equity and opportunity in higher education. His research helped to inform policy and practice aimed at supporting HBCUs and their students and significantly contributed to our understanding of the challenges faced by these institutions and their students.

Sylvia Hurtado and Deborah Faye Carter's (1997) research on student academic performance explores the impact of various contextual and individual factors on student

outcomes in higher education. Through their research, they seek to identify the challenges and barriers faced by underrepresented students and to understand how these factors impact their academic performance.

Hurtado's (1997) work focuses on understanding the experiences of underrepresented students in higher education and the role of campus climates and cultures in shaping these experiences. Her research showed that adverse campus climates, characterized by low inclusiveness and elevated levels of discrimination, can harm student academic performance. These factors contribute to disparities in academic outcomes for underrepresented students.

Carter's (1997) research focuses on understanding the impact of race and racism on student academic performance and how these factors impacted student engagement, motivation, and success in higher education. Her work showed that experiences of racial discrimination and microaggressions can negatively impact student academic performance and contribute to disparities in academic outcomes for students of color.

Together, the research of Hurtado and Carter (1997) sheds light on the complex interplay of contextual and individual factors that impact student academic performance and highlights the importance of addressing these challenges to promote equity and opportunity in higher education. Their work has helped inform policy and practice aimed at supporting underrepresented students in higher education and has significantly contributed to our understanding of the challenges faced by these students and the factors that impact their academic success.

Terrell L. Strayhorn's research on belonging and student academic performance focuses on the impact of a sense of belonging on the academic success of

underrepresented college students. According to Strayhorn (2018, 2020), a sense of belonging refers to the extent to which students feel like they fit in, are accepted, and are valued within their college environment. Strayhorn argues that a sense of belonging can positively impact student academic performance by promoting psychological well-being, reducing stress, and increasing engagement in college.

Strayhorn's (2018) research has found that underrepresented college students, such as Black and Latino students, low-income students, and first-generation college students, are often more likely to experience a lack of belonging in their college environment. This lack of belonging can negatively impact their academic performance and contribute to higher attrition and lower degree completion rates (Strayhorn, 2018, 2020).

In his research, Strayhorn explores ways colleges and universities can foster a sense of belonging among underrepresented students. Strayhorn (2018, 2020) argues that a supportive and inclusive college environment can improve underrepresented students' academic performance and success. Overall, Strayhorn's (2018, 2020, 2021, 2023) research highlights the importance of belonging for underrepresented college students and underscores the need for colleges and universities to foster a sense of belonging for students.

### **Reliability and Validity**

Reliability and validity are two essential concepts in research methodology, and Creswell (2019) suggests they overlap at times and have a mutually exclusive relationship at times. Reliability refers to the consistency and stability of the measurement or tests over time or across different observers. A reliable measurement or

test produces consistent results, regardless of who administers it or when researchers administer it. There are various ways to assess reliability, such as test-retest, inter-rater, and internal consistency.

On the other hand, validity refers to the degree to which a measurement or test measures what it is supposed to measure. In other words, a valid measurement or test accurately reflects the measured construct or variable. There are several types of validity, such as content, criterion, and construct.

In summary, while reliability is necessary for validity, more is needed. A measurement or test can be reliable but not valid, meaning it consistently produces the same results but does not measure what it is supposed to measure. For example, a bathroom scale that always displays the same weight regardless of who stands on it would be reliable but invalid, as it needs to measure body weight accurately. Reliability and validity are related concepts in research methodology but are not bound together. While reliability is necessary for validity, a measurement or test can be reliable but not valid, and vice versa.



## **CHAPTER III**

### **RESEARCH DESIGN AND METHODOLOGY**

This chapter explains the research methodology and design of this study. This chapter includes the research methodology, design, questions, null hypotheses, and alternative null hypothesis. This chapter will also describe the study's population, data collection, and analysis procedures. The chapter will conclude with a review of the chapter.

This study investigated the relationship between student academic performance, pre-college factors, and pre-COVID-19 and post-COVID-19 trends at one HBCU. This research adds to the existing body of literature on the retention of students and provides strategies for HBCU administrators and stakeholders to increase retention rates. This study investigated students who enter college with the following pre-college factors, high school GPA and SAT scores. Three research questions examined the relationship between environmental issues of COVID-19 years, pre-college and in-college factors, and student academic performance at a public HBCU.

#### **Research Methodology**

This study is a quantitative analysis of archived student data for students at a public HBCU. The study identifies the relationship between student academic performance, pre-college and in-college factors, and environmental issues of COVID-19. A regression research analysis was applied to define the degree of a direct relationship between student academic performance (dependent variable) and the following indicators: pre-college factors (high school GPA and SAT scores), pre-COVID-19 years,

post-COVID-19 years, and student financial dependency status. The study evaluates trends, compares individual students and cohorts, and evaluates variables using a practical statistical analysis. The researcher assessed the outcomes of this study by comparing the data with past research and predictions. The research compares the outcome variables connected to HBCU student academic performance: pre-college factors, pre-COVID-19 and post-COVID-19 years, and student financial dependency status. Data was composed of student data for the last ten years for each variable. It was correlated and reported on various tables, graphs, and figures using Statistical Package for the Social Sciences (SPSS) and Excel software.

The microsystem is the first layer of Bronfenbrenner's (1994) ecological system theory and refers to an individual's immediate surroundings. Within the context of student academic performance at HBCUs, the microsystem may include factors such as the student's relationships with their peers and instructors, access to resources and technology, and the quality of instruction they receive. For example, students with strong relationships with their instructors and peers may feel more supported academically. At the same time, those who lack access to technology or adequate study spaces may need help with remote learning. This has an impact on student academic performance.

The mesosystem, the second layer of the theory, refers to the links between microsystems (Bronfenbrenner, 1994). For students at HBCUs, the mesosystem may encompass the relationship between a student's family support and academic performance. Family support can be crucial in promoting academic success, and HBCUs may benefit from programs that engage families and promote positive home-school

connections. This is measured by the student financial dependency variable. This study looked at if the student is a dependent or independent student.

The third layer, the exosystem, refers to more significant societal factors that can impact an individual's development (Bronfenbrenner, 1994). Within the context of student academic performance at HBCUs, the exosystem may include societal factors such as economic disparities and systemic racism. For example, students who come from low-income families may need help to afford the resources they need to succeed academically. This level of theory is examined by the student financial dependency variable.

The fourth layer, the macrosystem, encompasses cultural and societal values that shape an individual's development (Bronfenbrenner, 1994). For students at HBCUs, the macrosystem may include these institutions' cultural and historical significance and their role in promoting racial equity. This layer also includes more significant societal attitudes toward education and the value placed on academic achievement.

The outermost layer, the chronosystem, incorporates both internal and external changes that occur throughout a person's lifespan. These changes can include major life events such as marriage, divorce, birth, death, career transitions, and historical events like economic fluctuations, technological advancements, or societal shifts. The chronosystem also recognizes the impact of socio-historical contexts, such as cultural changes, political events, and policy shifts, on individual development.

By considering the interplay of these systems, HBCUs can better support their students and address challenges to academic performance. For example, HBCUs could address technological disparities within their microsystem by providing students access to

technology and study spaces. They could also address broader societal issues within their exosystem by advocating for racial equity policies.

