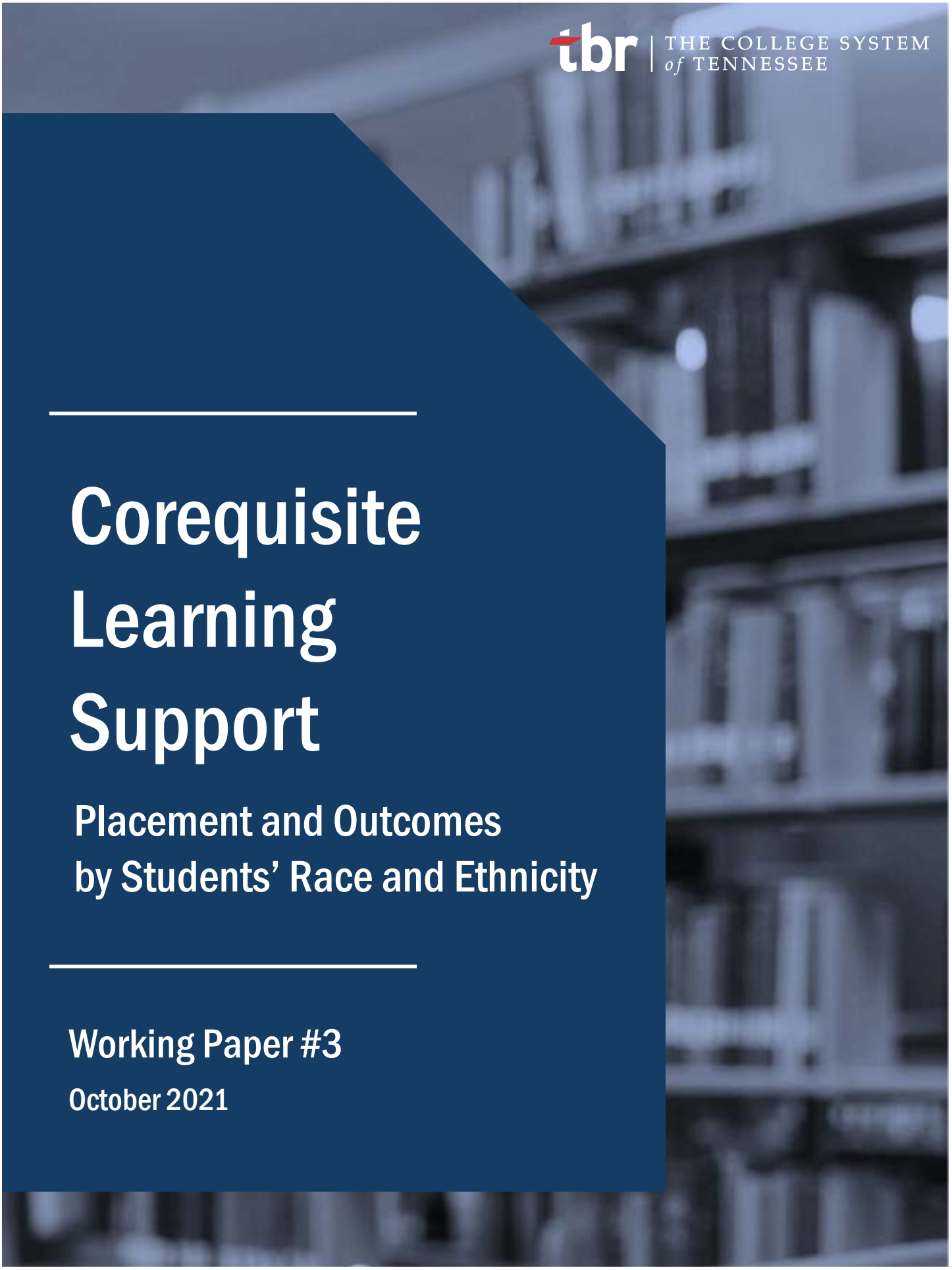

tbr | THE COLLEGE SYSTEM of TENNESSEE

Corequisite Learning Support

Placement and Outcomes by Students' Race and Ethnicity

Working Paper #3

October 2021

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About this Project

The College System of Tennessee is the state's largest public higher education system, with 13 community colleges, 27 colleges of applied technology, and the online TN eCampus. The system is governed by the Tennessee Board of Regents.

This report is part of *Gaining Momentum: Refining Corequisite Learning Support to Boost Student Success in the First Year and Beyond*, a TBR project focused on identifying best practices and developing equity-focused data insights about corequisite learning support at community colleges.

TBR is grateful to the Education Commission of the States' *Strong Start to Finish* network for their support of this project.

Click here to learn more about this project.

Summary of Findings

Black and Hispanic students were placed into learning support at higher rates than White students.

Students at Tennessee community colleges can be placed into corequisite learning support courses if they do not meet benchmarks for college readiness.

From fall 2015 to 2019, 85% of Black first-time freshmen students were placed into at least one learning support course. Among Hispanic first-time freshmen, 66% were placed into learning support. For White first-time freshmen, 53% were placed into learning support. In other words, the placement rate for Black students was 19 percentage points higher than the placement rate for Hispanic students and 32 points higher than for White students.

Some students are placed into learning support for multiple subjects. Black first-time freshmen were placed in learning support for all three subjects at four times the rate of White students.

Trends in learning support placement differed by college and region.

At every community college in Tennessee from fall 2015 to 2019, Black and Hispanic students were placed into learning support at higher rates than White students.

Across the state, Black students were placed into learning support at higher rates than White students. For students from Shelby County, which has the highest number of Black students who enroll at Tennessee community colleges, 89% of Black first-time freshmen were placed into learning support for at least one subject (and 56% placed into learning support for all three subjects). By comparison, 61% of White students in Shelby County placed into learning support for at least one subject, but only 18% placed into all three.

Black learning support students completed gateway math courses at lower rates than White and Hispanic students.

From 2015-2019, 29% of Black learning support math students completed a college-level math course by the end of their first year. This compared to 43% of Hispanic students and 42% of White students in math learning support.

Academic preparation may account for some of these differences, as ACT math scores and high school GPAs were lower for Black learning support students than for White learning support students. TBR policy that provides special recommendations for students who require learning support in multiple subject areas may also affect Black students' completion of gateway math.

After we account for factors such as ACT score, high school GPA, and income, Black learning support students completed college-level math at comparable rates to Hispanic and White students. However, more research must be done to unpack the relationship between race, learning support placement, and outcomes.

Gaps in outcomes for Black learning support students persisted in longer-term outcomes as well.

Black students who are placed into learning support courses persist and graduate at lower rates than Hispanic and White students in learning support. These gaps exist for every combination of learning support placement.

Among Black students in learning support from fall 2015 to 2019, fewer than half returned for the following year of enrollment, and only one in ten graduated within three years.

Learning Support & Equity at Tennessee Community Colleges

Background

Tennessee's community colleges are committed to reducing equity gaps. According to the Tennessee Board of Regents' (TBR) equity policy, this commitment means "ensuring that each student has access to a high-quality education and that each student receives what they need to be successful through the intentional design of the college experience" (TBR, 2019b).

To meet the needs of each student, Tennessee community colleges provide learning support for students in gateway courses. Colleges identify which students should be placed into learning support based upon indicators of college readiness (TBR, 2019a).

However, across Tennessee community colleges, Black and Hispanic students are placed into learning support courses at higher rates than White students. This matches national trends, where Black students are more likely to be placed into remedial courses and less likely to ever pass gateway courses (Vandal, 2016).

