

Black Persistence and Graduation Gaps

The purpose of this report is to explore student success differences between Black first-time, full-time (FTFT) undergraduates and FTFT undergraduates not of color. The Black/African American Cultural Center requested this report to better serve students by understanding the timing and majors (by college) where gaps for Black students are largest.

Executive Summary

While the gap in freshman retention between all Black students and students not of color is negligible, sizable third fall persistence gaps and six year graduation gaps exist. Analysis of Black only and Black/Multi-Racial students reveals that persistence gaps for Black only cohorts since FA10 have closed entirely, while persistence gaps for Black/Multi-Racial students have become larger. Thus, future efforts aimed toward reducing achievement gaps among Black students are most likely to be impactful if they focus on students who report Black ethnicity plus one or more additional ethnicities.

Highlights of this report's findings are as follows:

- Overall, gaps in persistence and graduation for Black students increase as the students' time at CSU increase. For instance, freshman retention gaps are smaller than the gaps at third fall and at graduation. This trend is observed across all ethnicity groups.
- Gaps in third fall persistence are smaller for more recent cohorts, which indicates that the persistence and graduation of Black students relative to students not of color is improving. This trend is also observed for Asian/Pacific Islander students.
- Over half of all Black students matriculate to CSU with an undeclared major or a major in the College of Natural Sciences. Third fall persistence and graduation gaps for Intra-University undeclared students are large, and gaps for students in Natural Sciences are even larger. Efforts designed to improve Black student success are most likely to be effective if focused upon undeclared and Natural Science cohort majors.

Population and Student Success Outcomes

Students' ethnicity is identified by their undergraduate application materials. The student counts by ethnicity used in this report are "duplicated" because multi-racial students are included in all applicable groups. For example, students that indicate they are Black/African American as well as Hispanic/Latino are included in both groups. Overall, about 35% of Black undergraduates also report membership in one or more other ethnicities. The comparison group (students not of color) includes international students, white students, and students who did not identify their ethnicity. This comparison group matches the federal and state definition for non-minority students (i.e. students not of color) and is consistently applied in all IRP&E gap analyses.

Freshman retention is measured at the start of the second fall, persistence is measured at the third fall and graduation gaps are measured at the end of six academic years. The most recent five applicable cohorts are used for each of these outcomes. For instance, second fall persistence includes FTFT students from FA10-FA14 cohorts and six year graduation includes FTFT students from FA05-FA09 cohorts. The gaps in persistence and graduation are calculated by subtracting the Black rates from the rate for students not of color. These gaps are discussed in terms of the percentage point (PP) difference. A larger magnitude in the PP difference indicates that the Black rate differs greatly from the comparison group and a small magnitude in the PP difference indicates that the Black rate is very similar to the comparison group. It is an institutional goal for all ethnicity groups to have negligible gaps in six year graduation rates.

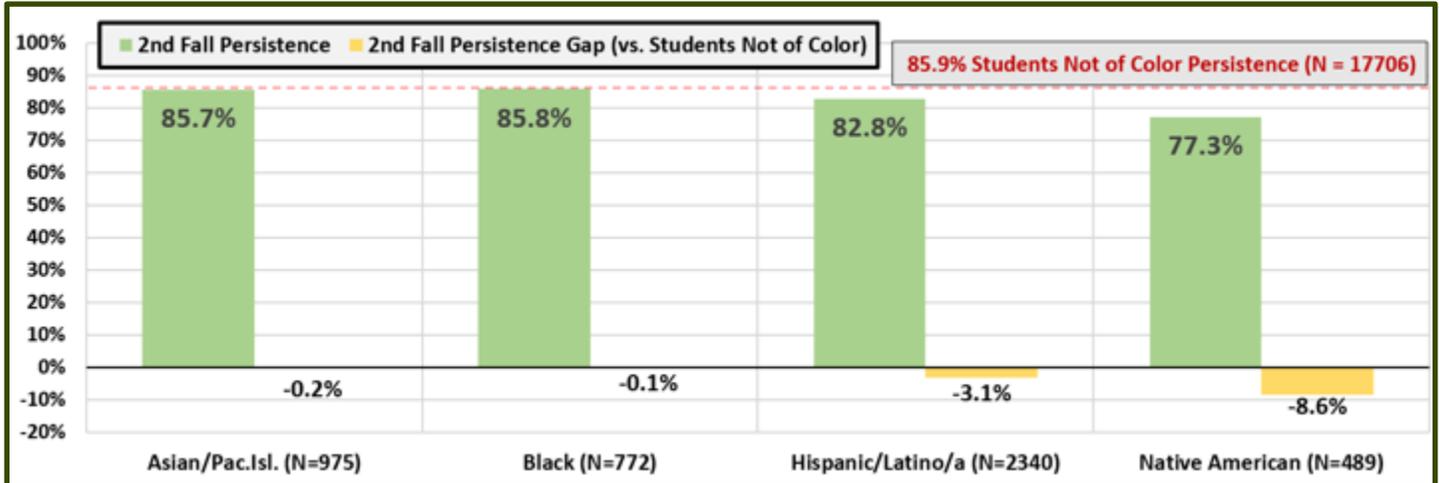
PP Differences in Persistence and Graduation

This section explores PP differences or gaps in student success for students of color compared to students not of color. This analysis does not account for any other demographic or academic differences between compared groups.

Freshman Retention (Second Fall Persistence)

Figure 2 displays freshman rates among FTFT students in the FA09-FA13 cohorts, by duplicated ethnicity group. The green bars retention by ethnicity group and the red line shows the comparison group's rate. The yellow bars display the gaps between each group's observed second fall persistence and the rate for students not of color.