Furthermore, HBCUs could promote positive home-school connections within their mesosystem by engaging families and promoting family support. Finally, by recognizing the cultural and historical significance of HBCUs within their macrosystem, these institutions can foster a sense of belonging and purpose among their students and promote academic success. Both a sense of belonging and purpose positively impact student academic performance.

In conclusion, Bronfenbrenner's third layer of the exosystem is a valuable framework for understanding the multiple and interconnected factors that impact student academic performance at HBCUs. By considering the interplay of the microsystem, mesosystem, exosystem, and macrosystem, HBCUs can better support their students and address challenges to academic success. This study used Bronfenbrenner's theory to understand the relationship between student academic performance and pre and in-college factors.

### **Research Design**

This study examined the relationship between student academic performance and pre-college factors, pre-COVID-19 and post-COVID-19 years, and the financial dependency status of students. This study aims to proffer strategies for student academic performance at HBCUs. Therefore, adding strategies to the existing body of literature to improve student academic performance at HBCUs leads to improved student attrition.

According to Fraenkel et al. (2018), a researcher can understand a relationship with two or more variables by conducting a correlational research design. A correlational

study describes the degree to which two or more quantitative variables are related (Fraenkel et al., 2018). This correlational technique was appropriate because it permits a researcher to think about information between two groupings and generalize impartially about the practices and encounters of the participants.

Archival data requested through the open records department at Prairie View A&M University is the source for the data utilized in this study. The first-year data for students was requested for this study from the Open Records department in addition to the high school GPA, gender, SAT scores, end of the first semester GPA, end of the second semester GPA, end of the first-year GPA, and financial dependency status for each student. This data will be requested for the last ten years to view student academic performance trends before and after COVID-19.

## Research Questions

The following questions guided this research study:

RQ1 Is there a statistically significant relationship between a student's first semester GPA at an HBCU and the pre-college variables, high school GPA, and SAT scores?

RQ2 Is there a statistically significant relationship between a student's first semester GPA at an HBCU and a student's financial dependency status?

RQ3 Is there a statistically significant relationship between student academic performance and the impact of COVID-19 (between 2019 and 2021)?

## Null Hypotheses

H<sub>01.1</sub> There is no statistically significant relationship between a student's first semester GPA at an HBCU and the pre-college variables, high school GPA, and SAT scores.

H<sub>01.2</sub> There is no statistically significant relationship between a student's first semester GPA at an HBCU and a student's financial dependency status.

H<sub>01.3</sub> There is no statistically significant difference in how student performance has changed since the impact of COVID-19 (between 2019 and 2021).

## Alternative Hypotheses

H<sub>a1.1</sub> There is a statistically significant relationship between a student's first semester GPA at an HBCU and the pre-college variables, high school GPA, and SAT scores.

H<sub>a1.2</sub> There is a statistically significant relationship between a student's first semester GPA at an HBCU and a student's financial dependency status.

H<sub>a1.3</sub> There is a statistically significant difference in how student performance has changed since the impact of COVID-19 (between 2019 and 2021).

**Table 1***Statistical Analysis for RQ1-RQ3*

Research Questions	Variables	Statistical Analysis
RQ1: Is there a statistically significant relationship between a student's first semester GPA at an HBCU and the pre-college variables, high school GPA and SAT scores?	<u>Criterion Variables</u> First-year student academic performance at a 4-year public HBCU.	RQ1 Multiple linear regression analysis was used to determine which of the relationship to the predictor variables.
RQ2: Is there a statistically significant relationship between a student's first semester GPA at an HBCU and a student's financial dependency status?	<u>Predictor Variable for RQ1</u> High school GPA and SAT scores. <u>Predictor Variable for RQ2</u> Student financial dependency status	RQ2 Simple linear regression test, T-test, Step-wise regression Nominal or ordinal variables were dummy coded to allow them to be used in the multiple linear regression.
RQ3 Is there a statistically significant relationship between student academic performance and the impact of COVID-19 (between 2019 and 2021)?	<u>Predictor Variable for RQ3</u> COVID-19, time plot of student academic performance from 2012-2019	RQ3 The interpolation line chart and descriptive statistics  Descriptives from 2012 to 2019

**Study Setting**

Students that populated an HBCU, a four-year public institution, is the bases for the current study. The institution has awarded over 80,000 academic degrees during the university's history. The institution has awarded 9,000 degrees, including over 2,000 graduate degrees, within the last five years. Although the campus composition is diverse, 84% of the student population comprised African-American students. The institution is



accredited to award baccalaureate, master's, and doctoral degrees by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC).

The land-grant institution has a student-to-faculty ratio of 17:1 with a faculty count of 565. The HBCU has eight colleges and schools that produce more than 70 degree programs. The university offers a wide range of undergraduate and graduate degree programs across several colleges and schools, including the College of Agriculture and Human Sciences, the College of Arts and Sciences, the College of Business, the College of Education, the College of Engineering, and the College of Juvenile Justice and Psychology. This institution is one of the ten HBCUs awarded R2 by the Carnegie Classification of Institutions of Higher Education.

### **Population**

The study does not include human subjects because the study utilized archival data from the Fall Semester of 2011 to the Fall Semester of 2021. The target population for this study encompasses first-year undergraduate students enrolled at a public HBCU. The student population at the institution is diverse, with a substantial number of African-American students and students from other racial and ethnic backgrounds. The student body is also composed of traditional-aged students, transfer students, and graduate students. The institution serves 8,521 students, with 7,624 undergraduate, 48 post-baccalaureate, 687 graduate, and 154 doctoral students.

The gender breakdown for the institution is 5,692 female students and 2,829 male students. The diversity of the student population is displayed in the population's ethnicity. African Americans the dominant ethnicity, with 7,196 representing that ethnicity. The top six countries by residence are (1) Nigeria, (2) Equatorial Guinea, (3) India, (4) Jamaica,

(5) Bangladesh, and (6) Bahamas. California leads out-of-state enrollment by the state, followed closely by Louisiana.

The Open Records department provided data for 17,836 first-year students. The student data is grouped by cohorts starting in Fall 2011 and ending in Fall 2021. Each student has the following data: gender, age, high school GPA, SAT, Independent or dependent financial dependency status, Fall semester GPA, and Spring Semester GPA. For this study, the student population of the study's institution served as a sample size of the much larger population of first-year students who attended HBCUs from Fall 2011 to Fall 2021.

### **Sample Size**

This study utilized SPSS; running the entire sample is as easy as a smaller sample. The primary limitation would be that the sample is overpowered, meaning that trivial patterns and p-values are likely to be significant. Both correlation and regression tests automatically provide measures of the strength of the relationship. Therefore, analyzing the entire dataset will not be a barrier in this study.

### **Variables**

The current study analyzed pre and in-college factors' relationship with student academic performance and evaluated the trends of student academic performance since the impact of the COVID-19 pandemic.

### ***Dependent Variables***

The in-college data of end-of-semester GPA was utilized in this study to predict student academic performance. The study collected all data from open records from the institution to understand why some students do not persist beyond the first two semesters.

The first two semesters are what Tinto (1975) suggests as the most critical period of a student's academic career. Tinto (1993) advances that the pre-college factors of high school GPA and SAT scores can be solid predictors of student retention that lead to student success. Therefore, satisfactory student academic performance leads to student retention. Understanding the relationship between student academic performance and high school GPA and SAT scores is important.

