



## Understanding HBCU Retention and Completion: UNCF-Member Institution Supplement

UNCF  
Frederick D. Patterson Research Institute



## Understanding HBCU Retention and Completion: UNCF-Member Institution Supplement



### Acknowledgments

The Frederick D. Patterson Research Institute would like to acknowledge those who contributed to the completion of this report, including Patterson Institute staff, Brian K. Bridges, Janet Awokoya and Tracae McClure.

Understanding HBCU Retention and Completion:  
UNCF Member Institution Supplement

© Copyright 2014  
UNCF/Frederick D. Patterson Research Institute

1805 7th Street, NW  
Washington, DC 20001  
T 202 810 0200

fdpri@uncf.org  
UNCF.org/fdpri

Suggested citation:  
Richards, D.A.R. (2014). *Understanding HBCU Retention and Completion: UNCF Member Institution Supplement*. Washington, DC: Frederick D. Patterson Research Institute, UNCF.



## Table of Contents

|   |   |
|---|---|
| Executive Summary .....                                       | 4 |
| Introduction .....  | 4 |
| Academic and Financial Preparedness .....                     | 7 |
| Retention and Graduation Rates .....                          | 7 |
| Retention and Graduation Rates (Controlled Comparisons) ..... | 8 |
| Retention and Graduation Rate Performance .....               | 8 |
| Appendix: Methodology .....                                   | 9 |



## Executive Summary

- Relatively speaking, students enrolled at UNCF-member institutions tend to have lower standardized test scores and receive Pell Grants at higher rates.
- If UNCF-member institutions were to enroll students whose standardized test scores and Pell rates are similar to those of students at non-UNCF-member institutions, UNCF members would retain and graduate students at rates nine percentage points and eight percentage points higher, respectively, than non-UNCF members.
- UNCF-member institutions' actual retention and graduation rates are higher (by six percentage points and five percentage points, respectively) than their predicted retention and graduation rates.
- Although UNCF-member institutions outperform expectations in retaining and graduating students, non-UNCF members, in contrast, are performing at or below the level we would expect based on their enrollment.
- The over-performance of UNCF-member institutions is most pronounced when the focus is on the graduation of African American students, the primary population served by UNCF-member institutions. This over-performance is true for both male and female African American students.

## Introduction

Even before UNCF's founding in 1944, its member institutions were pursuing the cause of African American education as a means of increasing the economic prospects and life opportunities of their students. In the intervening seven decades, these small private colleges and universities have succeeded, despite chronic challenges, in graduating more than 400,000 students, most of them African American.<sup>1</sup> Today, two trends—the increasing need of the United States for a college-educated, globally competitive workforce and the on-going demographic shift into a majority-minority nation in which non-Hispanic whites account for less than 50 percent of the country's population—have elevated the cause of African American college attainment into a vital national interest.

*If UNCF-member institutions were to enroll students whose standardized test scores and Pell rates are similar to those of students at non-UNCF-member institutions, UNCF members would retain and graduate students at rates nine percentage points and eight percentage points higher, respectively, than non-UNCF members.*

Their history of successful minority education should ideally position the historically black colleges and universities that comprise the UNCF network to help the country meet these needs, yet these HBCUs remain frequent targets of criticism. The recent economic doldrums have motivated pundits' and policymakers' demands that colleges and universities demonstrate, in quantitative and empirical (but still lucid!) terms, their value as an investment. UNCF's member institutions have not been exempt from the need to demonstrate their effectiveness, and a high graduation rate is perhaps the most intuitive measure available of institutional effectiveness. Even the White House's recently released "College Scorecard" uses graduation rates (alongside costs, loan default rates, and median borrowing) as one of its few measures of institutional value.<sup>2</sup> The focus on graduation rates has not been kind to UNCF's member HBCUs—in 2010, UNCF-member institutions retained students at a rate of 61 percent, 13 percentage points below the national rates for non-UNCF institutions, and graduated

<sup>1</sup> The term "African American" is used throughout the report, but analyses are reflective of data that also include individuals who identify and report as "black."  
<sup>2</sup> Available at <http://www.whitehouse.gov/issues/education/higher-education/college-score-card>



students at a rate of 32 percent, 23 percentage points below the national rates.