The majority of Black and Hispanic students at Tennessee community colleges are affected by the system's learning support policy. However, according to prior research from other states, learning support policies often fail to reduce equity gaps in outcomes (Brathwaite, Fay, & Moussa, 2020; Brathwaite & Edgecombe, 2018). To improve outcomes for students of color, policies must ensure the accurate identification of students who need learning support and implement effective practices to deliver learning support.

Learning Support in Tennessee

Under the Comprehensive Education Reform Act of 1984, TBR created a program of remedial and developmental studies that included systemwide assessment procedures, mandatory program design features, and a comprehensive support system for students (Bader & Hardin, 2002).

This action coincided with a legal settlement to a case aimed at desegregating higher education (Bader & Hardin, 2002). In 1968, Rita Sanders Geier sued the state of Tennessee claiming the state maintained a segregated system of higher education. The 1984 Stipulation of Settlement of the suit instructed colleges to admit a percentage of students under alternative admissions standards to increase the enrollment of Black students who historically had been denied admission. The 1984 settlement also required colleges to offer remedial programs to increase the retention of students admitted under alternative standards (*Geier v. Alexander*, 1984).

A decade and a half later, the 2001 Geier Consent Decree noted that differential persistence rates for Black and White students were still present and recommended students "have access to remedial and/or developmental course work, or tutorial assistance" to close those gaps (*Geier v. Sundquist, 2001*).

Corequisite Learning Support

With the introduction of systemwide corequisite learning support in 2015, Tennessee hoped to increase the number of students completing college-level courses in their first year. Upon enrolling at a Tennessee community college, all students have the opportunity to enroll directly in college-level gateway courses. Some students are also placed into a corequisite learning support course alongside the college-level course.

TBR's learning support policy establishes methods to determine whether a student will be placed into learning support for math, reading, or writing (TBR, 2019a). According to this policy, students can be placed into or out of a corequisite learning support course through one of four assessment metrics: the ACT, SAT, ACCUPLACER, or by completing SAILS competencies.

This paper will seek to further understand placement and outcomes by Black, Hispanic, and White students since corequisite learning support reforms were implemented at community colleges across Tennessee in fall 2015.

Placement into Learning Support

Sixty percent of first-time freshmen at community colleges from fall 2015 to 2019 were placed into at least one learning support course. [1]

Figure 1 shows the proportion of first-time freshmen who were placed into learning support from fall 2015 to 2019 by race. Among Black students, 85% were placed into learning support for at least one subject, including:

- 70% were placed into learning support for *math*.
- 64% were placed into learning support *reading*.
- 66% were placed into learning support *writing*.

Among Hispanic students, 66% were placed into learning support for at least one subject, including:

- 50% were placed into learning support *math*.
- 40% were placed into learning support *reading*.
- 45% were placed into learning support *writing*.

Placement rates were lower for White students. Among White first-time freshmen who enrolled from fall 2015 to 2019, 53% were placed into learning support for at least one subject, including:

- 38% were placed into learning support *math*.
- 26% were placed into learning support *reading*.
- 29% were placed into learning support for *writing*.

Even after using more rigorous data analysis methods to account for other factors, Black and Hispanic students were still more likely to be placed into learning support than White students. Overall, Black students were four percentage points more likely than White students to be placed into learning support, and Hispanic students were three percentage points more likely than White students to be placed into learning support, after we account for other factors like college, income, and ACT scores.[2]

Figure 1: Percent of First-Time Freshmen Placed into Learning Support by Subject, 2015-2019

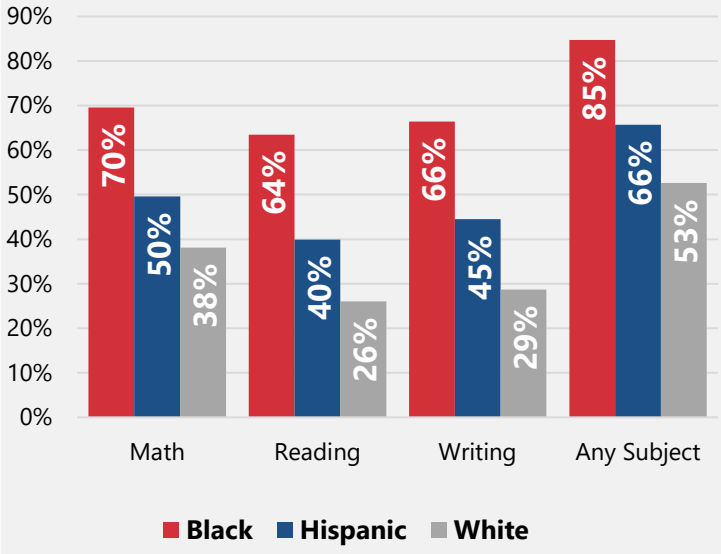
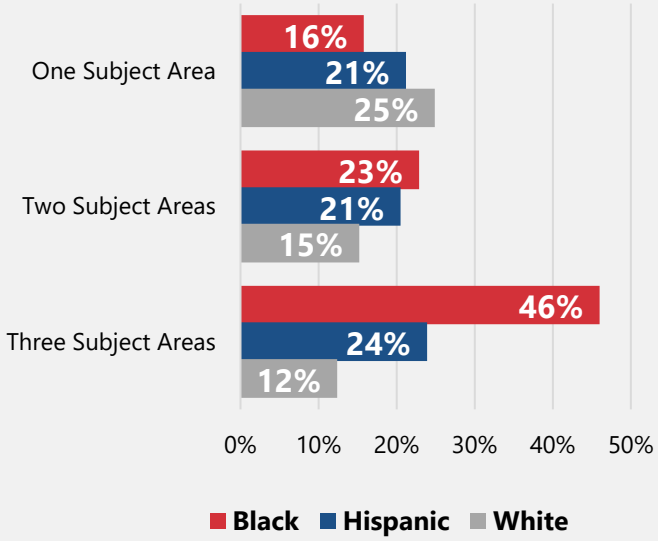


Figure 2: Percent of First-Time Freshmen Placed into Learning Support by Number of Subjects, 2015-2019



[1] Placement rates reflect the proportion of students who required learning support upon enrolling in college. In some cases, students can fulfill math learning support requirements by participating in the SAILS program during high school. In this analysis, students who completed SAILS are *excluded* from those who were placed into learning support. When SAILS completers are included, the math learning support placement rate increases by around 10 percentage points.

[2] The data appendix at the conclusion of this report includes more detailed results of these analyses.

Students may be placed into learning support for one, two, or three subject areas. *Black first-time freshmen were placed in learning support for all three subjects at four times the rate of White students.*

As **Figure 2** shows, from fall 2015 to 2019, 23% of Black first-time freshmen required learning support in two subject areas, and 46% of Black first-time freshmen were placed into learning support for three subjects. In contrast, only 12% of White students required learning support in all three subjects. Even when excluding Southwest, the college with the highest enrollment of Black first-time freshmen, 39% of Black students were placed into learning support for all three subject areas, which was three times the rate of White students.