### ***Independent Variables***

The current study ran a multiple regression test to test the relationship between student academic performance and independent variables, high school GPA and SAT scores. This type of analysis allowed HBCU administrators to determine the relative importance of high school GPA and SAT scores in predicting academic performance in college. Understanding the relationship between student academic performance, high school GPA, and SAT scores can help schools and policymakers develop targeted strategies for supporting student success and improving educational outcomes. For example, schools may use high school GPA and SAT scores to determine eligibility for academic programs or scholarships or identify students needing additional support to succeed in college.

Understanding the relationship between student academic performance and the financial dependency status of students enrolled in HBCUs will help identify students at risk for low academic performance. The ability to identify at-risk students provides HBCU administrators with opportunities to implement early interventions, improve student outcomes, and better resource allocation. The relationship between student academic performance and dependency status is complex and multi-faceted. Many other

factors can influence academic performance, including student demographics, socioeconomic status, family background, and access to academic and financial resources. A simple linear regression test assessed the relationship between student academic performance and financial dependency status (independent = 1; dependent = 0).

The trends of student academic performance over 10 years were analyzed. The study examined student academic performance during the years before COVID-19 and the years since the impact of COVID-19. Time series analysis is a statistical method used to analyze trends over time by modeling the relationship between a dependent variable and time. This study uses time (measured in years) as the independent variable and the dependent variable as the response. The time series analysis aims to identify any patterns, trends, or seasonal fluctuations in the dependent variable over ten years.

An interpolation line chart was utilized as a straightforward way to visualize the data and identify any trends, seasonality, and outliers. Additionally, descriptive statistics were utilized to measure central tendencies, such as mean and median, and measures of dispersion, such as standard deviation and range, to describe the overall pattern of the data.

### **Data Collection**

Once approval was granted to conduct this study by the Institutional Review Board (IRB), the data was requested from the Open Records department of the HBCU for this study. Archival data for each first-year undergraduate student for the last ten years was requested. The requested data includes the following variables: high school GPA, student financial dependency status, SAT scores, and the end-of-semester GPA for the

first year. In this study, gender and college affiliation are controlled variables to limit the influence of these two variables on the study results (Fraenkel et al., 2018).

### **Archived Data**

In this study, a request was sent through the Open Records portal of the public 4-year HBCU for the variables associated with this study. The independent variables in this study (high school GPA, SAT scores, student financial dependency status, and COVID-19 pre and post-years) and the end of the first semester GPA, end of the second semester GPA, and the end of the first-year GPA for each student were retrieved through Open Records portal. The requested data sets allowed each RQ to be answered.

### **Data Analysis Plan**

All data analyses were conducted using SPSS to determine if there is a relationship between the dependent and independent variables. The descriptive statistics and time series analysis of all variables (high school GPA, SAT, end of first-semester GPA, second-semester GPA, pre-COVID-19 years, COVID-19 years, and dependency status) was employed by this study. There was no need to manipulate the variables because the data was archived.

A stepwise regression test was completed on RQ1. This statistical test was used because of the test's ability to select the most significant predictors and exclude the insignificant ones (Mizumoto, 2022). An independent t-test was performed on RQ2 to determine the relationship between student academic performance and financial dependency status. Due to the finding of an unequal variance in the independent t-test, a Welch's t-test was conducted (Kent State University, 2023).

An interpolation line chart was built using the first semester GPA for each student on the Y-axis and the cohort year data on the X-axis data. Interpolation line charts are commonly used to display data that changes over time or across a range of values. The chart typically has two axes: the x-axis represents the independent variable (e.g., time), and the y-axis represents the dependent variable (e.g., academic performance). Each data point is plotted on the chart, and a line is drawn between the points to create a continuous curve representing the data's trend. Interpolation line charts can help identify patterns or trends in data over time or across a range of values. They can also be used to compare multiple data sets on the same chart, which can help highlight similarities or differences between the data sets. Lastly, interpolation line charts can be used to make predictions or forecasts based on the trend in the data (University of Illinois, 2022).

Additionally, descriptive statistics were used to study the trends in student academic performance since the impact of COVID-19. Descriptive statistics can be used to study student academic performance because they provide a helpful summary of the critical features of the data, such as central tendency, variability, and distribution. Using descriptive statistics to study academic performance, researchers can gain insight into students' performance and identify patterns or trends in the data. Using a combination of methods and considering multiple data sources can help strengthen the conclusions drawn from the analysis in this study. Descriptive statistics can be a powerful tool for studying student academic performance. It can help researchers gain insights into students' performance, identify areas where improvements may be needed, and track progress over time.

## **Reliability and Validity**

First, the research questions were clearly defined to ensure reliability and validity in this study. The research questions helped identify the appropriate archival data sources and the analysis types needed to answer the research question (Creswell & Guetterman, 2019). It was essential to the reliability and validity to identify the research questions and the dependent and independent variables necessary to conduct this study.

Secondly, identifying the most relevant and accessible archival data sources to test the research question was essential to this study. Archival data sources considered for this study were historical documents, official records, statistical databases, and other publicly available records. The Open Records Department at an HBCU provided the most relevant and reliable source for this research question.

Thirdly, for the study, the data quality was evaluated by checking for completeness, accuracy, consistency, and any potential biases that may have been present in the data source provided by the Open Records Department. The completed evaluation of the data sources revealed that the data set was accurate, consistent, and had no potential biases.

Fourthly, this study consists of a transparent and replicable research plan to ensure reliability and validity in archival research. The research plan includes detailed information about the research design, data collection methods, and data analysis techniques. This chapter shares the research plan.

Fifthly, when analyzing the archival data in this study, it is essential to use appropriate statistical techniques to ensure the reliability and validity of the findings. The

statistical test involved using regression analysis and other multivariate techniques. This study used an interpolation line chart to understand the impact of COVID-19.

Finally, it was essential to consider potential sources of bias in this archival data. These biases included selection bias, measurement bias, and confounding variables (Texas A&M University, Corpus Christi, 2023). By addressing these potential sources of bias, the study ensured that the findings were as reliable and valid as possible.

In summary, when using archival data for this study, it was essential to ensure its reliability and validity. This involved identifying relevant data sources, evaluating the data quality, developing a clear research plan, using appropriate statistical techniques, and considering potential sources of bias. This study utilized the entire data set population.

### **Summary**

Chapter 3 discussed the choice to employ a quantitative research method. This method evaluated the relationship between this study's dependent and independent variables. The implementation process overviewed in this chapter allowed the research questions in this study to be answered. A correlational study can test the strength of the relationship between variables (Fraenkel et al., 2018).



## CHAPTER IV

### RESULTS

#### **Introduction**

This study used descriptive statistics, stepwise regression, t-test, and simple time series plot to investigate the relationship between pre and in-college factors and student academic performance of first-year students attending an HBCU using data collected by the university's archival data. The study sought to determine whether there is a difference in the relationship between pre and in-college variables and student academic performance of first-semester students attending an HBCU. Also, the study evaluated the trends in student academic performance since the impact of the COVID-19 pandemic.