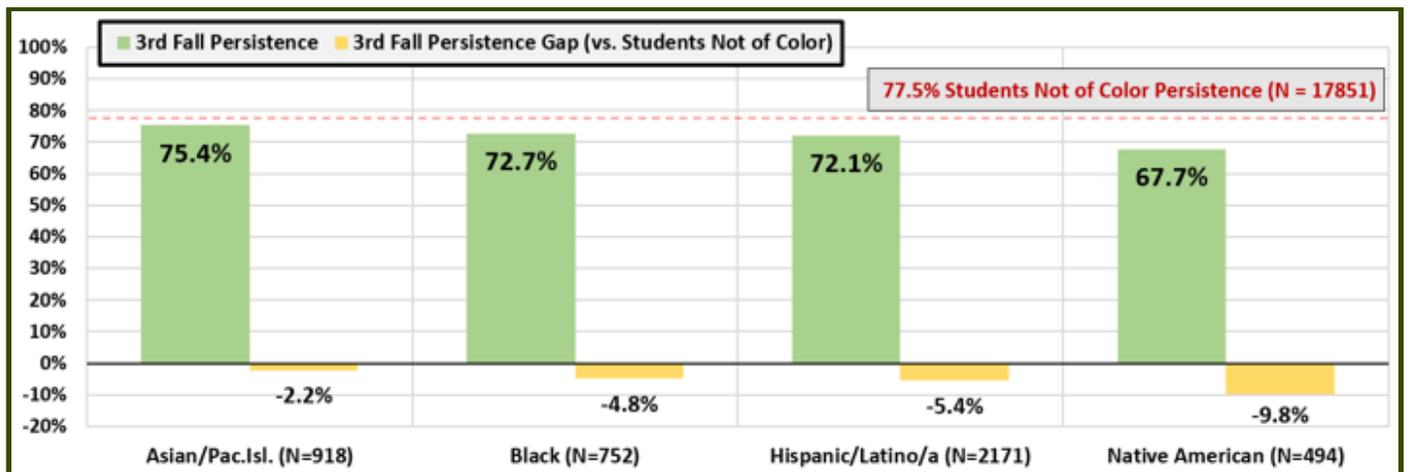
Figure 1. Freshman Retention by Duplicated Ethnicity, FA10-FA14 Freshman Cohorts



When assessing FTFT freshman retention (persistence to the second fall), we observe that Black students in recent FA10-FA14 cohorts have an overall retention rate that is just 0.1 PPs lower than students not of color, 85.8% to 85.9%. This gap is similar to the retention gaps observed for Asian/Pacific Islander students, and substantially smaller than the -3.1 PP gap for Hispanic/Latino/a students and the -8.6 PP gap observed for Native American students.

Figure 2 shows a similar chart displaying FTFT persistence to the third fall.

Figure 2. 3rd Fall Persistence by Duplicated Ethnicity, FA09-FA13 Freshman Cohorts

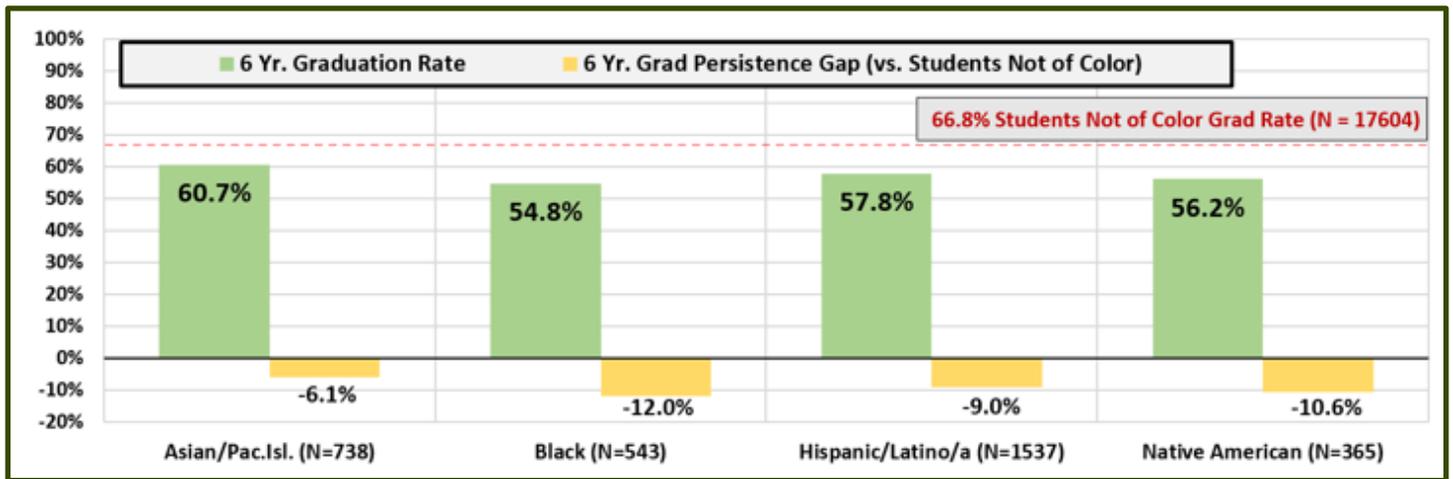


Black students in the studied cohorts persist to the third fall at a rate of 72.7%, which is 4.8 PP lower than the student not of color rate of 77.5%. Comparing third fall persistence gaps to the second fall gaps shown in Figure 1, we observe increases in gap size for each ethnicity group compared with students not of color. For Black students, the gap increases from a nearly negligible -0.1 PP in second fall to -4.8 PP in third fall. This discrepancy suggests that environmental and structural factors that affect Black student persistence compared to students not of color play a stronger role in the second academic year than the first academic year.

6 Year Graduation Rates

Figure 4 mirrors Figures 2 and 3, but displays the six year graduation outcome.