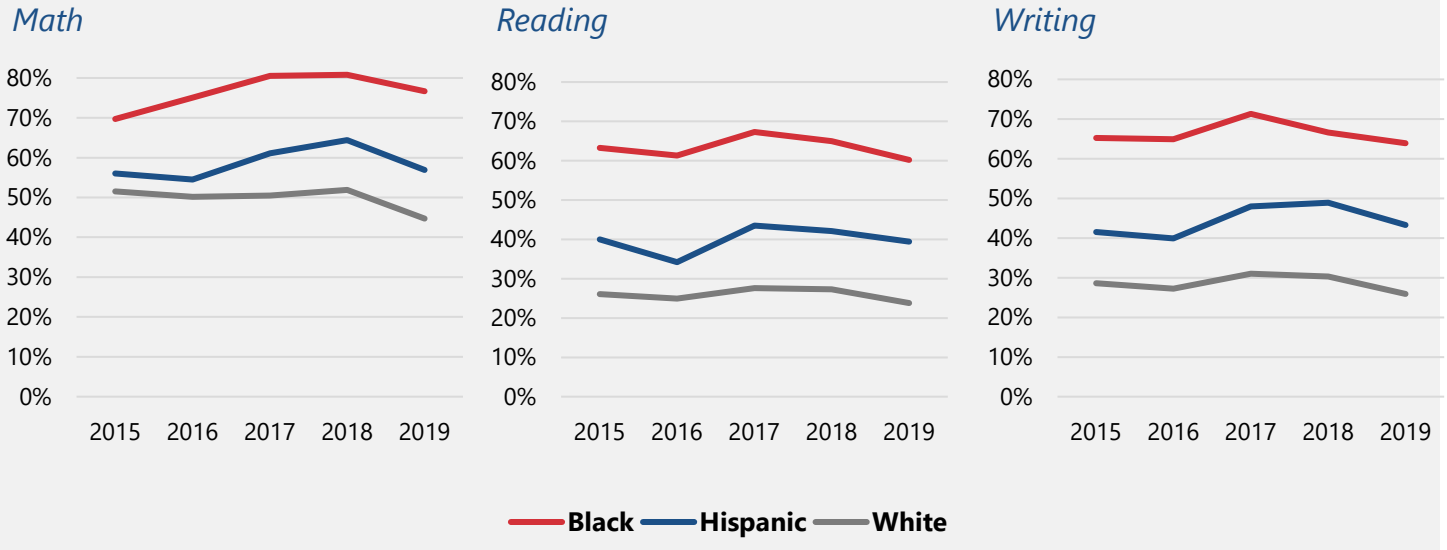
Relatively few students required some combination of learning support that does not include math, as **Table 1** shows. However, White and Hispanic students were most commonly placed into math learning support alone, while Black students were most likely to be placed into math learning support alongside other subjects.

Placement rates have changed modestly over time, as shown in **Figure 3**. Efforts to address remediation needs before students arrive at college have slightly lowered placement rates, particularly in math for White Students. Yet *math placement rates rose for Black students between 2015 and 2019*, and the gap in math placement rates between Black and White students has widened.

Table 1: Percent of First-Time Freshmen Placed into Learning Support by Subject, 2015-2019

Subject Area	Black Students	Hispanic Students	White Students
Math Only	10.6%	13.8%	16.8%
Reading Only	2.6%	3.2%	3.8%
Writing Only	2.7%	4.2%	4.3%
Math & Reading	5.2%	4.2%	3.3%
Math & Writing	7.9%	7.7%	5.5%
Reading & Writing	9.8%	8.6%	6.4%
Math, Reading, & Writing	46.0%	23.9%	12.4%
Any Placement	**84.7%**	**65.7%**	**52.6%**
No Placement	32.3%	47.4%	50.6%

Figure 3: Percent of First-Time Freshmen Placed into Learning Support by Subject Over Time



Differences by College & Student Group

By College

Learning support placement for Black, Hispanic and White students also differs by college, as shown below in **Table 2**. The gap in placement rates between Black and White students was highest at colleges like Chattanooga and Columbia, where White students were placed at much lower rates than the system rate.

Table 2: Percent of First-Time Freshmen Placed into Learning Support by College, 2015-2019

College	Black Students	White Students	Difference
Chattanooga	80.0%	47.4%	32.6 pp
Cleveland	79.9%	52.6%	27.3 pp
Columbia	83.5%	50.0%	33.5 pp
Dyersburg	82.2%	52.2%	30.0 pp
Jackson	86.6%	54.3%	32.3 pp
Motlow	80.6%	50.9%	29.7 pp
Nashville	79.7%	55.9%	23.8 pp
Northeast	85.1%	61.9%	23.2 pp
Pellissippi	79.6%	50.1%	29.5 pp
Roane	80.8%	50.7%	30.1 pp
Southwest	89.2%	62.8%	26.4 pp
Volunteer	83.3%	51.3%	32.0 pp
Walters	81.9%	52.6%	29.3 pp
All Colleges	**84.7%**	**52.6%**	**32.1 pp**

By Gender

Figure 4 shows placement by race and gender. Female Black and White students were placed into learning support math at higher rates than male students. In reading and writing, however, placement rates for male and female students of both races were comparable.

By Income

Income: Low-income students are placed into learning support at higher rates than their non-low-income peers. Among Black first-time freshmen from 2015-2019, 77% were also low-income students, whereas 50% of White first-time freshmen were also low-income students.

However, differences based on income do not account for all the differences in placement rates between Black and White students. Black low-income students were placed into learning support at higher rates than White low-income students. As **Figure 5** below shows, 72% of Black low-income students were placed into math learning support, compared to 44% of White low-income students. For reading and writing, Black low-income students were placed at twice the rate of White low-income students.

Figure 4: Learning Support Placement Rate by Race & Gender, 2015-2019

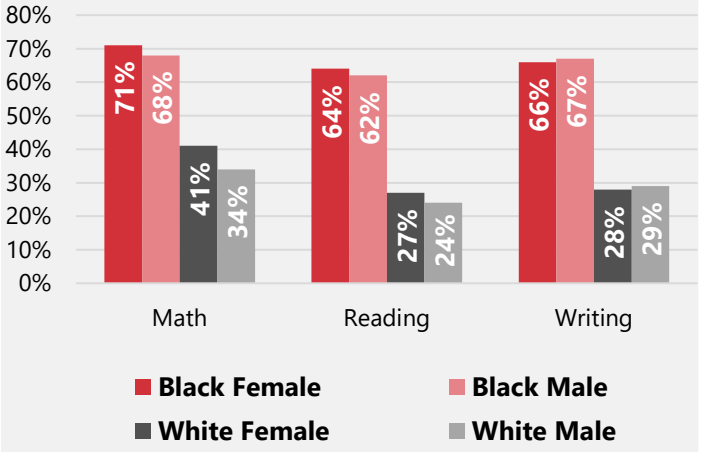
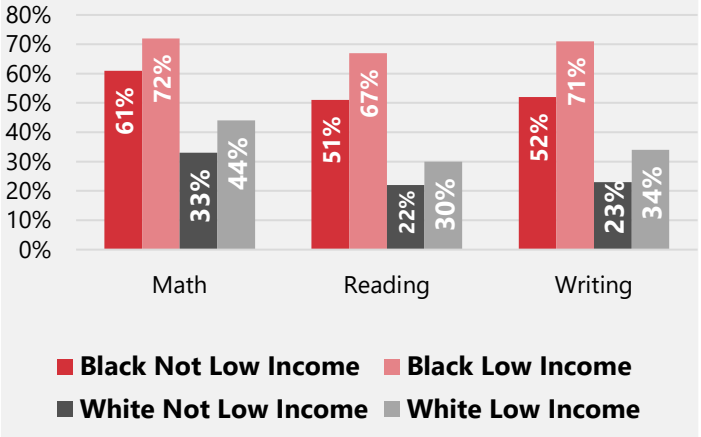


Figure 5: Learning Support Placement Rate by Race & Income, 2015-2019



Differences Across Tennessee

Learning support placement differs across the state. The maps on the following page show placement rates and gaps in placement rates by county.