The first research question was addressed using a stepwise regression analysis to examine the relationship between a student's first semester GPA at an HBCU and the pre-college variables, high school GPA and SAT scores. T-test analyses addressed the second research question to examine the relationship between a student's first semester GPA and the student's financial dependency status. The third and final research question was addressed by presenting a simple time series plot and descriptive analysis that examines the trends in student academic performance since the impact of the COVID-19 pandemic.

#### **Research Question One**

The first question examined the relationship between the first semester GPA at an HBCU and the pre-college factors variables, high school GPA and SAT scores. The question was answered using a stepwise regression statistical test because it would add and remove predictors from the model based on a set of criteria until the best model is

obtained. Stepwise regression is a statistical technique for selecting the best subset of predictors.

**Table 2**

*Results from Stepwise Regression*

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.539	.065		-8.334	<.001
	HS GPA	1.025	.021	.390	49.931	<.001
2	(Constant)	-.790	.069		-11.446	<.001
	HS GPA	1.051	.021	.400	50.986	<.001
	SAT	.000	.000	.080	10.163	<.001

*Note:* a. Dependent Variable: Semester 1 GPA

The stepwise regression test revealed significant relationships between high school GPA and student academic performance shown in Table 1. The stepwise test also revealed that the variables high school GPA and SAT are multicollinear. The highly correlated results between high school GPA and SAT required a collinearity diagnostic to be conducted and can be found in Table 2. This study used variance inflation factor (VIF)

statistics to check for multicollinearity. The VIF value of 1 indicates no multicollinearity, and the results of the stepwise regression analysis can be trusted. Table 2 presents the results of the stepwise regression analysis examining the relationship between high school GPA and SAT and student academic performance at an HBCU. The beta coefficient for high school GPA was .390 (SE = .96), indicating a positive and significant relationship with student academic performance [ $t(13,865) = 49.931, p < .001$ ]. This suggests that students entering college with higher high school GPAs will likely have better academic performance than those with lower high school GPAs. Therefore, the null hypothesis is rejected and concludes that a significant relationship exists between high school GPA and student academic performance at an HBCU.

**Table 3**

*Collinearity Diagnostics*

		Coefficients					Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients		Tolerance	VIF	
		B	Std. Error	Beta	t			Sig.
1	(Constant)	-.539	.065		-8.334	<.001		
	HS GPA	1.025	.021	.390	49.931	<.001	1.000	
2	(Constant)	-.790	.069		-11.446	<.001		
	HS GPA	1.051	.021	.400	50.986	<.001	.985	

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SAT	.000	.000	.080	10.163	<.001	.985	1.015
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Note: a. Dependent Variable: Semester 1 GPA

The statistics in Table 3 highlight the positive linear relationship between high school GPA and SAT. It is important to note that SAT has a slightly stronger correlation than high school GPA to student academic performance; however, both variables show a moderate positive linear relationship to student academic performance. This suggests that high school GPA and SAT significantly affect student academic performance.

**Table 4**

*Linear Relationship*

**Model Summary**

---

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.390 <sup>a</sup>	.152	.152	.961562021477
2	.398 <sup>b</sup>	.159	.159	.958034555184

---

Note: a. Predictors: (Constant), HS GPA; b. Predictors: (Constant), HS GPA, SAT

**Research Question Two**

The second research question explored the relationship between student academic performance and a student's financial dependency status at an HBCU. Research question two was answered using a paired samples t-test. The archival data contained student-reported financial dependency status for first-year students at an HBCU. Table 4 reveals

that students with a financial dependency status of dependent totaled 12,050, and students with a financial dependency status of independent totaled 1,555 first-year students at an HBCU. This created an unequal variance, which created a need for Welch's t-test to be used as an alternative to the independent samples t-test of equal variance.

**Table 5**

*Independent t-test*

<b>Group Statistics</b>					
	Student Dependency Status	N	Mean	Std. Deviation	Std. Error Mean
Semester 1 GPA	Dependent	12050	2.6536	1.0608	.0096
	Independent	1555	2.7154	.9031	.0229

The Welch's t-test provided independent sample effect sizes for the student academic performance using the standardized Cohen's d. Table 5 shows that Cohen's d-effect size is 1.044. This suggests a large effect size. The difference between the two groups will likely be meaningful and essential, not simply due to chance.

**Table 6**

*Welch's t-test Cohen's d: Effect Sizes*

<b>Independent Samples Effect Sizes</b>					
	Standardizer	Point Estimate	95% Confidence Interval		
			Lower	Upper	
Semester 1 GPA	Cohen's d	1.044	-.059	-.112	-.006

Hedges' correction	1.044	-.059	-.112	-.006
Glass's delta	.903	-.068	-.121	-.016

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**Table 7***Independent t-test***Independent Samples Test**


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		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Significance One-Sided p
Semester 1 GPA	Equal variances assumed	74.027	<.001	-2.196	13603	.014
	Equal variances not assumed			-2.485	2147.774	.007

---

**Table 8***Independent t-test*

		t-test for Equality of Means			95% Confidence Interval of the Difference	
		Significance Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Semester 1 GPA	Equal variances assumed	.028	-.0617	.0281	-.1169	-.0066
	Equal variances not assumed	.013	-.0617	.0248	-.1105	-.0130

A Welch's t-test compared dependent student financial dependency status ( $M1 = 2.653$ ,  $SD .009$ ) and independent student financial dependency status ( $M2 = 2.715$ ,  $SD .022$ ). The results in Tables 6 and 7 of Welch's test revealed that there is a significant relationship between the groups [ $t(13603) = -2.196$ ] and a p-value =  $<.001$ . Therefore, we reject the null hypothesis and conclude that there is a significant relationship between student academic performance at an HBCU and student financial dependency status.

### **Research Question Three**

In research question three, the study uses descriptive statistics to provide in-depth information and summary statistics regarding student academic performance from Fall 2012 to Fall 2021. First-semester GPAs for students at an HBCU were examined by cohort year to identify patterns and trends since the impact of the COVID-19 pandemic.

The range of first-semester GPA was from the maximum value of 4.00 to the minimum GPA value of 0.00. The first-semester GPA mean was 2.66, with a standard deviation between values of 1.04.

**Table 9**

*Descriptive Statistics (N = 13880)*

<b>Descriptive Statistics</b>							
	N	Range	Minimum	Maximum	Mean	Std.	Std.
	Statistic	Statistic	Statistic	Statistic	Statistic	Error	Deviation
							Statistic
Semester 1 GPA	13880	4.0000	.0000	4.000	2.6650	.008	1.0449
Valid N (listwise)	13880					8	

The resulting interpolation line chart displays the relationship between student academic performance and time, with the line connecting the data points to create a visual representation of trends over time. The chart can be used to identify any patterns or changes in student academic performance over time and to evaluate the changes in student academic performance since 2020, when the World Health Organization (WHO) declared the impact of COVID-19 was a pandemic.