Figure 3. 6 Year Graduation Rate by Duplicated Ethnicity, FA05-FA09 Freshman Cohorts

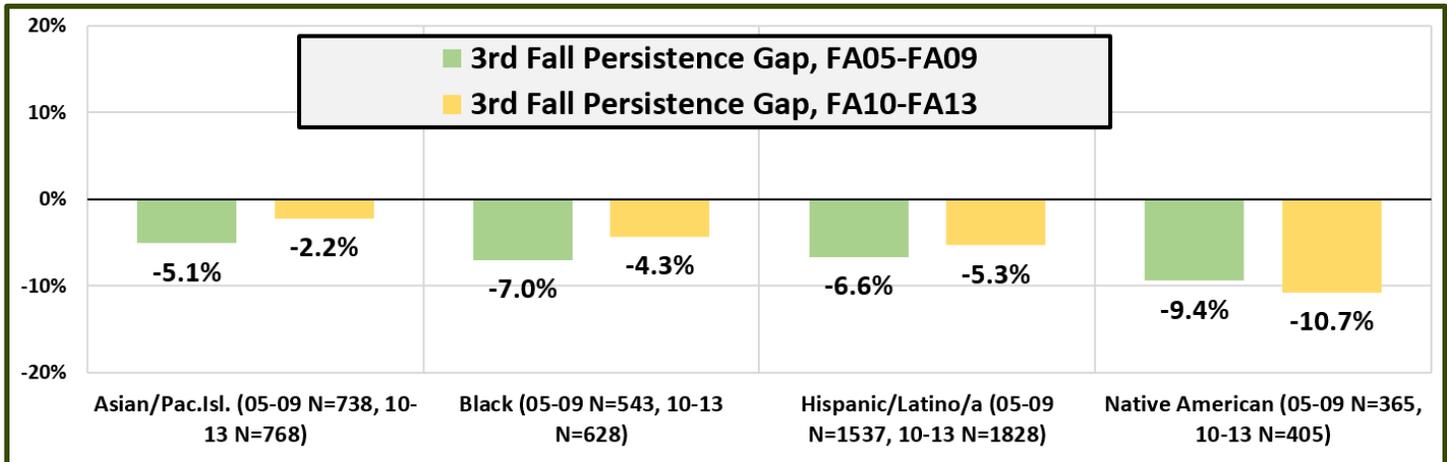


We observe that FA05-FA09 Black students graduate within six years at a rate of 54.8%, which is 12.0 PP lower than the student not of color graduation rate of 66.8%. Across all studied ethnicity groups, we observe that achievement gaps increase substantially compared to the third fall persistence gaps shown in Figure 3. For Black students, the six year graduation gap of -12.0 PP is 7.2 PP greater than the third fall gap of -4.8 PP. This finding suggests that factors negatively affecting Black student performance relative to students not of color continue to play an ongoing role in student success after the third fall semester.

It is possible that the graduation gaps are larger than the persistence gaps because more recent cohorts are more likely to persist compared to prior cohorts.

To assess this hypothesis, Figure 4 shows third fall persistence gaps for older cohorts (FA05-FA09) versus newer (FA10-FA13) cohorts. The difference in third fall persistence between Black students and students not of color for older cohorts (FA05-FA09) is displayed by the green bars and the difference for newer cohorts (FA10-FA13) is displayed by the yellow bars.

Figure 4. 3rd Fall Persistence Gap vs Students Not of Color, FA095-FA09 vs. FA10-FA13



We observe that third fall persistence gaps have closed notably for Black students, at -4.3 PP in the recent cohorts versus -7.0 PP for the FA05-FA09 graduation study cohorts. This trend is also observed for Asian/Pacific Islander students, and also for Hispanic/Latino/a students to a lesser extent. Given that the third fall persistence gap difference is relatively large (net +2.7 PP for the newer cohorts), and 3rd fall persistence is strongly associated with six year graduation, we should expect that more recent Black students cohorts will graduate with a noticeably smaller graduation gap than the -12.0 PP gap observed for the FA05-FA09 cohorts.

PP Differences in Student Success: Black-only vs. Black Multi-Racial

This section of the report replicates the data reported in Figures 1-4 above, separating out Black students by Black-only versus Black Multi-Racial students. In this section of the report, students classified as “Black” only match the federal and state definition of a Black student. “Black/Multi-Racial” students include all students who classified as “Black” plus one or more additional ethnicities; this group includes students who are federally categorized as Multi-Racial students plus part-Black, part-Hispanic/Latino students who are federally classified as Hispanic/Latino students. The same three outcome measures used in the previous section are explored, and recent cohort performance is contrasted with historical cohort performance to identify changes in Black student success over time.

Figure 5. Freshman Retention by Ethnicity Subgroup, FA10-FA14 Black Student Cohorts