However, as currently calculated, graduation rates are a flawed measure. They do not account for part-time and transfer students or the fact that certain populations of students are less likely to graduate even before enrolling in college, due to a lack of financial resources or academic preparation. Nor do they account for the fact that certain types of postsecondary institutions are more likely to enroll students from underprepared backgrounds. HBCUs, like UNCF-member institutions, are one such type of institution. In keeping with their historical mission of expanding educational opportunities, they tend to enroll a disproportionate number of low-income students who have not attended schools that fully prepared them for a college curriculum. In the 2009-2010 academic year, on average:

- UNCF students' 75th percentile SAT math scores were 477 (121 points lower than those of students at non-UNCF institutions).
- UNCF students' 75th percentile SAT critical reading scores were 483 (114 points lower than those of students at non-UNCF institutions).
- UNCF student's 75th percentile ACT scores were 20 (six points lower than those of students at non-UNCF institutions).
- UNCF students received Pell Grants at a rate of 74 percent (35 percentage points higher than students at non-UNCF institutions).

Is it any surprise, then, that UNCF-member schools tend to have below-average retention and graduation rates?

The use of graduation rates as the primary measure for assessing institutional performance risks devaluing HBCUs for performing a vital mission. Worse, the use of graduation rates may create perverse incentives. To increase graduation rates, a college may turn away underprepared students from disadvantaged backgrounds—the very students who could most benefit from the opportunities provided by a college education.

A more useful measure of institutional performance might assess the degree to which students' likelihood of graduating actually increases or decreases as a function of enrolling in a particular college or university. In other words, rather than ask whether HBCUs have a high or low graduation rate, we could ask whether HBCUs have a higher or lower graduation rate than we would predict based on the population of students they enroll. The difference between institutions' actual and predicted graduation rates, more properly termed "residuals," could be referred to as their *graduation rate performance* and would allow us to assess whether institutions are over-performing (or underperforming) expectations.<sup>3</sup>

In 2012, UNCF's Frederick D. Patterson Research Institute published *Understanding HBCU Retention and Completion*, which studied the large influence that students' economic status and academic preparedness (as measured by their Pell recipient rate and standardized test scores) have on their likelihood of persisting through and graduating from college. The principal finding was that, when these background factors are controlled for, HBCUs actually retain and graduate African American students at higher rates than non-HBCUs. In other words, when we statistically simulate what these retention and graduation rates would look like if HBCUs and non-HBCUs enrolled similar populations of students, we find that HBCUs outperform non-HBCUs.

*...as currently calculated, graduation rates are a flawed measure. They do not account for part-time and transfer students or the fact that certain populations of students are less likely to graduate even before enrolling in college, due to a lack of financial resources or academic preparation.*

<sup>3</sup> Measures of graduation rate performance are widely used in, for example, college ranking systems, holding varying weight in rankings published by *U.S. News & World Report* and *Forbes*. However, these measures of graduation rate performance tend to receive less attention than simpler measure of graduation rates, which have the benefit of being more straightforward and more easily explained to the public.



This supplement to that report is published with two objectives. First, we conceptually replicate the earlier analyses of retention and graduation rates, using more recent data and with a focus on the 37 HBCUs that comprise UNCF’s network, to determine whether UNCF-member institutions would retain and graduate students at higher rates than non-UNCF members if they enrolled similar populations of students. Second, we use these analyses to compute predicted retention and graduation rates for UNCF-member institutions and then compare them to the actual retention and graduation rates of UNCF members to see whether (and by how much) UNCF members are outperforming expectations.

What do we find?

- **UNCF-member institutions tend to enroll students with less academic preparation and fewer financial resources.** Relatively speaking, students enrolled at UNCF-member institutions tend to have lower standardized test scores and receive Pell Grants at higher rates.

