African Americans have gained significant access to higher education institutions during the last 50 years. The U.S. Supreme Court’s landmark Brown v. Board of Education decision in 1954 and the Higher Education Act in 1965 especially affected the demographic makeup of American campuses, opening the doors for African American students at historically white colleges and universities. However, this democratizing process brought organizational changes to Black colleges and even threatened their survival. Many Black public colleges were forced to merge with other public state colleges. One hundred and three historically Black colleges and universities remain in the nation; among them, 89 are four-year institutions (41 public and 48 private).

This study, using national data, examines African-American students’ learning experiences in historically Black institutions and discusses their involvements and opportunities in college. As a natural reference point, Black students’ experiences in historically Black colleges and universities (HBCUs) will be compared with those of Black students in historically...
white colleges and universities (HWCUs). Gender difference in learning experiences will also be explored across and within the institutions. Previous studies seldom explored whether the learning experiences of Black students at HBCUs are comparable to those of Black students at predominantly white institutions, nor did they look at the gender difference in Black students' learning experiences and opportunities.

RELATED LITERATURE

Relatively recent studies found no significant differences in cognitive and academic abilities associated with attending HBCUs vs. HWCUs.

Most studies on Black colleges have focused on whether they produce better student outcomes. The benefits of attending HBCUs were often discussed in regard to Black students' psychological comfort and well-being as well as their academic and intellectual development. Both Allen and Fleming contended that HBCUs provide Black students with greater psychological well-being, cultural affinity, and nurturing academic relations than HWCUs. Fleming reported that Black students' cognitive gains are higher at HBCUs than at HWCUs. However, relatively recent studies found no significant differences in cognitive and academic abilities associated with attending HBCUs vs. HWCUs. Bohr, Pascarella, Nora, and Terenzini's study compared freshman growth in reading, math, and critical thinking, whereas Pascarella, Edison, Nora, Hagedorn, and Terenzini's study compared writing skills and science reasoning. Kim compared students' development in overall academic ability, math ability, and writing ability.

Focusing on college grade point average (GPA), Allen reported that HBCU students tend to receive lower GPAs, while Wenglinsky found no difference in college GPA. Wenglinsky also reported that students at Black colleges have higher educational aspirations and are more likely to become professionals.

Moreover, some studies observed that attending an HBCU is positively related with students' remaining in college and completing their degree. Using more recent institutional data, however, Kim and Conrad found that both types of institution offered a similar probability of obtaining a bachelor's degree. Kim also reported that no significant difference was found in the percentage of students transferring before graduation. Although these researchers used different data sets and analytical procedures, it seems that the gaps in cognitive and academic growth between students attending HBCUs vs. HWCUs may have decreased over time.
Flower and Pascarella\textsuperscript{14} noted that Blacks attending HBCUs do not seem to develop diversity awareness to a lesser degree than Blacks attending HWCU's. While this issue is important to discuss, results of their study were based on only two Black colleges.

Previous studies\textsuperscript{15} found that university faculty, facilities, available academic programs, and opportunities for advanced study are richer in HWCU's than in HBCU's. Kim\textsuperscript{16} also discovered that instruction-related expenditure per full-time equivalent student, average faculty salary, and percentage of faculty with a Ph.D. are much lower in HBCU's. These findings indicate that HBCU's have overall poorer financial and instructional resources than HWCU's. Allen\textsuperscript{17} also noted that HWCU's have more impressive physical plants and richer resources than HBCU's.

Student-faculty ratio is lower in HBCU's.\textsuperscript{18} Black colleges may have achieved this lower ratio by limiting the percentage of Ph.D. faculty and by hiring lower paid female faculty.\textsuperscript{19} The gap in average faculty salary between the two types of institutions is large.\textsuperscript{20} Allen\textsuperscript{21} noted that Black students have more interaction with both Black and white faculty at HBCU's than at HWCU's. In contrast, Wenglinsky\textsuperscript{22} found no significant difference in student-student interaction and student-faculty interaction. Obviously, these conflicting findings suggest that more research is needed in this area to deduce the educational implications and to help with policy decisions.