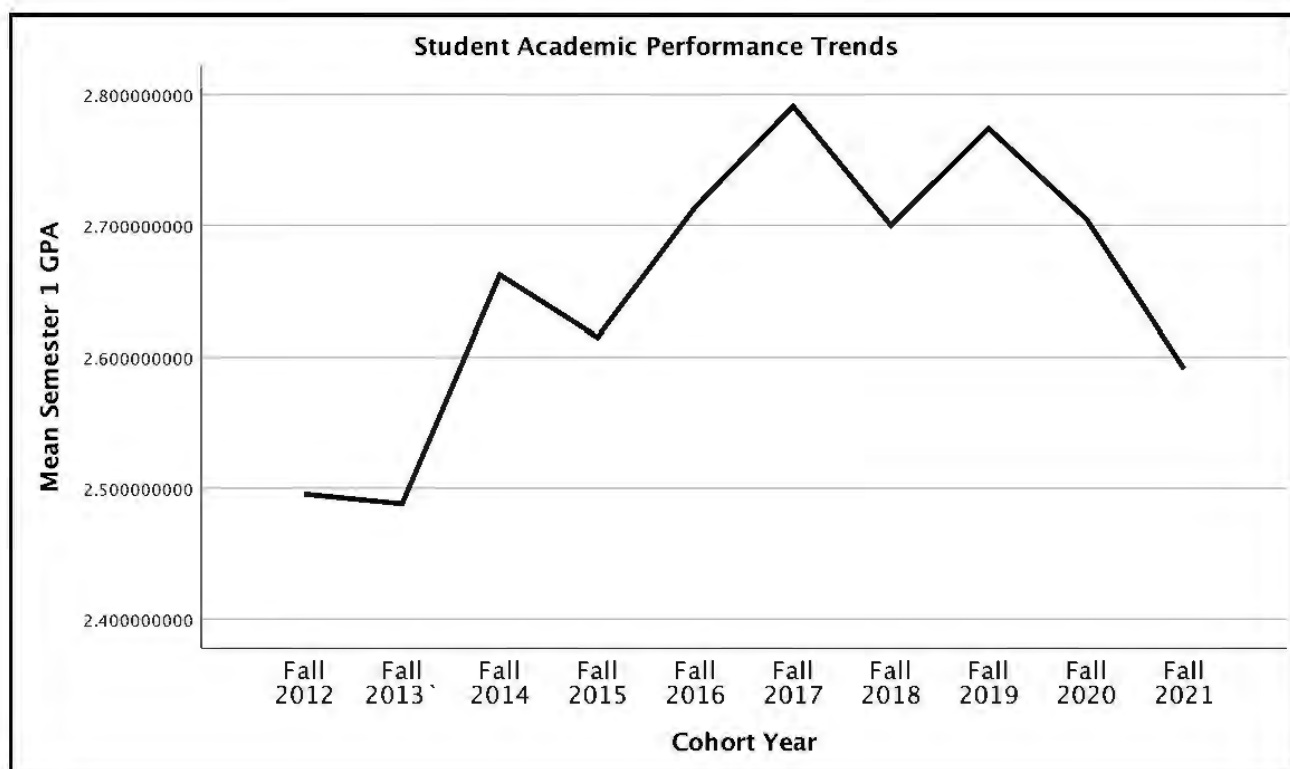
The interpolation line chart shows a consistent decline in student performance from 2019 to 2021. Before 2020, when the pandemic of COVID-19 impacted higher education at HBCU, there were trends of a positive rise in first-semester GPAs starting in 2013 starting at a mean of 2.50 GPA. The mean GPA peaked within the 2.8 range in 2017, showing a 1.0 drop in the mean GPA in 2018 to 2.7. By the Fall of 2019, the first-



semester GPA shows another increase in student academic performance, with a mean GPA again nearing 2.8 first-semester GPA.

**Table 10**

*Student Academic Performance Trends Over Time (2012-2021)*



This chapter answers this study's research questions, revealing that null hypotheses for RQ1 and RQ2 were rejected. The results for RQ3 show a decline in student academic performance that coincided with the impact of COVID-19. A steady decline in student academic performance from Fall 2019 to Fall 2021 after proceeding with positive gains in student academic performance indicates the negative impact of the pandemic on the educational system.

The final chapter of this study includes a discussion of the study's limitations, along with the significant findings and practical implications for faculty, staff, administrators, HBCU leadership, and policymakers interested in improving student academic performance. The final chapter aims to bring closure to the study, comprehensively interpret its results, and stimulate further research and reflection.

## **CHAPTER V**

### **CONCLUSIONS AND DISCUSSION**

#### **Summary of Key Findings**

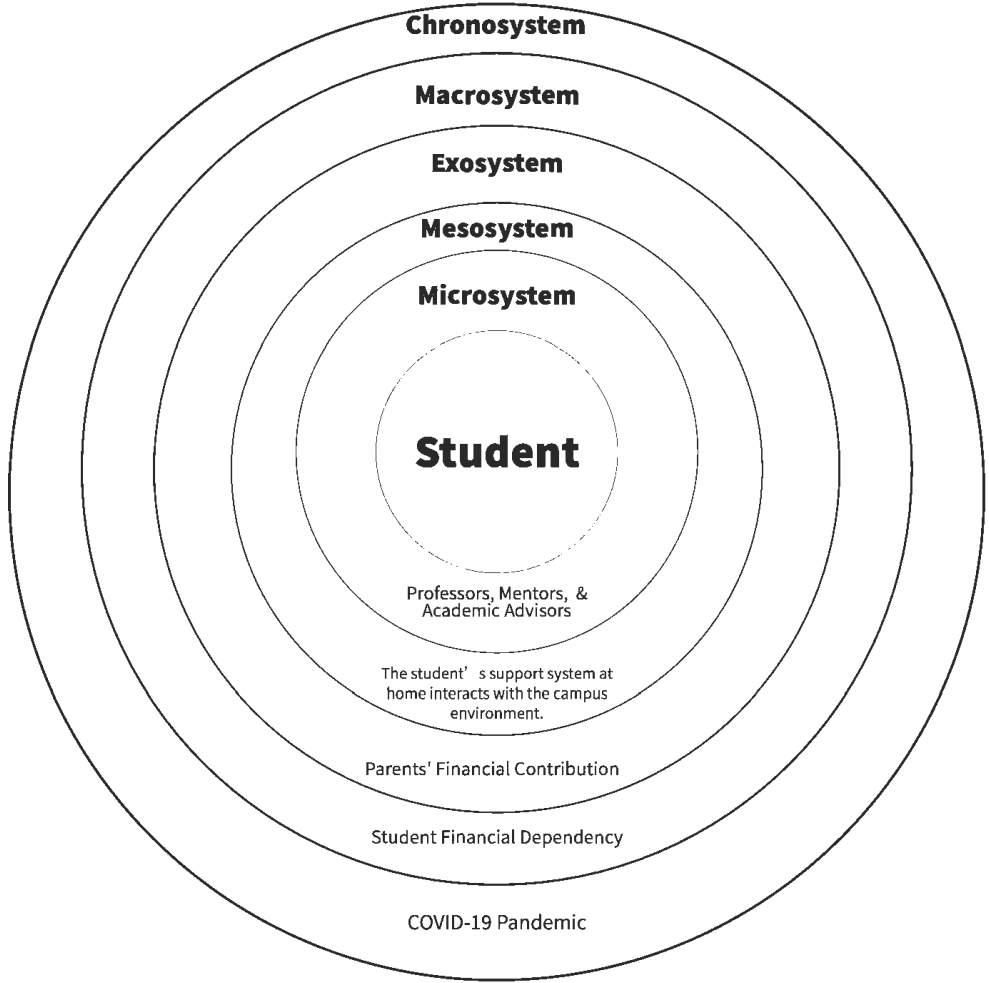
This study raised the following questions: What is the relationship between student academic performance at an HBCU and (a) pre-college factors and (b) student financial dependency status, and (c) the COVID-19-19 pandemic? The relationship between student academic performance, pre and in-college factors, student financial dependency status, and the impact of the COVID-19 pandemic is an area of higher education that needs extensive research in the context of HBCUs. This study identified a significant relationship between academic performance and high school GPA, SAT, and independent financial dependency status. Since the impact of COVID-19, the study reveals a decline in student academic performance at HBCU.