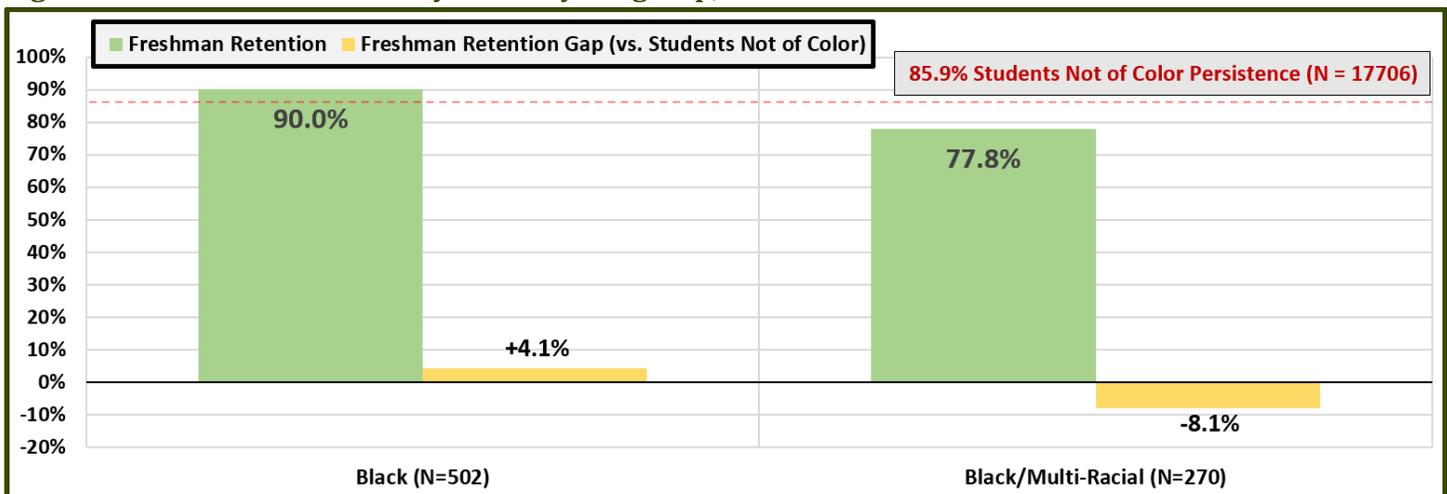
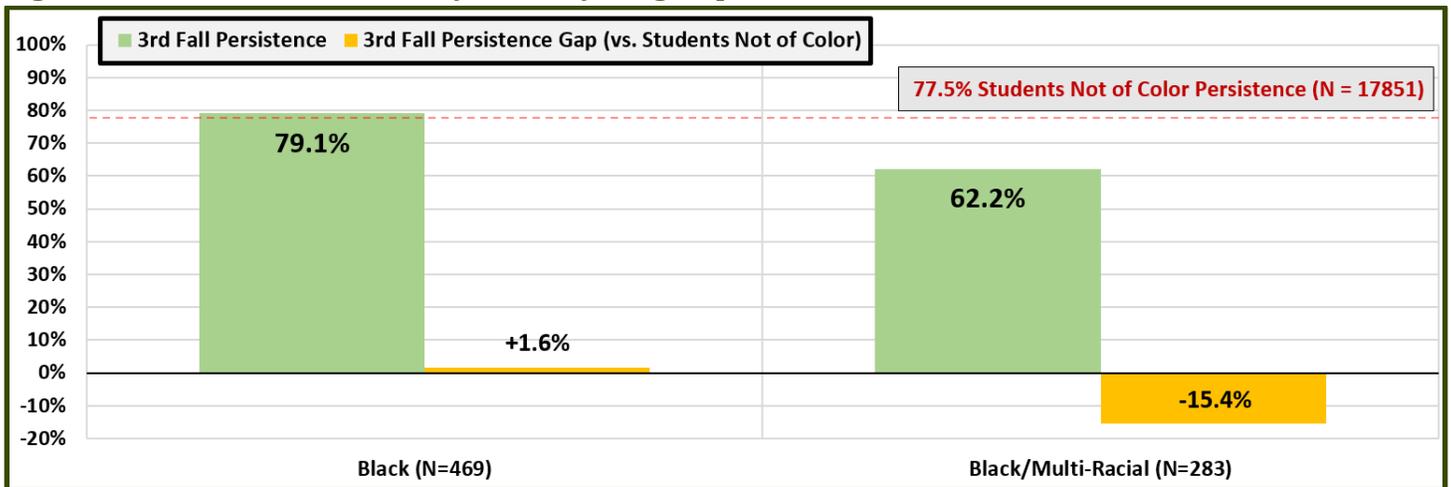


Figure 5 shows that the very small overall Black student freshman retention gap seen in Figure 1 (-0.1 PP) varies when Black students are separated into Black only and Black/Multi-Racial groups. We observe that freshman retention for Black only students is +4.1 PP higher than students not of color. However, freshman retention for Black/Multi-Racial students is -8.1 PP lower than students not of color. This large within-population gap suggests that future efforts aimed toward improving Black student freshman retention are most likely to be impactful if they address the lower-achieving Black/Multi-Racial student group.

Figure 6 separately displays third fall persistence and third fall persistence gaps for Black only and Black/Multi-Racial students.

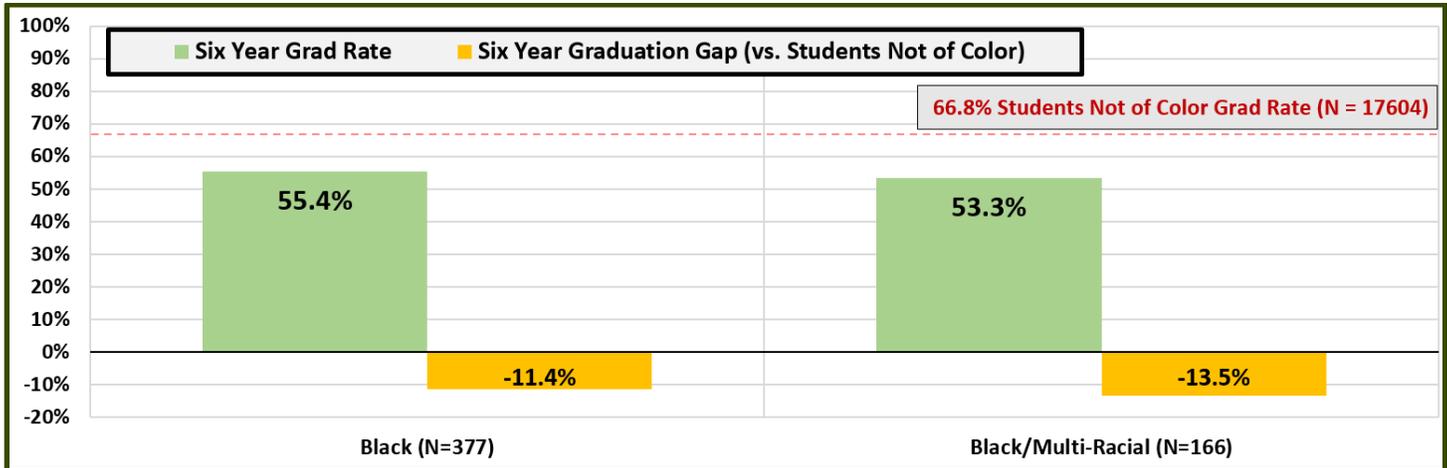
Figure 6. Third Fall Persistence by Ethnicity Subgroup, FA09-FA13 Black Student Cohorts