Comparing Black and white students' efforts in two Black liberal arts colleges and two white liberal arts colleges, Watson and Kuh\textsuperscript{23} found that in white institutions Black students make a greater effort than white students but make fewer gains. They noted that Black colleges provide a more developmentally powerful environment.

Fries-Britt and Turner\textsuperscript{24} found from their interviews and focus groups of successful Black students that an HBCU environment worked well for African-American students and that Black students attending the white institution felt the campus worked against them. At HBCU's, Black students reported that they were very encouraged to be involved in campus activities designed with them in mind. At HWCU's, Black students felt that they were not part of the campus community, both in and outside of the classroom, and that the campus was geared for whites.

Outcalt and Skewes-Cox,\textsuperscript{25} using the national data of 7 HBCU's and 114...
HWCUs, examined African-American students' academic and extracurricular activities as well as their satisfaction at HBCUs and HWCUs. They found that African-American students are more involved at HBCUs and more satisfied with the experience at HBCUs. Like other researchers, Outcalt and Skewes-Cox concluded that African-American students at HBCUs feel more supported and encouraged to participate in campus activities than those at HWCUs. Although some of their involvement measures are similar to those used for this current study (i.e., on- and off-campus part-time and full-time work, attended racial and cultural awareness workshop, and worked on group project in class), their study did not examine students' precollegiate academic and socioeconomic characteristics, time spent on activities (as a major student involvement indicator), and the differential pattern of involvement between male and female students. No other study compared African-American students' efforts or involvements with those of white students or the involvement of African-American students attending HBCUs vs. HWCUs.

I applied Alexander Astin's involvement theory to guide this study. Involvement theory is one of several college impact theories in higher education. It is a useful tool for researchers, faculty, and college administrators to use in guiding their investigation of student development and in designing learning environments.

This theory is straightforward. According to Astin, "student involvement refers to the amount of physical and psychological energy that the
student devotes” to the general or specific school experience. Involvement has both qualitative and quantitative features. For example, a quantitative feature can be “how many hours the student spends studying”; a qualitative feature can be “does the student review reading assignments or simply stare at the textbook?”

Astin stated, “The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program.”

This study did not intend to capture qualitative details of individual situations, but using existing national data, it did intend to capture some of the quantitative involvement of African-American students during college. In applying Astin’s involvement theory, I analyzed and compared African-American students’ learning experiences, especially involvement and opportunity, in HBCUs and HWCUs.

METHODS

A longitudinal student data set was obtained from the Cooperative Institutional Research Program (CIRP), sponsored by the American Council on Education and the Higher Education Research Institute (HERI) at the University of California, Los Angeles. CIRP’s major purpose is to assess college impacts and to understand college student characteristics among various institutions.

The participants consist of 150 African-American students at HBCUs and 224 African-American students at HWCUs who responded to both an initial survey in the fall of 1985 and the follow-up taken during the summer of 1989. Female students account for 73 percent of the data. There was a somewhat higher percentage of female students at HBCUs (79 percent) than at HWCUs (69 percent). The institutional data set consists of 10 HBCUs (2 public and 8 private) and 71 HWCUs (25 public and 46 private). Fewer than 20 percent of the initially surveyed students responded to the follow-up survey. This may be related to the high dropout, stopout (temporary stop), and transfer rates of African-American students. The data includes only students who attended and remained at the same institution for four years and who responded to the follow-up survey. This means that all students who transferred or left during the period are excluded.

Originally I wanted to use the most recent survey data, from 1995 or
later. However, I found that the 1985-89 cohort is the most extensive in
subject numbers and participating institutions.

All the variables and coding schemes appear in Appendix A. To begin
understanding the respondents, I analyzed students’ background
characteristics as they relate to student learning; this data includes gender,
high school GPA, SAT, and parental income.