The first map (**Figure 6**) shows the overall placement rate into at least one learning support course for all first-time students from 2015 to 2019. Counties with high placement rates, shown in red, were concentrated in the northeast and west regions of the state.

The second map (**Figure 7**) depicts this placement gap, representing how many percentage points higher the rate of placement is for Black students compared to White students. In every county with at least 10 Black and 10 White students from 2015 to 2019, Black students were placed into learning support at higher rates than White students.

Shelby County has the highest number of Black students who enroll at Tennessee community colleges, as **Table 3** and **Table 4** show. From 2015 to 2019, 89% of Black first-time freshmen from Shelby County were placed into learning support (and 56% placed into learning support for all three subjects). By comparison, 61% of White students in Shelby County placed into learning support for at least one subject, but only 17% placed into all three.

Of the five largest counties in Tennessee (Davidson, Hamilton, Knox, Rutherford, and Shelby), Davidson County had the second-highest proportion of Black students were placed into learning support at 86%, and 46% of Black first-time freshmen from Davidson County were placed into learning support for all three subject areas.

Knox County had the largest difference in placement rates for Black and White students with a 33-percentage point difference in overall placement rates and a 21 percentage point difference in the rate of placement into all three subject areas. However, of the five largest counties, Knox also served the lowest proportion of Black students.

Table 3: Learning Support Placement into *at Least One Subject Area* by County, 2015-2019

County	Black Students	White Students	Difference
Davidson	86.1%	61.0%	25.1 pp
Hamilton	81.1%	48.8%	32.4 pp
Knox	84.4%	51.9%	32.5 pp
Rutherford	81.2%	58.5%	22.8 pp
Shelby	89.1%	61.2%	27.9 pp

Table 4: Learning Support Placement into *All Three Subject Areas* by County, 2015-2019

County	Black Students	White Students	Difference
Davidson	45.8%	18.5%	27.3 pp
Hamilton	28.5%	7.7%	20.8 pp
Knox	41.0%	12.2%	28.8 pp
Rutherford	40.2%	16.2%	24.0 pp
Shelby	56.0%	17.8%	38.2 pp

Figure 6: Learning Support Placement Rate, 2015 - 2019

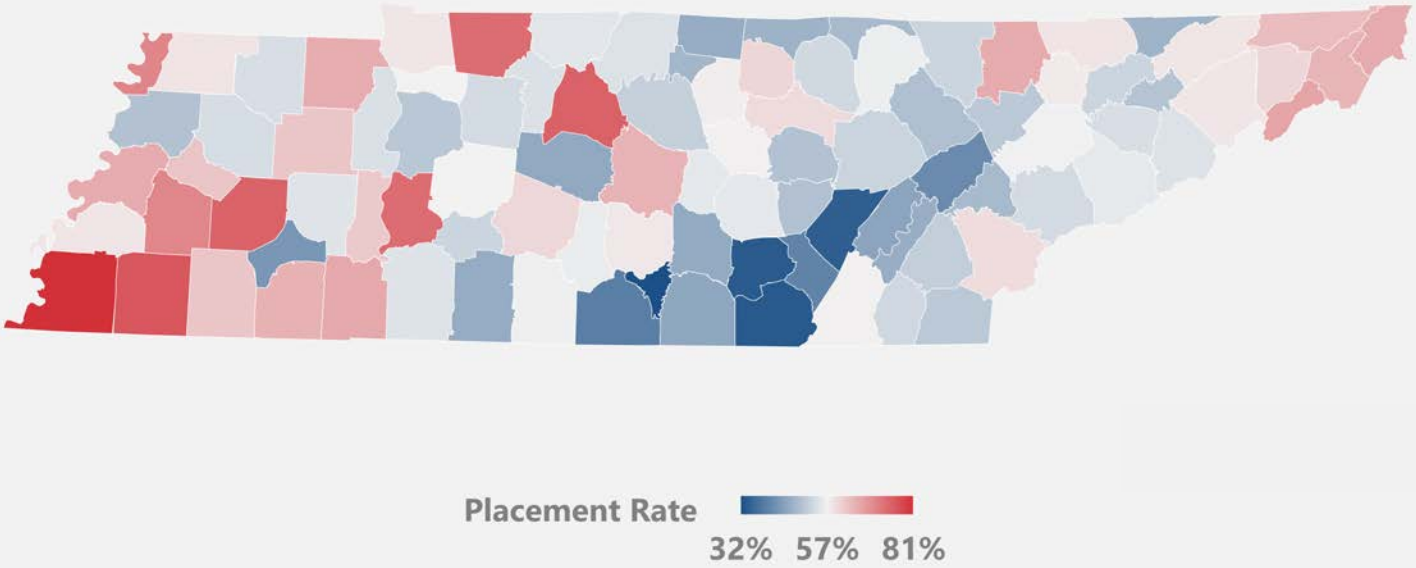
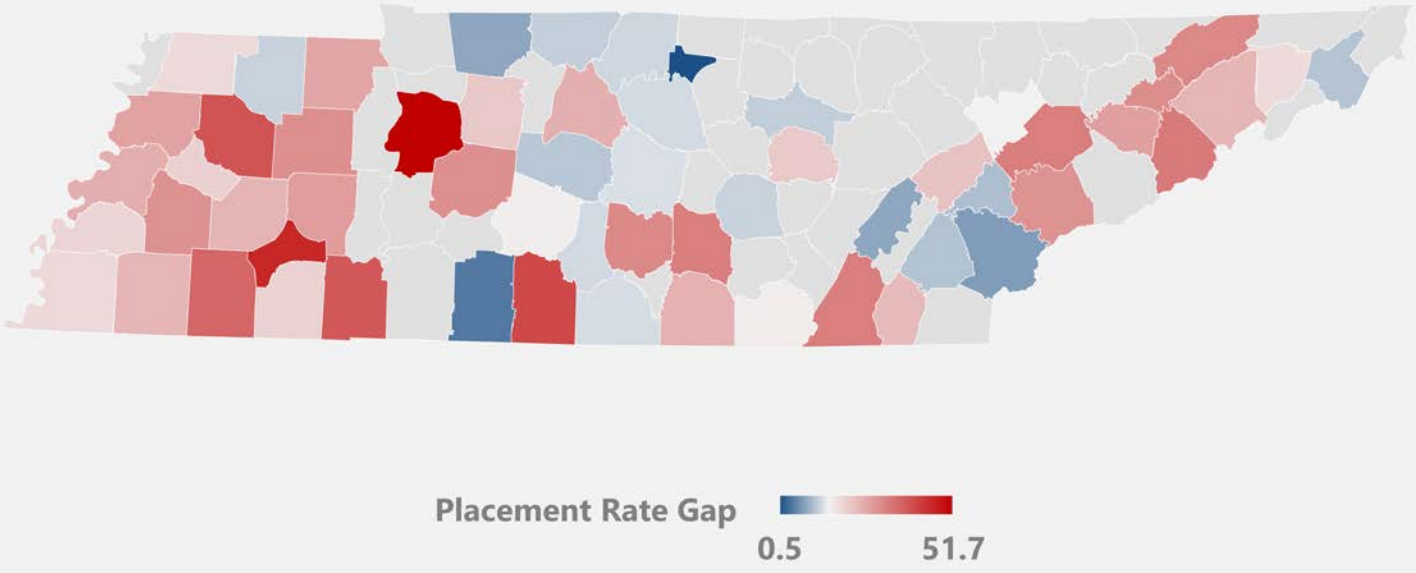


Figure 7: Learning Support Placement Gap between Black and White First-Time Freshmen, 2015 - 2019



Note: Counties with fewer than 10 Black or 10 White students were omitted from Figure 5. These counties are depicted in grey. If the placement rate gap is lower, as is the case for counties depicted in blue, that means that the gap between Black and White students in learning support placement was small. If the metric is higher, as is the case for counties depicted in red, the gap in placement between Black and White students was relatively larger.