At third fall, we observe that Black-only student persistence is still greater (+1.6 PP) than students not of color. However, the gap for Black/Multi-Racial students increases vastly from the second fall persistence gap to third fall persistence gap (-8.1 PP to -15.4 PP). It is notable that the third fall persistence rate for Black/Multi-Racial students actually falls below CSU’s recent overall six-year graduation rates of about 66% per Fall cohort. While the high rates of Black-only student persistence are encouraging, the large persistence gaps displayed by Black/Multi-Racial students emphasize the need for additional support services targeted at those students.

Figure 7 displays similarly broken-out unduplicated student data measuring six year graduation rates and achievement gaps among the FA05-FA09 Black freshman cohorts.

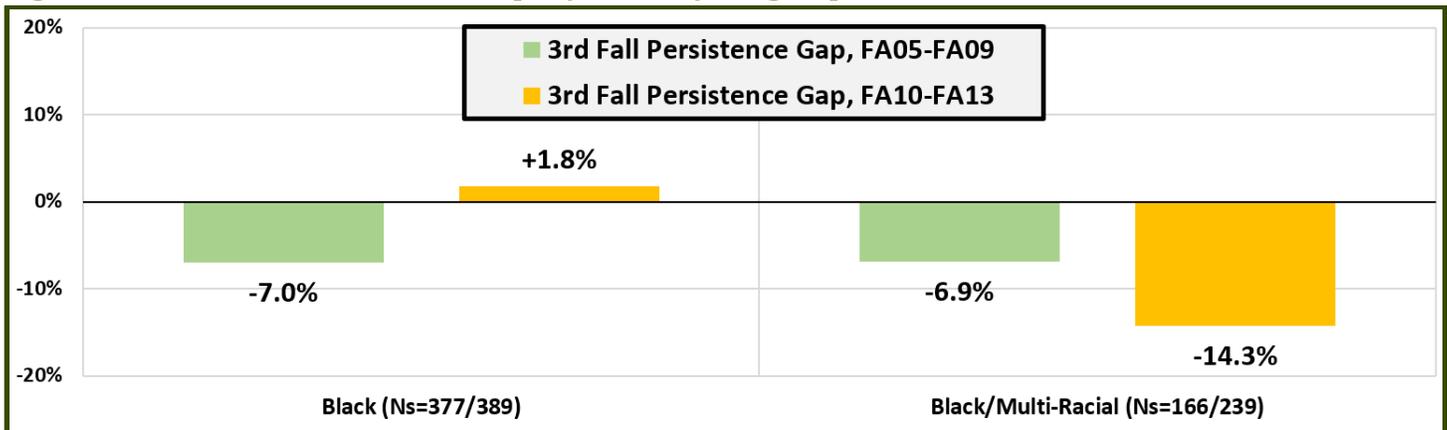
Figure 7. Six Year Grad Rate by Ethnicity Subgroup, FA05-FA09 Black Student Cohorts



Contrary to the persistence findings displayed in Figure 5 and 6, six year graduation gaps are large for both Black-only (-11.4 PP) and Black/Multi-Racial students (-13.5 PP). One mild positive to draw from Figure 7 is the fact that Black/Multi-six year Racial graduation gaps is actually 1.9 PP smaller than the third-fall persistence gap observed in Figure 6. While these results are surprising in light of the strong persistence performance observed among Black-only students, it is again critical to note that the graduation data depicted in Figure 7 covers earlier cohorts than the persistence data shown in Figures 5 and 6. It is possible that changes in persistence between the Figure 7 cohort and more recent cohorts explains some of the large variance in Black-only student performance across the three measures.

Figure 8 investigates whether there have been substantial changes in third fall persistence gaps between the FA05-FA09 graduation study cohort and more recent cohorts.

Figure 8. Black 3rd Fall Persistence Gaps by Ethnicity Subgroup, FA05-FA09 vs FA10-FA13 Cohorts



Contrasting Black students in the FA05-FA09 cohorts versus the FA10-FA13 cohorts reveals divergent patterns of achievement by unduplicated ethnicity group. For the FA05-FA09 cohorts, we observe similar third fall persistence gaps for Black-only and Black/Multi-Racial students. For the FA10-FA13 cohorts the gap in third fall persistence has closed entirely for Black-only students, but has increased several PP for Black/Multi-Racial students. The large third fall persistence gap among Black-only students in the FA05-FA09 cohorts explain why we observe very poor six-year graduation performance among that group. Given the strong relationship between third fall persistence and six year graduation, we should expect to observe that the Black-only six-year graduation gap will shrink or disappear entirely for FA10 and more recent cohorts. However, the results shown in Figure 8 also suggests that the six-year graduation gap for

Black/Multi-Racial students should increase for more recent cohorts compared to the graduation gap observed for Black/Multi-Racial students in Figure 7.