My major focus was to understand comparative learning experiences
of African-American students. As
mentioned in the discussion of
involvement theory, student involve-
ment in different activities, their time
investment, and the quantity of their
activities are important signposts of
student development. I attempted to
choose influential (both positive and
negative) student involvement and
experience variables that the student
impact literature suggested.32

I chose variables indicating stu-
dents’ time investment for their learn-
ing: hours spent on homework per
week and hours spent on work per week. Students’ reports of previous-
year activities, such as socializing with someone from a different
racial/ethnic background or working on a group project, were considered.
I also chose curriculum variables, faculty interaction variables, and work
experience variables to help understand the potential of curriculum and
opportunities for academic success. College GPAs were compared as an
academic performance indicator.

This study used existing national data rather than data created for this
purpose. Thus, the measures of student activities are somewhat limited. I
also utilized the following statistical methods: means, standard deviations,
percentages, t-tests, analysis of variance (ANOVA), cross-tabulation, and
chi-square analyses. In order to analyze categorical data, I used percentage
information from cross-tabulation.

The chi-square analysis was conducted to observe the association
between two or three categorical variables. To analyze continuous and
interval (or near interval) variables, I examined means and standard devi-
ations. I used t-tests as well as ANOVA to check the statistical significance
of mean differences. I sought to observe the differences between male and
female students within each type of institution as well as the overall dif-
fERENCE between HBCUs and HWCU’s. Thus, I conducted two-way ANOVA
for the analysis of time spent on activities per week as well as students’
GPAs and parental income (Tables 1 and 2, pages 114-115). The analyses

Student involvement in
different activities, their
time investment, and
the quantity of their
activities are important
signposts of student
development.
of t-tests and ANOVA were examined for the mean comparison of HBCUs and HWCUs.

**FINDINGS AND INTERPRETATIONS**

Table 1 shows obvious differences in students’ academic preparation level as well as parental income between the two types of institutions. I examined students’ high school GPA and SAT because they can influence students’ college success, and I looked at parental income because it can affect students’ financial situations as well as their learning experiences during college.

African-American students at HWCUs had higher high school GPAs (F=14.57, p<0.01) and SAT scores (F=49.66, p<0.01) than their counterparts at HBCUs. No significant mean difference in high school GPA and SAT scores was observed between male and female students. The pattern of parental income was the same. African-American students at HWCUs were from wealthier families than African-American students at HBCUs (F=5.24, p<0.05) even though a high proportion of HBCUs in the data were private institutions. No significant difference in parental income was found between male and female students.

College GPA was also compared between HBCUs and HWCUs and between male and female students within the types of colleges. There was no mean difference between types of institutions (F=0.41, p>0.05). The mean of female students was higher when we combined students of both institutions (male: 3.52 vs. female: 3.78, F=4.72, p<0.05).

Notably, however, two-way ANOVA suggests an interaction effect between gender and institutional type (F=7.43, p<0.01). Table 1 shows that African-American female students obtained higher college GPAs than male students at HBCUs, while females obtained lower GPAs than males at HWCUs.

African-American female students obtained higher college GPAs than male students at HBCUs, while females obtained lower GPAs than males at HWCUs.

The amount of African-American students’ time spent on studying or other tasks can give us a general picture of their college life and learning. Table 2 shows that on average, students at HBCUs and HWCUs tend to spend nearly the same number of hours attending classes or labs as well as studying or doing homework. The means of the two activities are approaching 6, which suggests that on average, students are having to spend about 11-15 hours attending classes or labs and about the same amount of time studying and doing homework beyond regular classes.
### Table 1

African-American Students’ Background Characteristics and GPAs
Two-Way Analysis of Variance (Mean Comparison)

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>HBCU (n=150)</th>
<th>HWCU (n=224)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male (Mean)</td>
<td>Female (Mean)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(SD)</td>
<td>(SD)</td>
<td></td>
</tr>
<tr>
<td>Parental income</td>
<td>6.10 (0.62)</td>
<td>6.39 (0.33)</td>
<td>6.24 (0.35)</td>
</tr>
<tr>
<td>SAT</td>
<td>794.79 (39.05)</td>
<td>798.02 (19.52)</td>
<td>796.41 (21.83)</td>
</tr>
<tr>
<td>High school GPA</td>
<td>4.69 (0.28)</td>
<td>5.30 (0.15)</td>
<td>5.00 (0.16)</td>
</tr>
<tr>
<td>College GPA</td>
<td>3.31 (0.17)</td>
<td>3.91 (0.09)</td>
<td>3.61 (0.10)</td>
</tr>
</tbody>
</table>

Notes. Standard error is in parentheses.