- **The perceived underperformance by UNCF-member institutions is largely due to the population of students they enroll.**

If UNCF-member institutions were to enroll students whose standardized test scores and Pell rates are similar to those of students at non-UNCF-member institutions, UNCF members would retain students at a rate of 83 percent and would graduate students at a rate of 65 percent. Those would be nine percentage points and eight percentage points higher, respectively, than non-UNCF members (even given the resources HBCUs have to help their students succeed).

*A more useful measure of institutional performance might assess the degree to which students’ likelihood of graduating actually increases or decreases as a function of enrolling in a particular college or university.*

- **UNCF-member institutions retain and graduate their students at rates that are higher than predicted.** On average, UNCF-member institutions’ actual retention rates (61 percent) are higher than the predicted retention rates (55 percent) for the population of students they tend to enroll. More to the point, UNCF-member institutions’ actual graduation rates exceed their predicted graduation rates by five percentage points (32 percent vs. 27 percent).

- **UNCF-member institutions exceed non-UNCF members in outperforming expectations.**

Although UNCF-member institutions outperform expectations in retaining and graduating students, non-UNCF members do not exceed expectations in the retention or graduation of their students. In contrast to UNCF members, they are performing at or below the level we would expect based on their enrollment.

- **UNCF-member institutions serve their African American students especially well.** The over-

performance of UNCF-member institutions is most pronounced when the focus is on the graduation of African American students, the primary population served by UNCF-member institutions. This over-performance is true for both male and female African American students.

This report presents these findings in greater detail, but the implications for UNCF’s member institutions are simple. UNCF members tend to enroll students with lower SAT scores and higher Pell recipient rates than non-UNCF institutions, and were UNCF members to enroll student populations similar to non-UNCF members, they would graduate students at higher-than-predicted rates. This over-performance is most pronounced for their African American students. In short, UNCF’s member institutions are performing vital work by expanding educational opportunities for a growing but underserved population of minority college students, and their success in this mission deserves wider recognition.

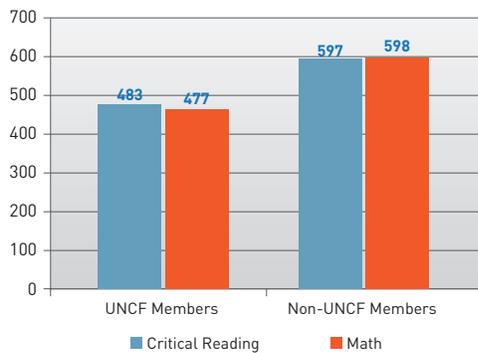


We delve deeper into the findings by more closely examining the academic and financial preparedness of students attending UNCF-member institutions, followed by a closer analysis of retention and graduation rate data.

## Academic and Financial Preparedness

UNCF-member institutions tend to enroll students who are less academically prepared (i.e., have lower standardized test scores) and who are less financially prepared for college (i.e., are more likely to receive Pell Grants) than students at all private institutions.

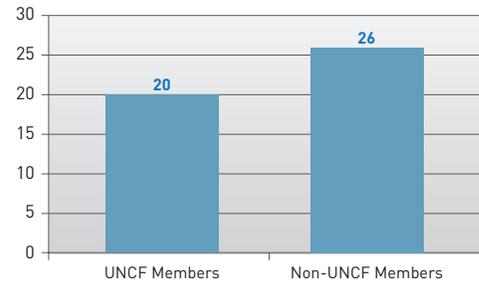
**Figure 1: Average 75th Percentile SAT Scores at Four-Year, Private, Not-for-Profit Institutions, 2009-2010 Academic Year**



Source: Frederick D. Patterson Research Institute analysis of data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System.

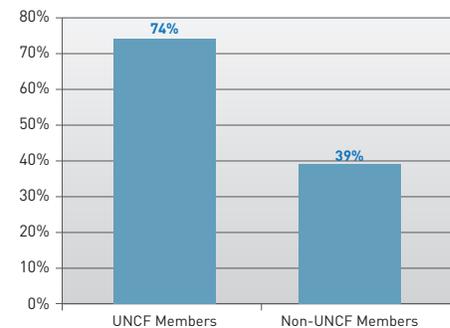
*In short, UNCF's member institutions are performing vital work by expanding educational opportunities for a growing but underserved population of minority college students, and their success in this mission deserves wider recognition.*

**Figure 2: Average 75th Percentile ACT Scores at Four-Year, Private, Not-for-Profit Institutions, 2009-2010 Academic Year**



Source: Frederick D. Patterson Research Institute analysis of data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System.