Bronfenbrenner's ecological theory applied to student academic performance allows us to understand the impact of the variables of this study on the student population of an HBCU. When applied to student academic performance, the five layers of the ecological theory explain how the campus environment impacts student academic performance. The following model explains the impact of the ecological theory on student academic performance to be used by stakeholders and college/university administrators to develop strategies to raise student academic performance.

**Figure 2**

*Bronfenbrenner's Ecological Theory Applied to Student Academic Performance*

**Bronfenbrenner's Ecological Theory Applied to Student Academic Performance**



The outmost layer, the chronosystem, is the layer that analyzes the historical and developmental context of student academic performance since the impact of the COVID-19 pandemic. The macrosystem layer examines overarching values and beliefs that influence students, which examines the relationship between a student's financial

dependency status. This study examines how student financial dependency impacts student academic performance the exosystem layer focuses on the economic system: parents' financial contribution to the student's education. The mesosystem considers the interaction between the support system at home and the campus environment. The last layer, the microsystem, examines the interaction between the student's support system and professors, mentors, and academic advisors.

### **Conclusions of Current Study**

In line with the hypothesis, high school GPA, SAT, dependent financial dependency status, and independent dependency status are all significantly related to student academic performance. Astin (1999) tested high school GPA and SAT and discovered a relationship to student academic performance. The results revealed a more powerful relationship between student academic performance when tested with high GPA and SAT scores. Individually, the variables have impacts; however, the findings indicate that the presences of a low high school GPA and a low SAT are powerful predictors that student academic performance will be impacted negatively.

The finding that a more powerful impact on student academic performance when both variables are considered simultaneously indicates that pre-college factors should not be considered in isolation. Pre-college factors refer to a range of factors that can influence a student's academic performance and success before they enter college. These factors may include their family background, socioeconomic status, educational opportunities, academic preparation, and personal characteristics.

It is important to note that these factors are not necessarily independent. For example, a student's family background and socioeconomic status may impact their

educational opportunities and access to academic resources. Therefore, it is crucial to consider pre-college factors holistically rather than in isolation. By understanding how these factors interact and influence each other, HBCU administrators and policymakers can better support students academically.

High school grades and SAT scores can also impact a student's confidence and motivation. Students who perform well may feel more confident in their academic abilities, motivating them to continue performing well in college. The impact of pre-college factors on student success in college is significant. Students with a strong foundation in these areas are more likely to persist, graduate, and achieve their academic and career goals.

Academic confidence and a sense of belonging are interconnected and can impact each other in several ways (Strayhorn, 2018). Here are some examples: (a) positive feedback loop: When students feel confident in their academic abilities, they may be more likely to feel a sense of belonging in their academic environment. (b) Self-fulfilling prophecy: When students lack confidence in their academic abilities, they may feel like they do not belong in their academic environment. (c) Attribution theory suggests that students' beliefs about the causes of their academic success or failure can impact their sense of belonging and academic confidence. (d) Academic identity: Feeling confident in one's academic abilities and belonging in an academic environment can contribute to developing an academic identity. Overall, academic confidence and a sense of belonging are closely related and can impact each other in complex ways. By fostering a positive academic environment that supports confidence and belonging, educators can help students achieve their full academic and personal potential.

According to the National Center for Education Statistics (2021), in the 2019-20 academic year, 43% of undergraduate students were classified as independent, while 57% were dependent. In this study, only 11.43% of the student population at the HBCU is a student with independent financial dependency status. This is important when evaluating the student academic performance of HBCUs against institutions with a significantly higher independent student population. Evaluations of HBCUs should consider the financial barriers that most of the student population on these campuses face. Financially dependent students dependent on low-income parents at HBCUs may need more financial resources to pay for textbooks, computers, and other educational materials that can be important for academic success. This lack of resources can limit their ability to participate in activities that enhance their academic performance.

Financially dependent students may face financial pressures that impact their academic performance. For instance, the burden of tuition fees and educational expenses can increase stress and anxiety, diverting students' focus from their studies. Limited financial resources may also restrict access to educational materials, technology, and resources necessary for effective learning. Moreover, financially dependent students often face the need to balance part-time work or multiple jobs with their academic responsibilities, leading to time constraints and reduced energy for studying. Additionally, the pressure to financially support their families or contribute to household expenses can create a significant emotional and financial strain, further impacting their ability to concentrate on their studies. These financial pressures collectively contribute to increased academic stress, decreased motivation, and reduced overall academic performance for financially dependent students. Lastly, financially dependent students

may rely on financial support from parents or guardians to pay for tuition, housing, and other expenses. This dependence can create added pressure and stress, especially if their financial support is uncertain or inconsistent.

Pre-college factors can be considered part of the microsystem within Bronfenbrenner's ecological systems theory. The microsystem refers to the immediate environment in which an individual interacts, such as family, school, and peers. Pre-college factors, such as academic preparation, social support, and access to resources, are part of the microsystem as they directly impact a student's experiences and outcomes in their immediate environment.

High school GPA and SAT scores indicate a student's academic performance and achievement within their school environment. They reflect the quality of education, the support their immediate environment provides, and the student's efforts and abilities. Therefore, high school GPA and SAT scores are part of the microsystem because they directly impact students' experiences and outcomes in their immediate academic environment.

Student financial dependency status can be considered part of the exosystem within Bronfenbrenner's ecological systems theory. The exosystem refers to the social settings that indirectly influence an individual's development, such as government policies, economic conditions, and cultural values. A student's financial dependency status is influenced by factors outside of their immediate environment, such as their parent's income and employment status, as well as government policies and regulations related to financial aid for higher education. These factors can significantly impact a



student's access to resources, opportunities, and ultimately, their experiences and outcomes in college, making it a part of the exosystem.

The interpolation line chart shows a trend in student academic performance over ten years. The trend in student academic performance over ten years shows average student academic performance improvement from Fall 2012 to Fall 2019. Numerous factors can explain this improvement in student academic performance since Fall 2012. For example, changes in school policies, curriculum, teaching methods, student demographics, or external factors such as economic or social conditions can improve student academic performance.

To explain this trend, the change in school policy on the required high school GPA is considered. In the Fall of 2012, the required high school GPA for admission to the study's institution was 2.5, and currently, the required high school GPA is 2.8 for admission to the HBCU. This indicates that students entering HBCUs with higher high school GPAs have positively impacted the average student's academic performance, leading to improved retention rates for HBCUs. The decrease in enrollment is a risk HBCUs take when they increase the high school GPAs because it could make it more difficult for some students to attend HBCUs.

The student academic performance in the Fall of 2019 shows a steady decline in student academic performance for the subsequent Fall semesters—changes in external factors, such as the environmental factor of COVID-19. The external factor of COVID-19 has significantly impacted student academic performance at Historically Black Colleges and Universities (HBCUs). Like other higher education institutions, HBCUs have faced

challenges transitioning to remote and hybrid learning models, disrupting traditional classroom instruction and affecting students' academic progress.