* p <= 0.05, ** p <= 0.01.

1F = 5.24 (p = 0.023), 2F = 49.66 (p < 0.0005), 3F = 14.57, (p < 0.0005), 4F = 0.41 (p = 0.522); results of hypothesis testing of no mean difference between HBCUs and HWCU.

int indicates a significant interaction effect (type of institution X gender), F = 7.43 (p = 0.007).

There is no gender difference in these activities.

African-American students at HBCUs, however, spend more time talking with faculty outside class than do their counterparts at HWCU (p<0.01); the mean of HBCUs is 3.21 and that of HWCU is 2.81. No gender difference was found. The standard deviations are small and similar between HBCUs and HWCU and between males and females. This suggests that African-American students talk with faculty outside the classroom about 1-2 hours per week, regardless of institutional type and student gender.

Interestingly, African-American students at HWCU work longer hours for pay than those at HBCUs; the difference is statistically significant (F=12.29, p<0.01). Regardless of college type, female African-American students tend to work much longer hours for pay (p<0.01). Specifically, female African-American students attending HWCU work the longest hours for pay. (Note that average parental income is higher among HWCU students and there is no significant gender difference in parental income level within college type.)

African-American students’ responses on their college activities were examined. The top section of Table 3 (page 116) shows students’ responses of “frequently” to questions on curriculum formats and content as well as socialization experience with other ethnic groups and students’ feeling of detachment from colleges. The original responses were on the three-point scale: not at all, occasionally, and frequently. The original cross-tabulation analysis consisted of a Black college status variable and each dependent variable of interest; I checked chi-square tests to examine whether the relationship between the two variables is independent. Students’ socialization experience with someone from a different ethnic group was not independent from their attendance at either HBCUs or HWCU. The percentage
Table 2
Hours Spent on Activities Per Week During the Fourth Year of College
Two-Way Analysis of Variance (Mean Comparison)

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>HBCU (n=150)</th>
<th>HWCU (n=224)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Attending classes or lab1</td>
<td>5.48</td>
<td>6.10</td>
<td>6.17</td>
</tr>
<tr>
<td></td>
<td>(2.05)</td>
<td>(1.70)</td>
<td>(1.22)</td>
</tr>
<tr>
<td>Studying or doing homework2</td>
<td>5.42</td>
<td>5.69</td>
<td>5.84</td>
</tr>
<tr>
<td></td>
<td>(1.46)</td>
<td>(1.42)</td>
<td>(1.54)</td>
</tr>
<tr>
<td>Talking with faculty outside class3</td>
<td>3.13</td>
<td>3.24</td>
<td>2.81</td>
</tr>
<tr>
<td></td>
<td>(1.06)</td>
<td>(1.10)</td>
<td>(0.94)</td>
</tr>
<tr>
<td>Working for pay4</td>
<td>3.87</td>
<td>4.32a</td>
<td>4.67</td>
</tr>
<tr>
<td></td>
<td>(2.99)</td>
<td>(2.72)</td>
<td>(2.64)</td>
</tr>
</tbody>
</table>

Notes: Standard Error is in parentheses.
* p <= 0.05, ** p <= 0.01
1 F = 1.22 (p = 0.271)
2 F = 1.43 (p = 0.232)
3 F = 8.31 (p = 0.004)
4 F = 12.29 (p = 0.001); results of hypothesis testing of no mean difference between HBCUs and HWCU

The bottom section of Table 3 examines student experiences during the senior year or their fourth-year college lives. The original questionnaire simply asks whether students were ever involved in these activities during...
Table 3
African-American Students’ College Activities and Experiences (Percentage Comparison)