Success in Learning Support

Gateway Course Enrollment

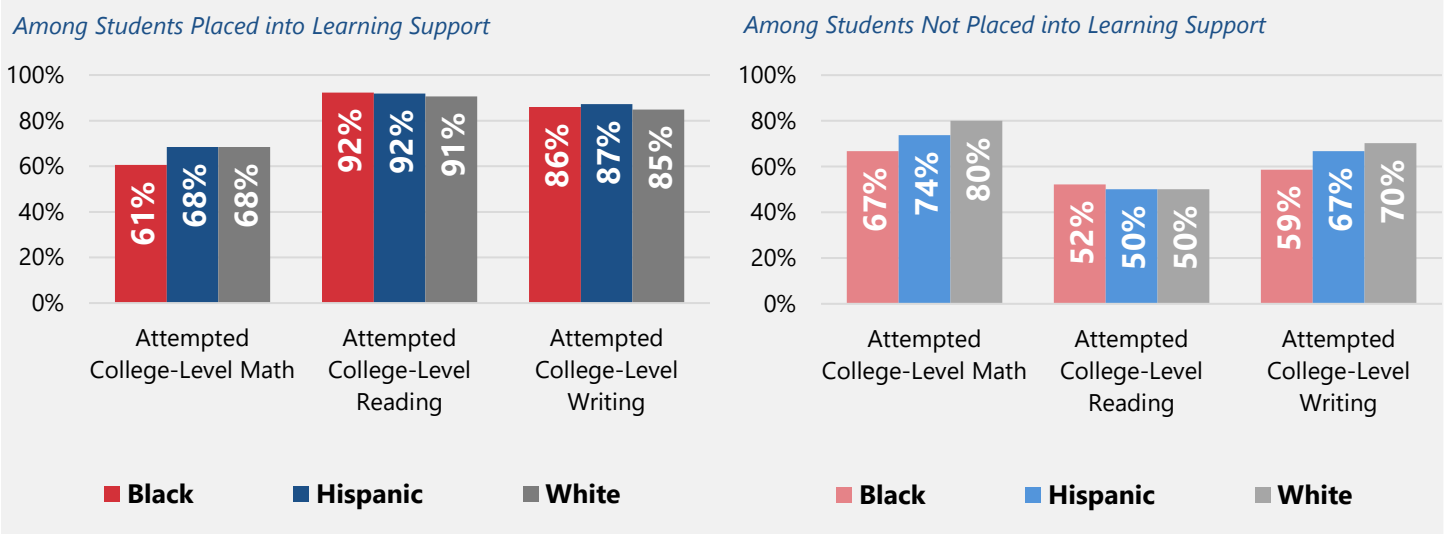
Corequisite learning support made it possible for each student to enroll in college-level courses in their first year regardless of their learning support placement. **Figure 8** below show that most learning support students attempted college-level courses, but differences existed by student group and subject. For example:

- In *math*, 61% of Black learning support math students attempted a college-level math course in their first academic year—nearly eight percentage points lower than the rates for Hispanic and White learning support math students.
- In *reading*, on the other hand, most students who were placed into learning support for reading did attempt a paired college-level reading course in their first academic year, regardless of race and ethnicity. In fact, Black students who were placed into learning support for reading attempted a college-level reading course at slightly higher rates than their Hispanic and White peers in their first academic year.
- *Writing* follows a similar trend as reading: 86% of Black learning support writing students attempted college-level writing in their first academic year, which was higher than the rate for White students.

Lower rates of enrollment in college-level math courses may be a result of the fact that *Black students are far more likely than other students to be placed into learning support for all three subjects*, as discussed in the previous section. TBR's learning support policy requires that "learning support competencies should be addressed as quickly as possible" but recommends that "it may be appropriate to address literacy requirements prior to math" (TBR, 2019). Thus, one reason fewer students who require learning support attempt college-level math is that they may require learning support in multiple subjects and were addressing reading and writing requirements first.

For students who do not require learning support, gateway course enrollment patterns differ. Since 2015, only half of first-time students who did not require learning support in reading attempted one of the college-level courses that are typically paired with reading in their first year. However, non-learning support students attempted college-level math and writing courses at comparable or slightly higher rates than learning support students.

Figure 8: Gateway Course Enrollment Rates in Students' First Year, 2015-2019



Gateway Course Success

Passing Gateway Courses When Attempted

Course pass rates reflect the success of students in college-level gateway courses among students who attempted those courses. This metric helps illuminate patterns in student success among students who can enroll in gateway courses.

In all subjects, students who were placed into learning support had lower course pass rates than students who were not placed. However, even among learning support students, gaps in pass rates were present across students' subgroups as **Figure 9** shows.

- In *math*, 48% of Black students who were placed into learning support for math and who attempted a gateway math course passed the college-level course, compared to 62% of White students who were placed into learning support for math.
- For *reading* and *writing*, gaps between Black and White students were present but were relatively smaller than the gaps in math pass rates.

Notably, Hispanic students in all learning support subject areas passed college-level math, reading, and writing courses at comparable or higher rates than White students.

About the Data

The dataset for this analysis uses the end-of-term enrollment data and course data to explore outcomes for first-time freshmen. Low-income students are identified based on whether the student received a Pell Grant during their first term.

Learning support placement is based upon the subjects for which students qualify for support, not enrollments in learning support.

Gateway courses are college-level courses that students typically take in their first year. For math, this includes all 1000-level math courses. For writing, this is English 1010. For reading, this includes courses that are paired with learning support reading.

Student success outcomes are analyzed at the conclusion of the student's first academic year as a first-time freshman, including the preceding summer, fall, spring, and trailing summer, as well as any known prior credit from dual enrollment at community colleges.

Gateway Course Enrollment: Reflects the proportion of first-time freshmen who attempted a college-level gateway course in the subject area.

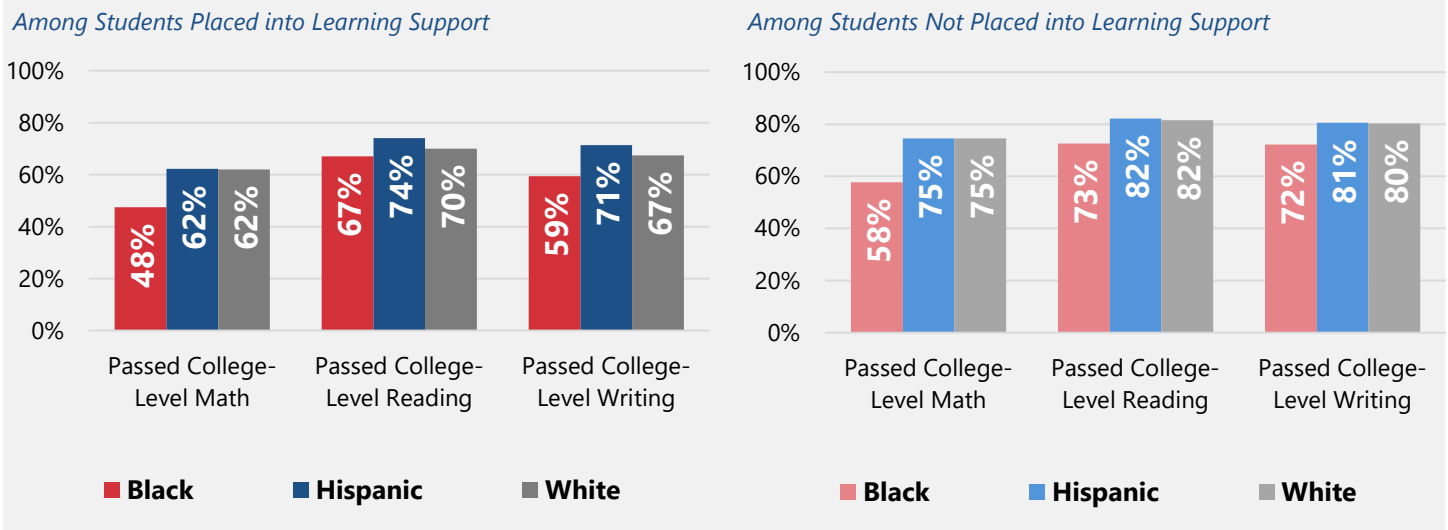
Gateway Course Pass Rates: Reflects the proportion of first-time freshmen who passed the college-level course with a grade of D or better. This is calculated as the number of students who passed the course divided by the number of students who attempted the course.