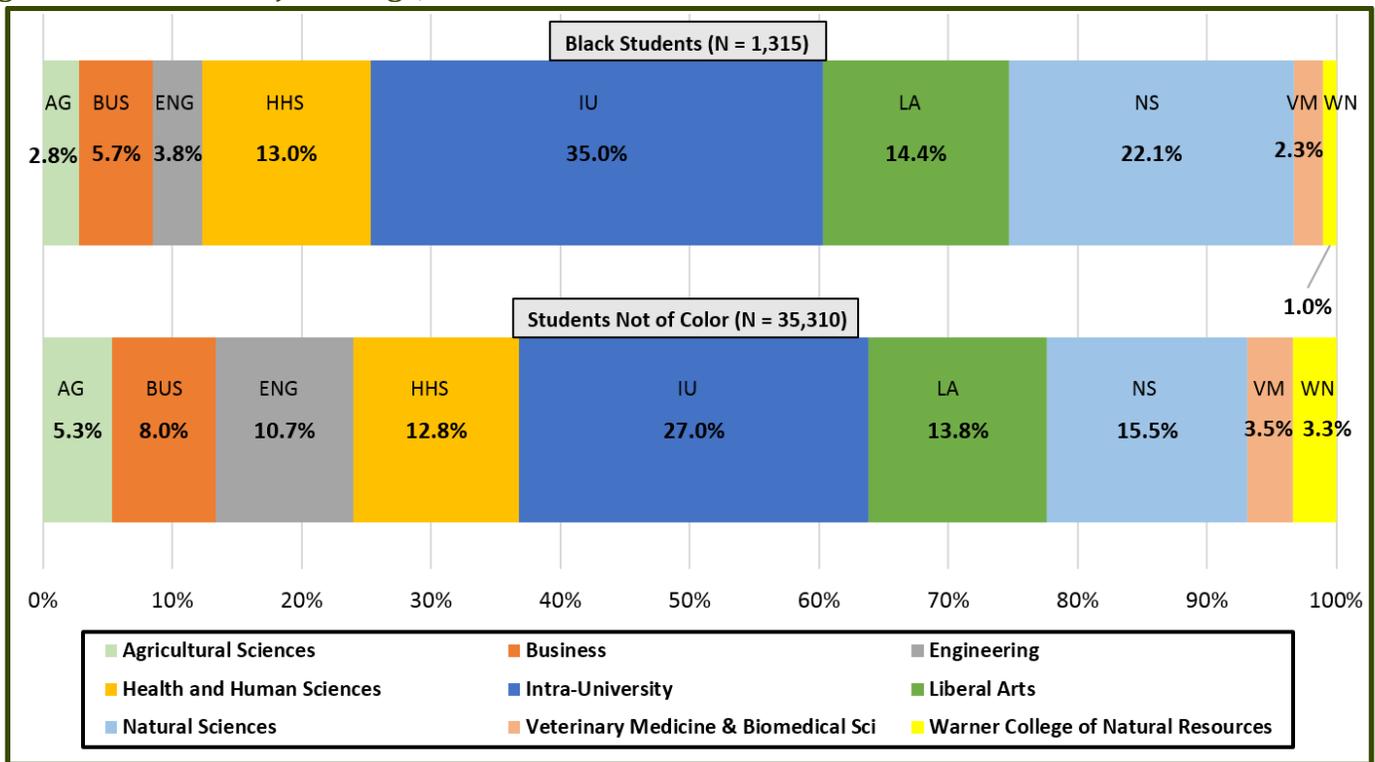
Black Enrollment and Success by College

This section focuses on the enrollment and success of Black students by college. In this section any student who reports partial or full Black ethnicity is considered a Black student. Black students are not analyzed by ethnicity subgroup in this section because partitioning students by both cohort major college and ethnicity subgroup would yield very small sample sizes per group.

Distribution of First Fall Majors, by College

Figure 9 displays the distribution of FTFT Black students across all studied cohorts FA05-FA14. The distribution of majors among students not of color is included for comparison.

Figure 9. % Cohort Major College, Black Students & Students Not of Color FA05-FA14



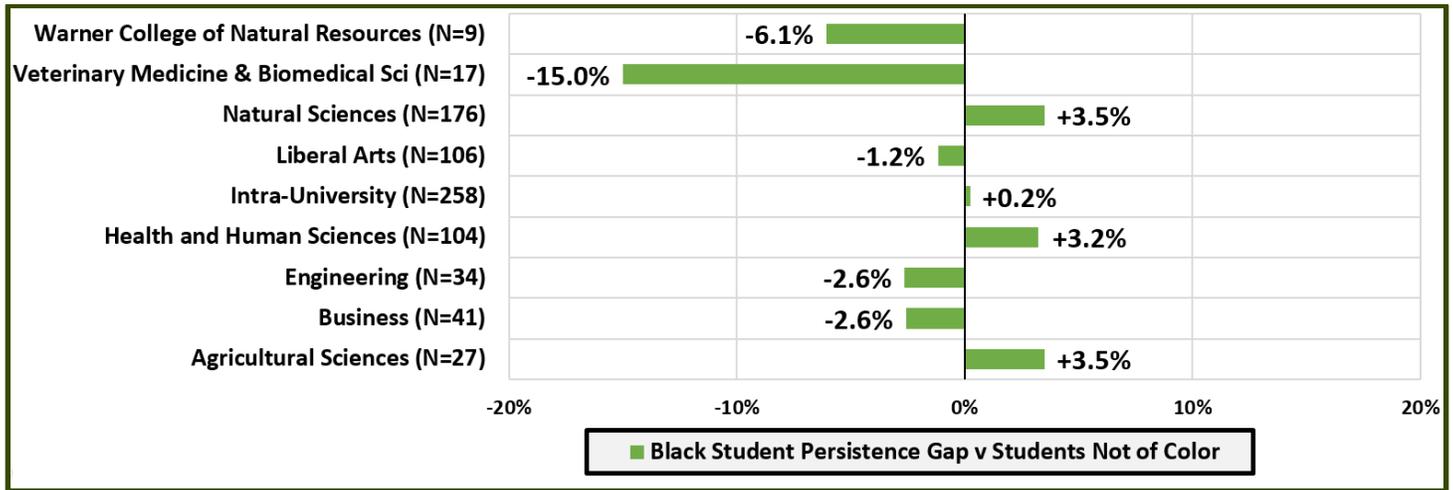
Across the FA05 through FA14 FTFT cohorts there are a total of 1,315 freshmen who self-classify as partially or only Black, compared to 35,310 freshmen students not of color. The distribution of first fall major college differ by a few PP or more for most colleges when comparing enrollment of Black students and students not of color. Black students are substantially overrepresented in Natural Sciences (22.1% of Black students vs. 15.5% students not of color) and Intra-University undeclared (35.0% vs. 27.0%). Enrollments are relatively similar for Black students and students not of color for Liberal Arts (14.4% vs. 13.8%) and Health & Human Sciences (13.0% vs. 12.8%).