<table>
<thead>
<tr>
<th>Response of “Frequently” (in the past year)</th>
<th>HBCU Male (n=150)</th>
<th>HBCU Female</th>
<th>HWCU Male (n=224)</th>
<th>HWCU Female</th>
<th>Total HBCU</th>
<th>Total HWCU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worked on group project for a class</td>
<td>50.0</td>
<td>29.9&lt;sup&gt;b&lt;/sup&gt;</td>
<td>29.0</td>
<td>33.1</td>
<td>34.0</td>
<td>31.7</td>
</tr>
<tr>
<td>Had class paper critiqued by instructor</td>
<td>28.1</td>
<td>43.6</td>
<td>47.8</td>
<td>51.0</td>
<td>40.7</td>
<td>49.8</td>
</tr>
<tr>
<td>Took an essay exam</td>
<td>37.5</td>
<td>58.1</td>
<td>43.5</td>
<td>67.5&lt;sup&gt;b&lt;/sup&gt;</td>
<td>53.3</td>
<td>59.7</td>
</tr>
<tr>
<td>Discussed course content with students</td>
<td>62.5</td>
<td>55.6</td>
<td>55.1</td>
<td>53.6</td>
<td>56.7</td>
<td>53.8</td>
</tr>
<tr>
<td>Discussed political/social issues</td>
<td>34.4</td>
<td>41.9</td>
<td>39.1</td>
<td>50.3</td>
<td>40.0</td>
<td>47.1</td>
</tr>
<tr>
<td>Socialized with someone from a different ethnic group</td>
<td>22.6</td>
<td>19.0</td>
<td>84.1</td>
<td>74.2</td>
<td>19.6</td>
<td>79.6&lt;sup&gt;**&lt;/sup&gt;</td>
</tr>
<tr>
<td>Felt like leaving college</td>
<td>6.3</td>
<td>8.7</td>
<td>5.8</td>
<td>13.2</td>
<td>8.2</td>
<td>10.9</td>
</tr>
</tbody>
</table>

Response of “Yes” (during the fourth year)

| Enrolled in honors program                | 38.7              | 53.5<sup>b</sup> | 37.7              | 36.5        | 50.0       | 36.5<sup>**</sup> |
| Taking reading study/skill classes        | 53.1              | 49.6        | 29.4              | 29.3        | 50.7       | 28.6<sup>**</sup> |
| Part-time job on campus                  | 35.5              | 64.6<sup>b</sup> | 62.3              | 78.7<sup>b</sup> | 58.3       | 73.5<sup>**</sup> |
| Part-time job off campus                 | 43.8              | 56.9        | 46.4              | 62.7<sup>b</sup> | 54.1       | 57.5       |
| Worked full-time                         | 3.2               | 11.3<sup>b</sup> | 8.7               | 19.3<sup>b</sup> | 10.2       | 15.6       |
| In intercollegiate athletics             | 35.5              | 16.5<sup>b</sup> | 48.5              | 16.7<sup>b</sup> | 20.5       | 26.6       |
| In racial/cultural awareness workshop    | 71.0              | 58.3        | 50.7              | 68.7        | 61.2       | 63.6       |

Notes. * p <= 0.05, ** p <= 0.01; results of hypothesis testing of independence between each response variable and type of institution (HBCUs and HWCUs) from cross-tabulations and chi-square analysis.

<sup>b</sup> indicates that the association between the response variable and gender within the type of institution is not independent (from chi-square analysis, p <= 0.05).

Their fourth year; students responded to each item with “yes” or “no.” Table 3 shows the proportion of students who marked “yes” to the questions related to their academic and non-academic experiences.