Gateway Course Completion: Reflects the proportion of first-time freshmen who attempted and passed the college-level course with a grade of D or better. This is calculated as the number of students who passed the course divided by the total number of students in the cohort or subgroup.

Retention Rates: Reflects the proportion of first-time freshmen who returned as a student at any TBR community the following spring or fall, or who earned a degree or certificate prior to the start of the following spring or fall.

Graduation Rates: Reflects the proportion of first-time, full-time freshmen who earned a degree or certificate at any TBR community college within three years of enrolling.

Figure 9: Gateway Course Pass Rates in Students' First Year, 2015-2019



Completing Gateway Courses in the First Year

Course completion rates reflect how many first-time students successfully passed college-level gateway courses but are not limited to students who attempted those courses. Completion rates, therefore, illuminate patterns *both* in student access to gateway courses *and* their success in those courses.

As **Figure 10** shows, Black learning support students completed gateway courses at lower rates than other learning support students. From 2015 to 2019:

- In *math*, 29% of Black learning support students completed a college-level math course by the end of their first year. This compares to 43% of Hispanic students and 42% of White students. This represents a 14-percentage point gap between Black and White students.
- In *reading*, the gap between Black students and other students was smaller: 62% of Black learning support students completed a college-level reading course, compared to 68% of Hispanic students and 64% of White students.
- In *writing*, 51% of Black students completed a college-level writing course by the end of their first year, compared to 54% of Hispanic students and 57% of White students.

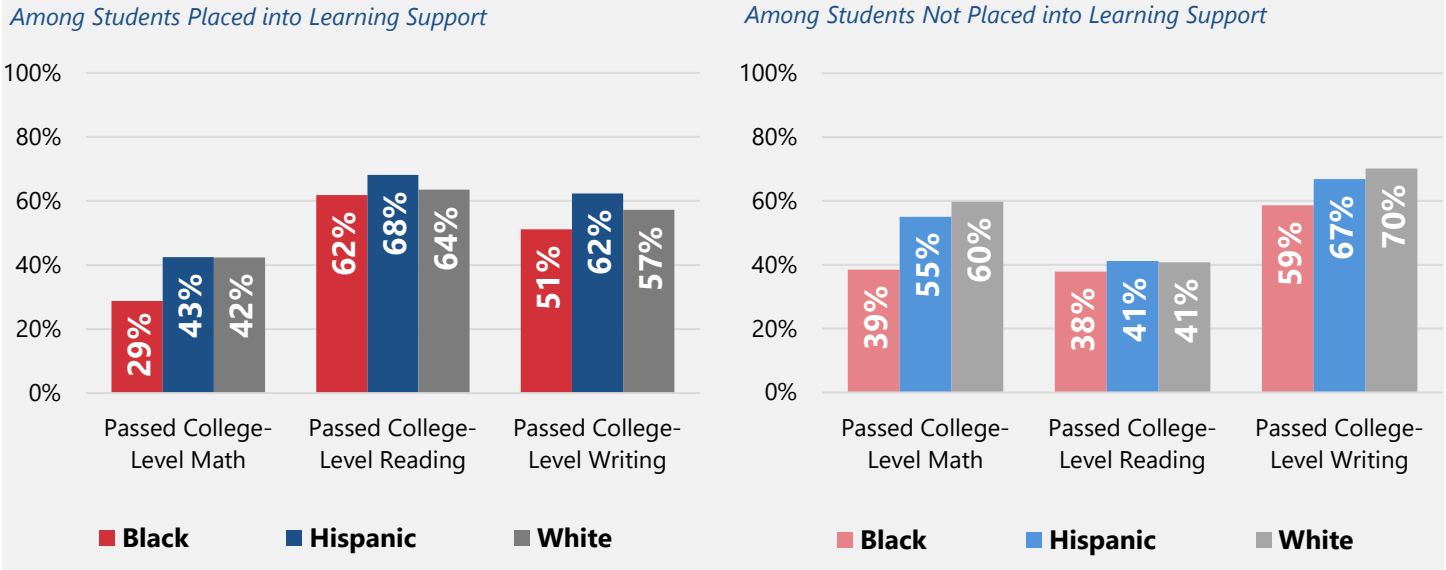
Notably, however, after controlling for other factors such as students' income, gender, age, college, ACT scores, high school GPA, and term, Black students *are equally as likely* to complete gateway courses in their first academic year as Hispanic and White students. While descriptive analyses demonstrate gaps in gateway course completion between Black and White learning support students, these gaps are *not statistically significant* once we account for other factors.[3]

The gap in gateway math completion rates between Black students compared to Hispanic and White students may be influenced by two related factors:

- Black learning support students *attempted* college-level math courses at lower rates, as discussed in the previous section. Black students are far more likely to be placed into learning support for all three subject areas, which likely results in delays in math enrollment due to guidance provided in TBR's learning support policy.
- On average, ACT subject scores and high school GPAs were lower among Black students than among Hispanic and White students.

The following section explores outcomes in college-level math courses in greater detail.

Figure 10: Gateway Course Completion Rates in Students' First Year, 2015-2019



[3] The data appendix at the conclusion of this report includes more detailed results of these analyses.

A Closer Look at Math

The largest gaps in gateway course success exist for students who are placed into learning support for math.

Distribution of ACT Math Scores

As **Figure 11** shows, the distribution of ACT math scores was lower among Black learning support students than among White learning support students.

- For first-time students who were placed into math learning support from fall 2015 to 2019, the most common ACT math score was 16. The most common ACT math score for Black students who placed into learning support math was 15.
- 57% of Black learning support math students had ACT math scores of 15 and below. In contrast, 34% of White students had math scores of 15 and below.
- Additionally, 37% of White students in math learning support had ACT scores of 17 or 18, compared to 17% of Black students.

Gateway Math Completion Rates

Black learning support students completed gateway math courses at lower rates than White learning support students. However, this gap differed across ACT math scores, as **Figure 12** shows.

- The gap between Black and White students was narrow at lower ACT scores. While completion rates rose for both subgroups as ACT math scores rose, a gap emerges between Black and White students with ACT math scores above 16.
- Black students with an ACT math score of 15 complete gateway math courses at the same rate as White students with the same score. However, among Black students with an ACT math score of 18, 43.2% completed a gateway math course, compared to 56.2% of White students with the same score.