Across the remaining colleges, Black students enroll in proportions that are lower than students not of color. The most glaring difference is in the College of Engineering; just 3.8% of Black students carry a cohort major in Engineering, compared to 10.7% of students not of color. Black students are also notably underrepresented in Business (5.7% vs. 8.0%), Agricultural Sciences (2.8% vs. 5.3%), VMBS (2.3% vs. 3.5%), and Warner College (1.0% vs. 3.3%).

Percentage Point Differences in Black Student Success, by College

Figure 10 displays the PP gaps in second fall persistence for FA10-FA14 Black students by cohort major college.

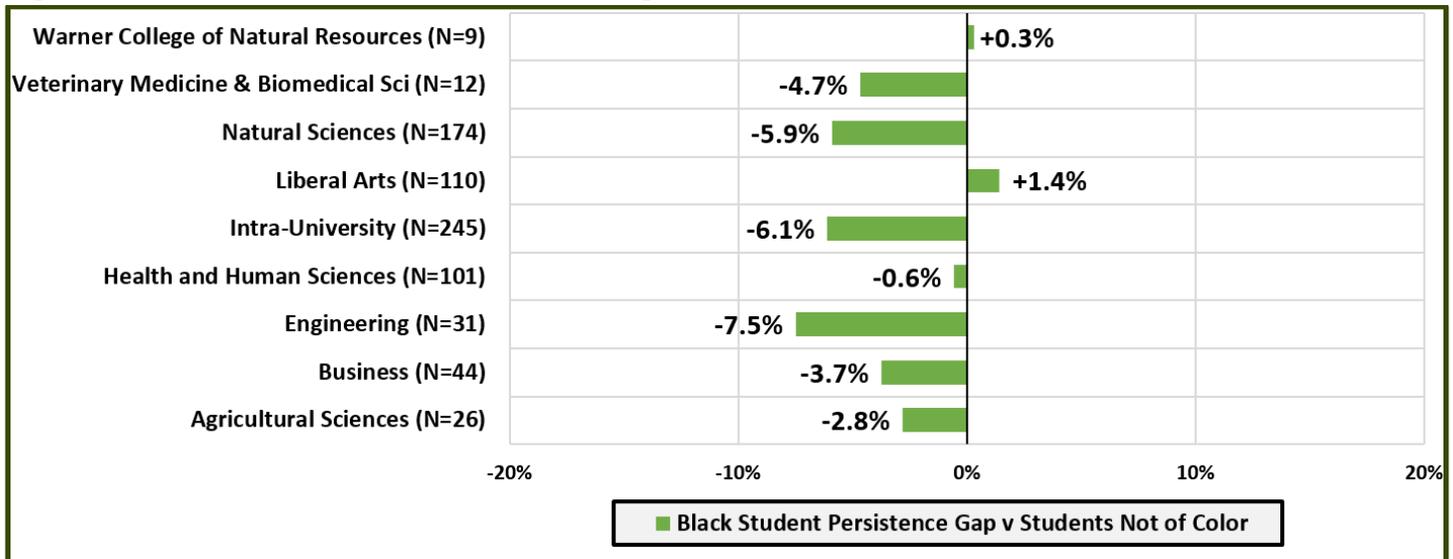
Figure 10. Black Student Freshman Retention Gap, FA10-FA14 Cohorts



Among FA10-FA14 cohorts, Black students persist to second fall at rates substantially greater than students not of color if they have a cohort major in Natural Sciences (+3.5 PP), Health and Human Science (+3.2 PP) and Agricultural Sciences (+3.5 PP). Black students who begin as Intra-University also persist at a rate slightly greater than Intra-University students not of color (+0.2 PP). Black students in the remaining five colleges show lesser second fall persistence than students not of color. Note that the number of Black students is quite low for many colleges, and for those colleges wide variance is likely across measures and across different cohort time frames.

Figure 11 is a similar display showing Black student third fall persistence gaps by College among the FA09-FA13 cohorts.