Related to students’ academic development are their responses as to whether they enrolled in an honors program and whether they took reading or study skills classes. Much higher proportions of respondents at HBCUs enrolled in an honors program (50.0 percent vs. 36.5 percent), and
a much higher proportion of respondents at HBCUs took reading or study skills courses (50.7 percent vs. 28.6 percent), compared with respondents at HWCUs. These proportions seem to be high. Students who successfully finished their fourth year might have been academically strong and actively sought academic help. Nevertheless, the big gaps between HBCUs and HWCUs in these academic involvements are noteworthy. A much higher proportion of female students enrolled in an honors program at HBCUs (53.5 percent vs. 38.7 percent), whereas no gender difference is observed at HWCUs.

Consistent with students' time spent working, noted in the previous section, a higher percentage of African-American students attending HWCUs held part-time or full-time jobs, compared with those at HBCUs (Table 3). A much higher proportion of students at HWCUs (73.5 percent) had part-time jobs on campus than those at HBCUs (58.3 percent). Also, a higher proportion of students at HWCUs (15.6 percent) worked full-time while they were students, compared with those at HBCUs (10.2 percent). No significant difference between types of institutions was observed for the percentage of part-time jobs off campus. Notably, regardless of the type of institution, a much higher proportion of female students work during college in all three categories of jobs—part-time on- and off-campus jobs as well as full-time—than male students.

As for participation in intercollegiate athletics, no significant difference was observed between HBCUs and HWCUs. Far fewer female students, however, participated in intercollegiate sports (Table 3).

Finally, Black students may have a similar opportunity to attend a racial and cultural awareness workshop in either type of institution. The proportion of students involved in that activity was relatively high and similar, 61.2 percent at HBCUs vs. 63.6 percent at HWCUs.

**SUMMARY AND DISCUSSION**

HBCUs tend to have academically less prepared students, less affluent students' parents, and poorer institutional resources than HWCUs. But studies found that in spite of these handicaps, HBCUs have a positive, or no worse than neutral, impact on students' academic or intellectual development. This study attempted to examine how and why HBCUs and African-American students at HBCUs bridge this gap. This study also sought to observe whether there is a gender difference in student learning experience.

The findings suggest that students at HBCUs were less academically
Female students at HBCUs might have been empowered by studying in an environment in which their own gender and race were valued.

Students at HBCUs and HWCU s seem to have similar experiences in terms of formal academic requirements, activities, and curriculum formats (See Table 2 and Table 3). No difference was found in hours spent on attending classes or labs nor in hours spent on studying or doing homework. Likewise, no difference was found in the degree of exposure in group projects, essay type exams, and instructors' critiques. Students' prepared initially and their parental income levels were lower than those at HWCU s. But college GPAs did not differ between students of HBCUs and HWCU s. (See Table 1.) This finding of no difference in college GPA is consistent with Wenglinsky, but is inconsistent with Allen. Interestingly, a two-way ANOVA analysis suggested that there is an interaction effect of college GPA between gender and type of institution. (See Table 1.) African-American female students at HWCU s received lower GPAs than male students in the same type of institution or female students at HBCUs even though that there was no significant gender difference in high school GPAs or SAT scores between male and female students in either type of institution and that mean high school GPAs and SAT scores of female students at HWCU s were higher than those of female students at HBCU s.

Future studies should investigate why Black female students' college GPAs at HWCU s are much lower than those of female students at HBCU s as well as male students at HWCU s. Moreover, Black female students attending HWCU s most frequently felt like leaving college during their junior or third year of college, compared with both male students at HWCU s and female students at HBCU s. (See Table 3.) The finding that Black female students may obtain more academic benefits by attending HBCU s is somewhat consistent with the reports of Fleming and Pascarella, Smart, and Stoecker. This study, however, speculates that the high proportion of female students (about 79 percent in the data) as well as female faculty at HBCU s could generate the benefits of attending a female-majority environment (in terms of number and power—like a women's college). Female students at HBCU s might have been empowered by studying in an environment in which their own gender and race were valued. By contrast, a devaluing and frustrating situation could weaken African-American female students' motivation to concentrate on academic growth at male-dominant and white-centered institutions.
discussion of course content, discussion of political and social issues, and socialization with someone from a different ethnic group are related to both formal and informal curriculum activities. I found no significant institutional difference or gender difference in students' discussion of course content and discussion of political and social issues. However, I observed a significant difference in socialization with someone from a different ethnic group. Black students at HWCUs have far more opportunities for contact with people of different ethnic backgrounds. While such diverse interaction is natural and more likely at HWCUs, future studies should try to find out whether these contacts are just formal and business-like or whether they are personal contacts that can result in meaningful relationships.