**Figure 3: Average Percentage of Undergraduates Receiving Pell Grants at Four-Year, Private, Not-for-Profit Institutions, 2009-2010**

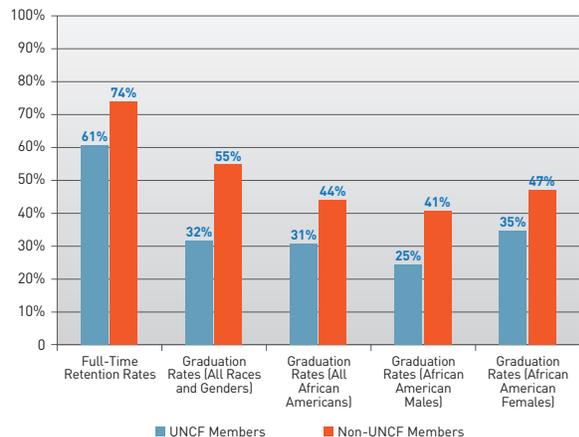


Source: Frederick D. Patterson Research Institute analysis of data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System.

## Retention and Graduation Rates

Given the contextual information we have provided thus far about HBCU students, it should come as no surprise that UNCF-member institutions tend to retain and graduate students at lower rates than non-UNCF members.

**Figure 4: Actual Full-Time Retention and Six-Year Graduation Rates at Four-Year, Private, Not-for-Profit Institutions, 2010-2011**

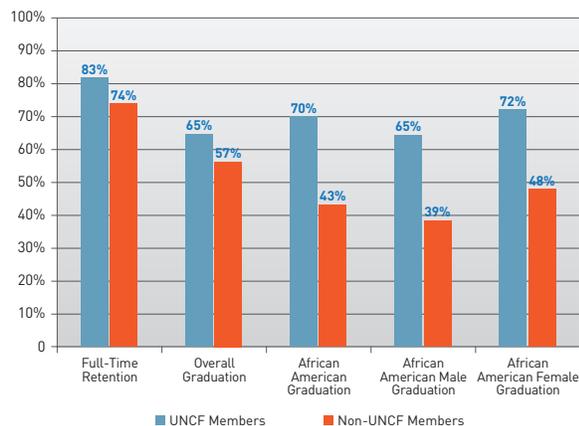


Source: Frederick D. Patterson Research Institute analysis of data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System.

## Retention and Graduation Rates (Controlled Comparisons)

However, were UNCF-member institutions to enroll students with the same level of academic and financial preparedness as non-UNCF members (i.e., if we statistically control for students' SAT scores, ACT scores, and Pell recipient rates), we would see that UNCF members retain and graduate their students at higher rates than non-UNCF members.

**Figure 5: Full-Time Retention and Six-Year Graduation Rates at Four-Year, Private, Not-for-Profit Institutions when Controlling for SAT Scores, ACT Scores and Pell Rates, 2010-2011**

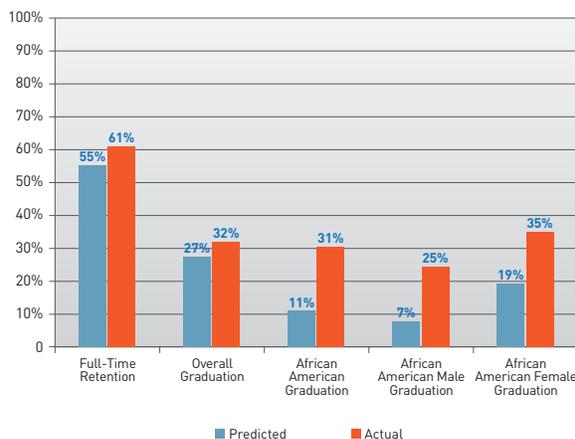


Source: Frederick D. Patterson Research Institute analysis of data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System.