However, as shown in **Figure 13**, gateway math completion rates track more closely to high school GPA than with ACT math scores. Small gaps between Black and White students are still present even after accounting for students' high school GPAs, especially for students with high school GPAs below 3.0. For students with GPAs above 3.0, gaps are less clear, but this may be due to small sample sizes.

Figure 11: ACT Math Scores Among Learning Support Math Students, 2015-2019

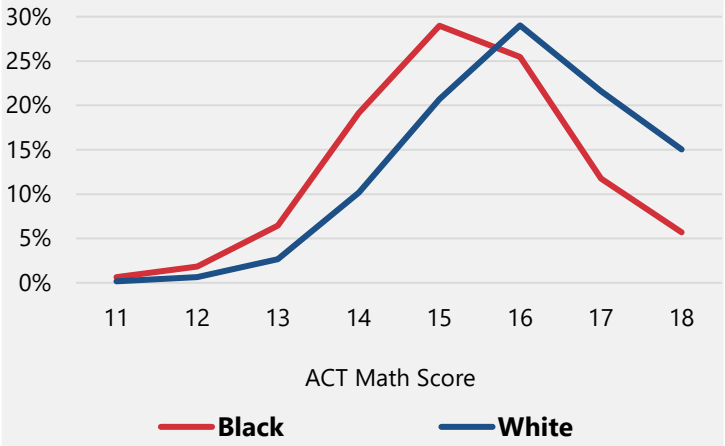


Figure 12: Gateway Math Completion Rates for Learning Support Students by ACT Math Subscore, 2015-2019

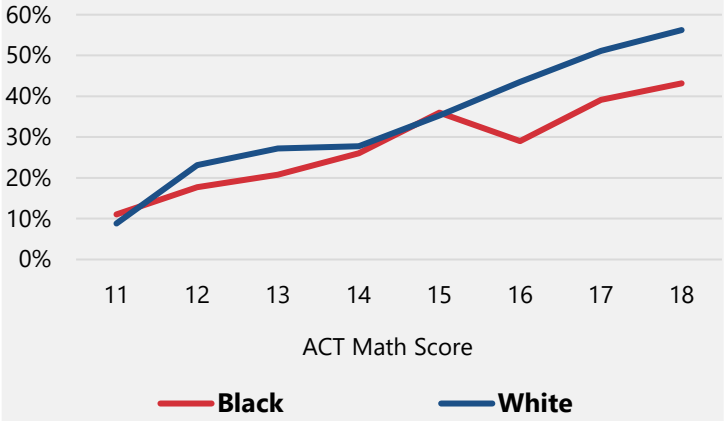
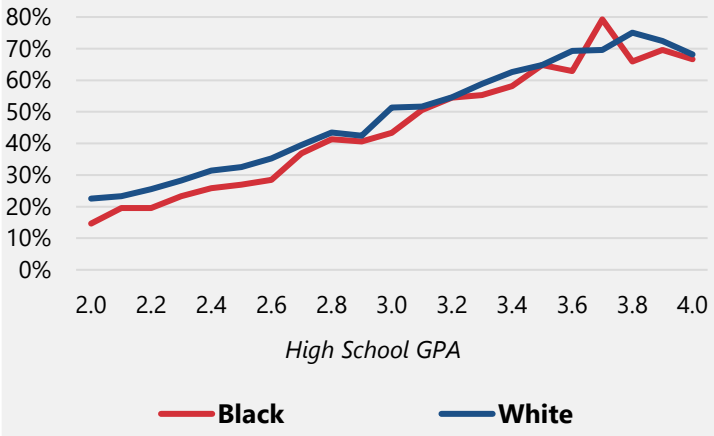


Figure 13: Gateway Math Completion Rates for Learning Support Students by High School GPA, 2015-2019



First-Year Retention Rates

Fall-to-Spring Retention

Figure 14 shows fall-to-spring retention rates for learning support students. Among first-time freshmen placed into learning support for at least one subject area, fall-to-spring retention rates were highest among Hispanic students: 74% of Hispanic students in learning support persisted to the following semester.

Retention rates were lowest for Black students: only 68% of Black learning support students persisted to the following semester, compared to 71% of White learning support students.

Fall-to-Fall Retention

Figure 15 shows fall-to-fall retention rates for learning support students. Here, the gap between Black and White students grew. Among Black learning support students, 41% of students persisted compared to 48% of White learning support students. Retention rates were again highest among Hispanic students: 53% of Hispanic learning support students persisted.

As **Table 5** shows, Among Black students who were placed into learning support for all three subject areas (the most common placement for Black students), only 37% persisted to the following fall semester.

Table 5: Fall-to-Fall Retention by Learning Support Placement, 2015-2019

Subject Area	Black Students	White Students	Difference
Math Only	50.0%	54.7%	-4.9 pp
Reading Only	55.6%	54.9%	-0.6 pp
Writing Only	48.5%	49.9%	-1.4 pp
Math & Reading	47.3%	47.1%	-0.2 pp
Math & Writing	42.6%	46.6%	-4.0 pp
Reading & Writing	41.7%	44.2%	-2.5 pp
Math, Reading, & Writing	37.1%	41.1%	-4.1 pp
Any Placement	41.3%	48.5%	-7.2 pp
No Placement	48.5%	62.6%	-14.2 pp
All Students	**47.3%**	**52.7%**	**-5.4 pp**

Figure 14: Fall-to-Spring Retention, 2015-2019

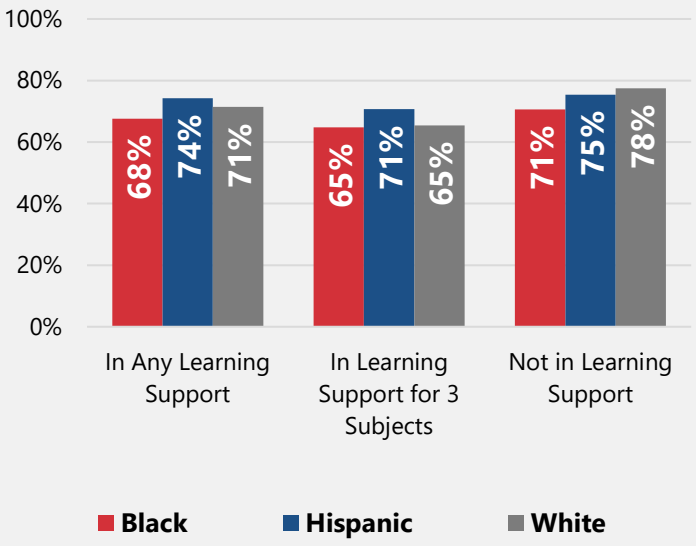
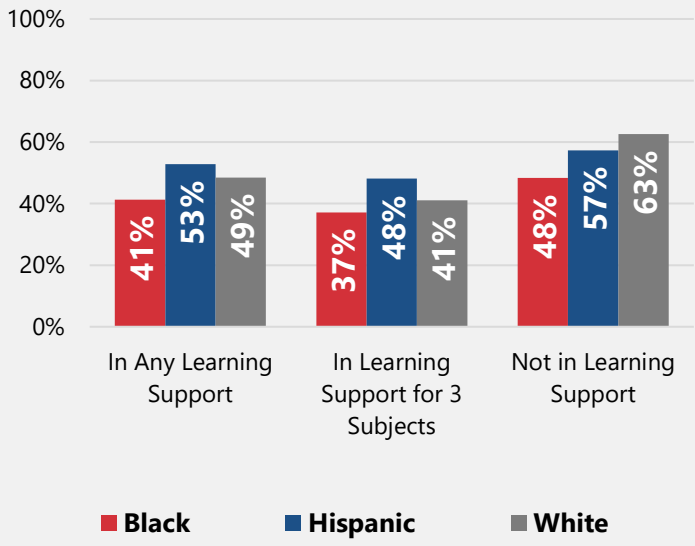


Figure 15: Fall-to-Fall Retention, 2015-2019



Three-Year Graduation Rates

Figure 16 and **Table 6** show three-year graduation rates for first-time, full-time students who were placed into learning support upon enrolling in college.