The impact of COVID-19 on HBCUs is multifaceted and has affected various aspects of the chronosystem. For example, the pandemic has disrupted traditional classroom instruction and forced institutions to rapidly transition to remote and hybrid learning models, impacting students' academic progress. This disruption has also impacted the interaction between students, faculty, and staff and the availability of support services, such as academic advising, counseling, and career services.

Moreover, the pandemic has also impacted the community surrounding HBCUs, including families and local businesses. For example, some students may have had to return home due to financial challenges or to take care of family members, which can impact their ability to access resources and support services provided by the institution. Local businesses surrounding the study's institution rely on the presence of the students and have been impacted by the decrease in student enrollment and spending.

In summary, the impact of COVID-19 on HBCUs is part of the chronosystem of the ecological system, as it involves the interaction and interconnection between various microsystems, including the institution, students, faculty, staff, families, and the local community. Understanding the external impact on student academic performance is important for identifying and addressing the factors contributing to academic challenges and supporting students' success.

### **Statement of Recommendations**

The current research aimed to identify the relationship between student academic performance and pre and in-college, student financial dependency status, and the trends of student academic performance since the impact of the COVID-19 pandemic. This research has shown that students' academic performance at an HBCU. is significantly related to high school GPA, SAT scores, and financial dependency status. The findings of this study indicate a steady decline in student academic performance since the impact of COVID-19.

The central questions for this research were as follows:

1. What is the relationship between a student's first semester GPA at an HBCU and the pre-college variables, high school GPA, and SAT scores?
2. What is the relationship between a student's first semester GPA at an HBCU and a student's financial dependency status?
3. What are the student academic performance trends since the impact of COVID-19 (between 2019 and 2021)?

Based on these conclusions, practitioners should consider systematic monitoring of student academic performance by first-year cohorts at HBCUs. Systematic monitoring of student academic performance by cohort can effectively identify areas where students may struggle and provide targeted support and interventions (Mfume, 2015). This approach involves tracking the progress of a group of students over time, typically starting from the first year of enrollment or academic program, and analyzing their performance data regularly.

Several key steps are involved in implementing a systematic monitoring system for student degree performance:

1. Define the cohort: The first step is determining which group of students the administration will monitor. The group could be an admission year cohort or degree program, financially independent and financially dependent students.
2. Select data sources: Next, identify the data sources that administrators will be used to monitor student performance. The data source could include end-of-the-semester GPA.
3. Set benchmarks: Establish performance standards that the administration expects the cohort to meet or exceed. The performance standards could be the campus-required GPA for graduation.
4. Regularly analyze data: Use the identified sources to regularly monitor the cohort's academic performance. Analyze the data to identify areas where students may be struggling and where targeted interventions may be needed. Regular monitoring should be intentional and not additional work for the staff of the student success department; the school's administration must establish a task force to execute this strategy successfully.
5. Provide interventions: Based on the data analysis, provide targeted interventions and support to help students improve their academic performance. Intervention strategies include tutoring, counseling, or other resources.
6. Monitor progress: Track the cohort's progress and adjust interventions as needed. Monitoring progress will help ensure that students are making progress and meeting the established benchmarks.

In HBCUs, the student's systematic monitoring role is crucial for fostering an environment of academic success, personal growth, and overall institutional improvement. Systematic monitoring involves collecting and analyzing data related to various aspects of the university to identify areas of strength and areas that require improvement. Here's how students play a significant role in this process:

1. **Providing Feedback:** Students are the primary beneficiaries of the educational experience at an HBCU. Their feedback on courses, programs, services, and campus life is invaluable. Engaging in surveys, focus groups, and other feedback mechanisms, students can voice their opinions, highlight their needs, and suggest areas for enhancement.
2. **Academic Progress and Performance:** Students' academic progress and performance data are vital indicators for institutional success. By actively participating in academic advising, mentoring, and sharing their academic experiences, students can improve retention rates, identify academic support needs, and implement effective teaching strategies.
3. **Utilizing Campus Services:** HBCUs offer a range of support services to enhance the student experience, such as counseling, health services, career advising, and financial aid. Students can actively utilize these services and provide feedback on their effectiveness and accessibility.

In conclusion, the role of the student in systematic monitoring at an HBCU is essential for gathering meaningful data, fostering a culture of continuous improvement, and ensuring that the university effectively meets the needs of its diverse student body. By actively engaging in the monitoring process, students can be agents of positive change

within their institution. Students serve an active role in their education through systematic monitoring.

Overall, systematic monitoring of student academic performance by cohort can be a powerful tool for improving student outcomes and ensuring all students have the support they need to succeed. This type of intervention will (a.) identify at-risk students, (b.) evaluate current academic programs, (c.) improve faculty engagement, (d.) track student progress beyond the first semester, and (e.) assess institutional effectiveness. Systematic monitoring can be implemented for HBCUs to improve student academic performance by identifying areas of improvement and implementing evidence-based interventions to support student success.

To better understand the implications of the findings from this study, future studies could evaluate the impact of the pandemic on student academic performance at HBCUs by exploring how various factors (such as access to technology, financial hardship, or mental health) contributed to the impact of the pandemic on academic outcomes. Additional quantitative research on HBCUs is needed to identify disparities, evaluate interventions, and inform policy decisions.

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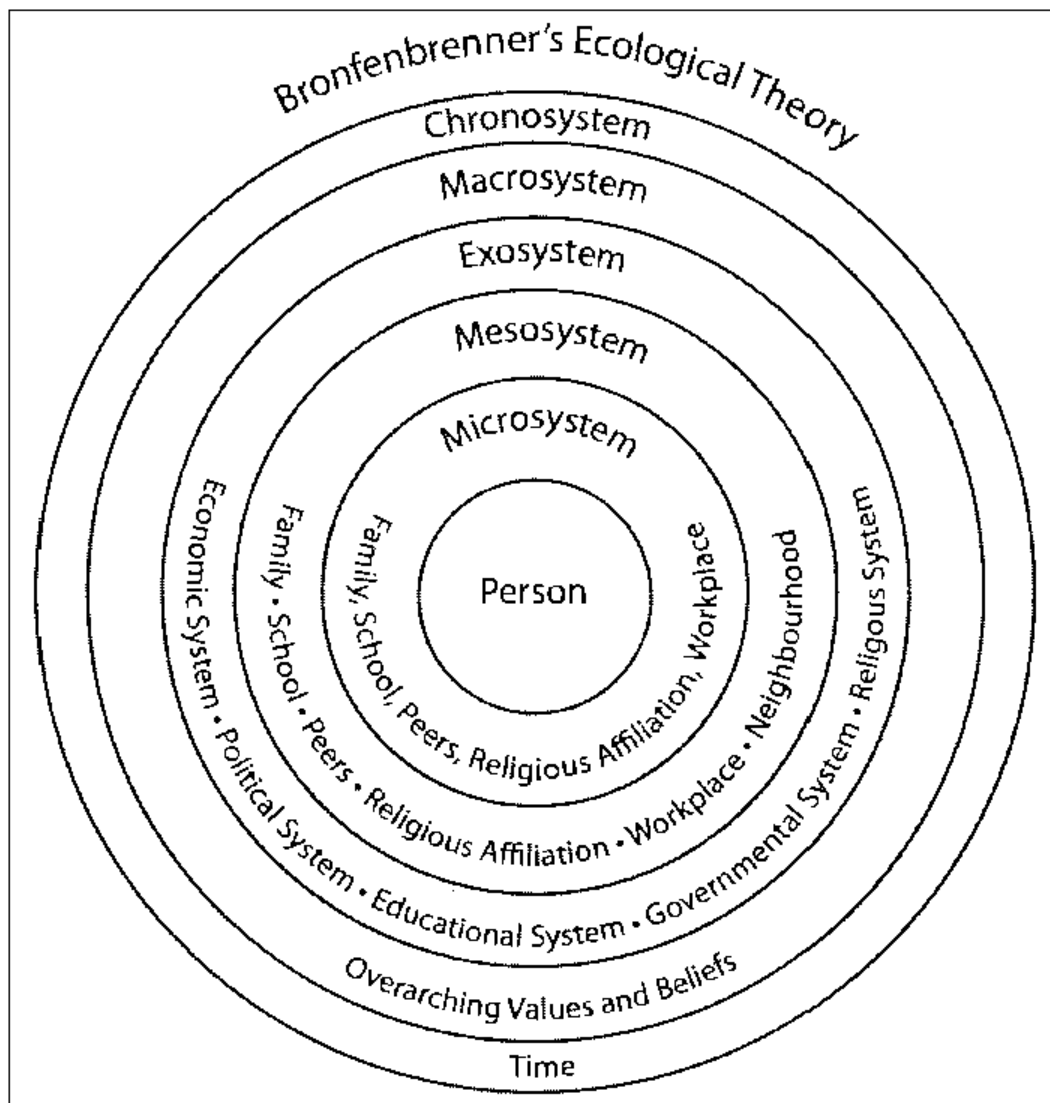
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## APPENDICES