Figure 11. Black Student 3rd Fall Persistence Gap, FA09-FA13 Cohorts

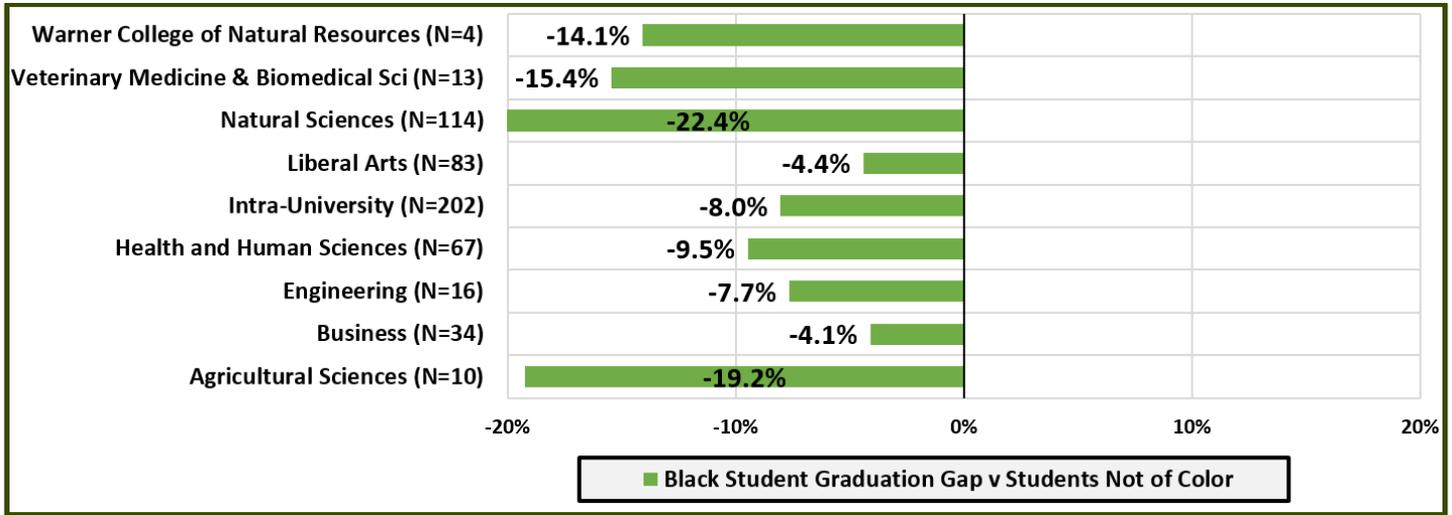


For third fall persistence, seven of nine cohort colleges display achievement gaps for Black students versus students not of color. Discounting Warner College, which has an extremely small N of 9, we observe that Liberal Arts is the only college with a notable positive third fall persistence gap in favor of Black students (+1.4 PP). The gap for Health and

Human Sciences is negative, though quite small (-0.6 PP). For the remaining colleges, sizable third fall persistence gaps between Black students and students not of color are present and range from -2.8 PP to -7.5 PP. Discrepancies are particularly large between the Intra-University second fall persistence gap (+0.2 PP) and third fall persistence gap (-6.1 PP), and Natural Sciences second fall persistence gap (+3.5 PP) and third fall persistence gap (-5.9 PP). These large discrepancies suggest that Black students with a cohort major in Natural Sciences or who are cohort undeclared (Intra-University) are at particular risk of attrition during their second academic year.

Figure 12 shows Black student six year graduation gaps compared to students not of color, by college.

Figure 12. Black Student Six Year Graduation Gap, FA05-FA09 Cohorts



Across all cohort major colleges, FA05-FA09 six year graduation rates for Black students are substantially lower than rates for students not of color. For Intra-University undeclared students, who represent the largest proportion of FA05-FA09 Black freshmen (N = 202), the graduation gap measures at -8.0 PP. The massive -22.4 PP graduation gap for Natural Sciences is also of particular concern given that it is the most popular cohort college other than Intra-University.

The size of the graduation gap is larger than the third fall persistence gap for every college, and in some cases like Natural Sciences (-22.4 PP graduation gap, -5.9 PP third fall persistence gap) the achievement divide grows massively after third fall. Given that there the second fall persistence gap is negligible, it is apparent that Black student achievement gaps continue to widen over time. Thus efforts to improve Black student performance are most likely to bear fruit if they focus on supporting students over the course of their entire undergraduate tenure, rather than focusing support toward students who are early in their career at CSU.

As shown in Figure 4, it is important to note that third fall persistence gaps have closed noticeably for Black students among cohorts FA10-FA13 versus FA05-FA09. Since third fall persistence rates are strongly correlated with six year graduation rates, it is logical to expect that some or all of the graduation gaps observed in Figure 8 will be smaller for post-FA10 cohorts.

Conclusions

Comparing FTFT Black freshmen to freshmen students not of color, we observe a negligibly small achievement gap for freshman retention, a moderate-sized gap for third fall persistence, and a large gap for six year graduation. Relative to other ethnicity groups, Black student achievement gaps also start smaller but grow larger than other groups over time.

Separate analysis of Black only and Black/Multi-Racial students reveals that persistence gaps among Black only students have close entirely since FA10, while those gaps have grown larger for Black/Multi-Racial students. Black/Multi-Racial students lag behind both Black only students and students not of color on freshman retention, third fall persistence, and six year graduation. While the elimination of gaps for Black only students represents a remarkable achievement in a short amount of time, there remains substantial room to improve success among students who identify as both Black and one or more other ethnicities.

It should also be noted that more recent student of color cohorts are persisting at a higher net rate than older cohorts. Gaps in achievement compared to students not of color are also shrinking for Hispanic/Latino, Black, and Asian students in more recent cohorts. This is a positive result for our efforts to increase the success of diverse students at CSU.

Students' cohort college may be one strategic factor to consider when designing interventions for Black undergraduates. For instance, third fall persistence and graduation gaps in the college of Natural Science are particularly large and this college also has large Black student enrollment. This combination suggests that it may be efficient to specifically target efforts towards improving Black student success in the College of Natural Sciences. Undeclared students may also be of particular interest for future efforts, as 35% of Black undergraduates have an undeclared major in their first fall semester and these students also display sizable third fall persistence and graduation gaps.