On the other hand, a similar number of Black students at both types of institution attended a racial and cultural workshop. (See Table 3.) In regard to developing racial and cultural understanding, studies reported that participation in a diversity awareness program promotes students' intellectual development. According to Flower and Pascarella, attendance at HBCUs does not hinder Black students' growth in diversity awareness, but this study questions whether similar attendance rates in racial/cultural awareness workshops could fill the big gap of 20 percent at HBCUs vs. 80 percent at HWCUs in socialization experience with people from different ethnic groups. Future studies might have to continue to investigate Black students' growth experiences in racial and cultural understanding at HBCUs and HWCUs.

This study suggests that African-American students at HBCUs have greater informal contact with faculty and more academic engagement. Kuh noted that contact with faculty outside the classroom promotes students' intellectual development. According to Kim, student-faculty ratio tends to be lower in HBCUs. Intuitively, a lower student-faculty ratio can lead to more frequent and better student-faculty interaction outside classrooms. However, the gap of student-faculty contact hours does not seem to be due simply to the enrollment difference between HBCUs and HWCUs, because the gap persisted even when I conducted the analysis excluding large universities (not shown in the tables).

A higher percentage of African-American students at HBCUs seem to be
involved in academically engaging activities such as honors programs and study skills courses than at HWCUs. The opportunity of joining an honors program decreases at HWCUs because Black students have to compete with many non-Black students. A much higher proportion of female students enrolled in honors programs at HBCUs, whereas no gender difference is observed at HWCUs. At HBCUs, African-American students seem to be more actively and deeply involved in the academic community.

Not much difference was observed in students' participation rates in intercollegiate athletics between HBCUs and HWCUs. Almost 50 percent of male Black students, however, engaged in intercollegiate sports at HWCUs, while only 16.7 percent of female students participated in them. Although female intercollegiate sports are still less popular, African-American female students were far behind in participation in intercollegiate athletics in both types of institutions.

As previous studies contend, HBCUs seem to provide a more academically supportive and engaging environment for African-American students.

A higher percentage of Blacks at HWCUs work longer hours for pay. Female students also work longer hours, and a higher percentage of them work. Perhaps, more female Black students work longer hours because more male students participate in intercollegiate sports. Working too many hours can limit the time students have for study. Future studies should try to determine why more Blacks at HWCUs work and for longer hours even though their mean parental income level is higher than that of Blacks at HBCUs. Future studies should also investigate why, regardless of type of institution attended, a higher proportion of female students work and why they work longer hours than male students even though that there is no difference in parental income levels between male and female students.

Overall, African-American students at HBCUs are more actively and deeply involved in the academic community. As previous studies contend, HBCUs seem to provide a more academically supportive and engaging environment for African-American students. This study also revealed some indication of less satisfying and more difficult academic experiences among African-American female students at HWCUs. Although HWCUs provide African-American students with equal access in admissions, they may still be less likely to include African-American students in their academic communities. Judging by the findings of previous studies and this present study, there are obvious compensating factors, and the
two types of institution contribute to student learning in different ways: HWCUs provide more visible monetary resources and prestige, while HBCUs offer more visible humane support, deep involvement, and across-the-board equity.