## Retention and Graduation Rate Performance

Furthermore, we can predict probable retention and graduation rates for UNCF members based on their enrolled population of students. When we compare actual and predicted rates, we see UNCF-member institutions outperforming expectations by retaining and graduating their students at rates that are higher than predicted. This over-performance is especially dramatic for the graduation of African American students, the population principally served by UNCF-member institutions.

**Figure 6: Predicted and Actual Full-Time Retention and Six-Year Graduation Rates at UNCF-Member Institutions, 2010-2011**



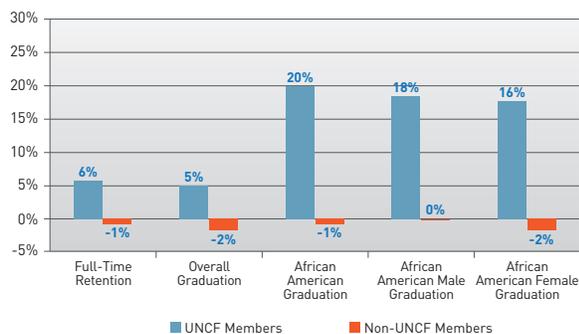
Source: Frederick D. Patterson Research Institute analysis of data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System.

The differences between actual and predicted rates are also called residuals and act as useful measures of performance. For example, the residual for UNCF members' graduation rates (the difference between actual and predicted rates) is five percent, and this positive value indicates that UNCF members are over-performing expectations based on their performance.



If we can derive residuals for UNCF members, we can also use this process to identify residuals for non-UNCF members and compare the results to identify the extent to which both UNCF members and non-UNCF members are over-performing or underperforming expectations. When we undertake such a comparison, we see that UNCF-member institutions are doing a superior job of exceeding expectations, in contrast to non-UNCF members, which are underperforming expectations by all measures of student success. Furthermore, we see that UNCF members' superior performance is most pronounced for the graduation of African American students—the population of students most central to HBCUs' historical mission.

**Figure 7: Retention and Graduation Performance (“Residuals”) for Full-Time Retention and Six-Year Graduation Rates at Four-Year, Private, Not-for-Profit Institutions, 2010-2011**



Source: Frederick D. Patterson Research Institute analysis of data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System.

## Appendix: Methodology

These analyses were conducted on the 1,658 total institutions identified in the Integrated Postsecondary Education Data System (IPEDS) as four-year, private, not-for-profit institutions.

### Figure 5

2010-2011 retention and graduation rates were predicted with the following variables through linear regression: UNCF-member status (0=no, 1=yes), the percentage of students receiving Pell Grants in the 2009-2010 academic year, the average 75th percentile SAT critical reading score in 2009, the average 75th percentile SAT math score in 2009, and the average 75th percentile ACT composite score in 2009.

Controlled comparisons of retention rates were accomplished by using the averages of these predictor variables for the population of four-year, private, not-for-profit non-UNCF members, in conjunction with the derived regression coefficients. The UNCF-member status variable was set to 0 for non-UNCF members and was set to 1 for UNCF members.

### Figures 6 and 7

2010-2011 retention and graduation rates were predicted with the following variables through linear regression: the percentage of students receiving Pell Grants in the 2009-2010 academic year, the average 75th percentile SAT critical reading score in 2009, the average 75th percentile SAT math score in 2009, and the average 75th percentile ACT composite score in 2009.

*Furthermore, we see that UNCF members' superior performance is most pronounced for the graduation of African American students—the population of students most central to HBCUs' historical mission.*

Prediction of retention rates was accomplished by using the separate averages of these predictor variables for all UNCF members and all non-UNCF members, in conjunction with the derived regression coefficients.



The Frederick D. Patterson Research Institute

1805 7th Street, NW  
Washington, DC 20001  
T 202 810 0200

[fdpri@uncf.org](mailto:fdpri@uncf.org)  
[UNCF.org/fdpri](http://UNCF.org/fdpri)