Figure 1

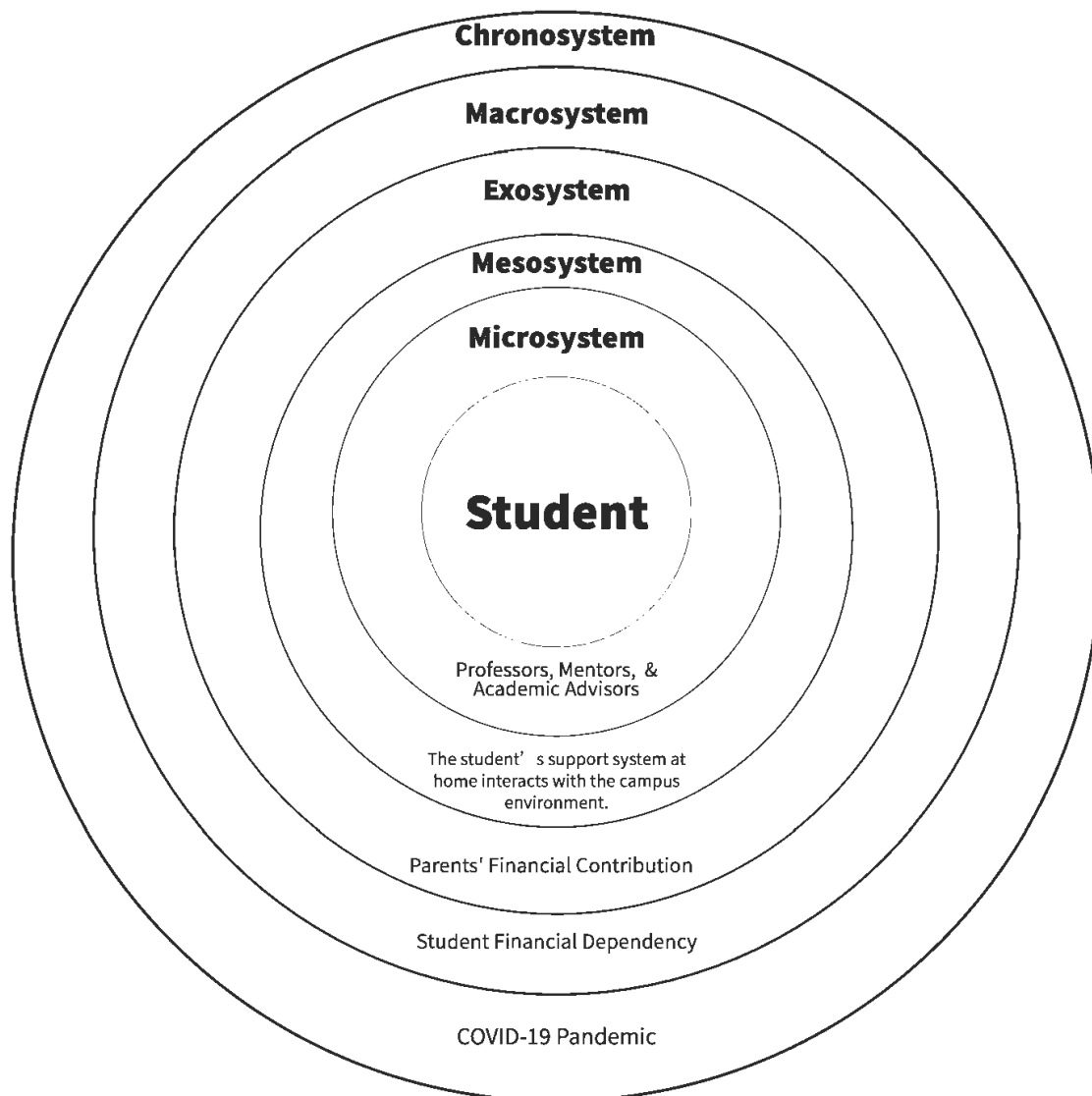
Bronfenbrenner's Ecological Systems





**Figure 2**

Bronfenbrenner's Ecological Systems Applied to Student Academic Performance

**Bronfenbrenner's Ecological Theory Applied to Student Academic Performance**

## **CURRICULUM VITA**

### **EDUCATION**

- M.A. History, Jackson State University, Jackson, Mississippi, 2019
- B.S. Interdisciplinary Studies, Jackson State University, Jackson, Mississippi, 2016

### **EXPERIENCE**

- Company: Prairie View A&M University  
Position: Lecturer 1, History 2022 - Present
- Company: Lone Star College  
Position: Adjunct Professor, History 2020 - Present

### **PROFESSIONAL, TECHNICAL AND WORK-RELATED EXPERIENCE AND**

#### **SKILLS**

- Apple Teacher Certification
- Google Level 1&2 Certification
- Texas A&M Certificate: ESL Acquisition Foundation
- Knowledgeable of SPSS
- Podcast Host of D.O.P.E. Conversations
- Ruth J. Simmons Center for Race and Justice AFAM Institute
- Clark Atlanta University's Africana Digital Humanities HBCU Summer Insititute

### **PROFESSIONAL ACHIEVEMENTS AND PUBLICATIONS**

- "Code-Switching to Code Stitching: Theorizing an Alternative Framework," *Diverse Issues In Higher Education* October 2021
- President of the Prairie View A&M University chapter of Alpha Kappa Mu
- Host of D.O.P.E. Conversations TV Show on PVAMU-TV