Appendix A. Variables and Coding Scheme

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coding Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual characteristics</td>
<td></td>
</tr>
<tr>
<td>Student's gender</td>
<td>1=male and 2=female</td>
</tr>
<tr>
<td>Age of student on 12/31/89</td>
<td>10-point scale from 1=16 or less, 2=17, 3=18 to 10=57 or more</td>
</tr>
<tr>
<td>SAT</td>
<td>Students' combined SAT scores, ranging from 400 to 1600</td>
</tr>
<tr>
<td>Higher school grade point average</td>
<td>8-point scale from 1=D to 8=A or A+</td>
</tr>
<tr>
<td>Parental income</td>
<td>14-point scale from 1=less than $6,000 to 14=$150,000 or more</td>
</tr>
<tr>
<td>College grade point average</td>
<td>6-point scale from 1=C- or less to 6=A or A+</td>
</tr>
<tr>
<td>Hours spent per week</td>
<td></td>
</tr>
<tr>
<td>--Attending classes or lab</td>
<td>1=none; 2=less than one; 3=1-2; 4=3-5; 5=6-10; 6=11-15; 7=16-20; 8=over 20</td>
</tr>
<tr>
<td>College activities</td>
<td></td>
</tr>
<tr>
<td>--Enrolled in honors program</td>
<td>1=no; 2=yes</td>
</tr>
<tr>
<td>--Took reading study/skills classes</td>
<td></td>
</tr>
<tr>
<td>--Attended a racial/cultural awareness workshop</td>
<td></td>
</tr>
<tr>
<td>--Took part in intercollegiate athletics</td>
<td></td>
</tr>
<tr>
<td>--Held part-time job on campus</td>
<td></td>
</tr>
<tr>
<td>--Held part-time job off campus</td>
<td></td>
</tr>
<tr>
<td>--Worked full-time while student</td>
<td></td>
</tr>
<tr>
<td>Activities in past year, 1988</td>
<td>1=not at all; 2=occasionally; 3=frequently</td>
</tr>
<tr>
<td>--Discussed course content with students</td>
<td></td>
</tr>
<tr>
<td>--Discussed political/social issues</td>
<td></td>
</tr>
<tr>
<td>--Worked on group project for a class</td>
<td></td>
</tr>
<tr>
<td>--Took an essay exam</td>
<td></td>
</tr>
<tr>
<td>--Had class paper critiqued by instructor</td>
<td></td>
</tr>
<tr>
<td>--Socialized with someone from another ethnic group</td>
<td></td>
</tr>
<tr>
<td>--Felt like leaving college</td>
<td></td>
</tr>
<tr>
<td>Institutional characteristics</td>
<td></td>
</tr>
<tr>
<td>Black institution (vs. white institution)</td>
<td>1=historically white institution; 2=historically Black institution</td>
</tr>
<tr>
<td>Selectivity</td>
<td>Institutional selectivity in admission based on SAT combined scores, ranges from 400 to 1600</td>
</tr>
<tr>
<td>Institutional control</td>
<td>1=public institution, 2=private institution</td>
</tr>
<tr>
<td>Total enrollment</td>
<td>Continuous scale</td>
</tr>
</tbody>
</table>
ENDNOTES

1 Roebuck and Murty, “Higher education desegregation,” Historically Black colleges and universities; St. John and Hossler, 123-155.


3 Allen, Black colleges vs. White colleges, 28-31, 34; Allen, “The color of success,” 26-44.


7 Bohr, Pascarella, Nora, Terenzini, “Do Black students learn more,” 75-85.


12 Astin (A.W.), Preventing Students from Dropping Out, and What Matters in College; Cross and Astin (H.), “Factors influencing Black students’ persistence in college,” 76-90; Pascarella, Smart, Ethington, and Nettles, “The influence of college on self concept,” 49-77.

13 Kim and Conrad, “The impact of historically black colleges.”

14 Flower and Pascarella, “Does College Racial Composition Influence the Openness to Diversity of African-American Students?” 405-17.


17 Allen, Black colleges vs. White colleges, 28-31, 34.


20 Allen, “The color of success,” 26-44.


26 Outcalt and Skewes-Cox, “Involvement, interaction, and satisfaction,” 331-347.

27 Astin, Achieving Educational Excellence.

28 Ibid.

29 Ibid., 134.

30 Ibid., 136.

31 Ibid., 136.

32 Astin, Achieving Educational Excellence; Astin, What Matters in College; Feldman and Newcomb, The Impact of College on Students; Pascarella and Terenzini, How College Affects Students.


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