Students who were placed into learning support for at least one subject graduated at the lowest rates of any student group. *Within every combination of learning support placement, however, Black students graduated at lower rates than their Hispanic and White peers.*

For Black students who enrolled as first-time, full-time freshmen from 2015 to 2017 and who did *not* place into learning support for any subject, 24% graduated with a degree or certificate by summer 2020. However, among students who were placed into learning support for at least one subject, 9% graduated within three years.

For Black students who were placed into learning support for all three subject areas from 2015-2017 (the most common placement for Black students), 6% graduated within three years.

For White first-time, full-time students who entered in 2017, 19% of White learning support students graduate within three years. For White students who were placed into learning support for Math alone (the most common placement for White students), 26% graduated within three years. Even among White students who were placed into learning support for all three subject areas, White learning support students graduated at a rate that was nearly twice as high as similarly placed Black students.

Three-year graduation rates for Hispanic students were similar to those of White students, both among learning support students and non-learning support students.

Figure 16: Three-Year Graduation Rates for First-Time, Full-Time Freshmen, 2015-2017

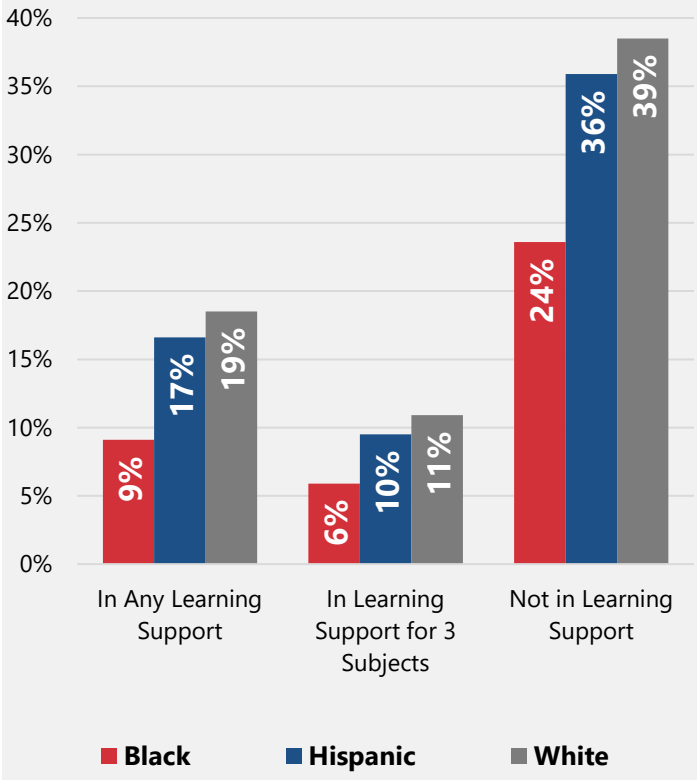


Table 6: Three-Year Graduation Rates by Learning Support Placement, 2015-2017

Subject Area	Black	White	Difference
Math Only	18.3%	25.6%	-7.2 pp
Reading Only	17.4%	23.2%	-5.7 pp
Writing Only	13.4%	20.1%	-6.7 pp
Math & Reading	11.2%	18.1%	-6.9 pp
Math & Writing	11.3%	15.3%	-4.1 pp
Reading & Writing	8.3%	13.3%	-5.0 pp
Math, Reading, & Writing	5.9%	10.9%	-5.1 pp
Any Placement	9.1%	18.5%	-9.4 pp
No Placement	23.6%	38.5%	-14.9 pp
All Students	**11.1%**	**28.2%**	**-17.1 pp**

Key Takeaways

Tennessee's community colleges are committed to closing equity gaps that persist for students of color, low-income students, and other groups who have been traditionally underserved. When corequisite learning support was implemented systemwide in 2015, the system's learning support policy acknowledged that these reforms "reflected the commitment of the College System of Tennessee and its institutions to enhance access to and success in postsecondary education for all students" (TBR, 2019a). Still, gaps persist for Black learning support students, especially in college-level math courses.

From 2015 to 2019, Black and Hispanic students were placed into learning support at higher rates than White students.

- From fall 2015 to 2019, 85% percent of Black first-time freshmen and 66% of Hispanic first-time freshmen at community colleges were placed into learning support for at least one subject area, compared to 53% of White first-time freshmen.
- Placement gaps are present across all learning support subject areas. Nearly half of Black students were placed into learning support for all three subject areas—at nearly four times the rate of White students.

Learning support placement patterns differed across the state. However, in every Tennessee county, Black students were placed into learning support at higher rates than their White peers.

- In Shelby County, 89% of Black students were placed into learning support, compared to 61% of White students.
- In Davidson County, 86% of Black students were placed into learning support, compared to 61% of White students.

Despite differences in placement rates, Black and Hispanic learning support students complete gateway reading and writing courses at relatively similar rates to White students. **However, gaps persist for college-level math courses.**

- Academic preparation may account for some of these differences; among students placed into learning support, Black students had lower ACT math scores, on average, than White students.
- The need to address reading and writing learning support may also explain some of this gap. Black students were more likely to be placed into learning support for all three subjects. For students with three placements, TBR policy recommends that students complete reading and writing in the first semester, even if it means delaying math enrollment, which means some Black students never had the chance to take a college-level math course.

Gaps between Black and White learning support students were also present in persistence and graduation rates. For Black students who were placed into learning support for all three subject areas from 2015-2017 (the most common placement for Black students), only 6% of students graduated within three years.

This working paper is part of *Gaining Momentum: Refining Corequisite Learning Support to Boost Student Success in the First Year and Beyond.* ***Click here to learn more about this project.***

Additional Resources

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TBR--The College System of Tennessee. (2019a). TBR Learning Support Policy. policies.tbr.edu/policies/learning-support-formerly-100

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TBR—The College System of Tennessee. (2021). *Tennessee Corequisite Placement Pilot: Adding High School GPA for Learning Support Placement*. www.tbr.edu/sites/default/files/media/2021/04/TennesseeCorequisitePlacementPilotApril2021_2.pdf

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Data Appendix

Appendix Table A1: Probability of Placement into Learning Support, First-Time Freshmen, Fall 2015-Fall 2019

	Any Learning Support			Learning Support Math			Learning Support Reading			Learning Support Writing		
	Marginal Effect	Standard Error		Marginal Effect	Standard Error		Marginal Effect	Standard Error		Marginal Effect	Standard Error	
Low-Income	0.030	0.005	***	0.000	0.004		0.015	0.003	***	0.015	0.003	***
Asian	0.025	0.019		0.036	0.016	*	0.012	0.011		0.010	0.013	
Black	0.040	0.008	***	0.019	0.006	**	0.020	0.004	***	0.002	0.004	
Hispanic	0.018	0.009	^	0.029	0.007	***	0.002	0.005		0.002	0.005	
Other Race/Ethnicity	0.028	0.011	**	0.021	0.008	*	0.005	0.006		0.012	0.006	^
Male	-0.012	0.005	*	-0.002	0.004		-0.020	0.002	***	0.015	0.003	***
Age	0.013	0.004	**	0.010	0.003	***	-0.004	0.002	**	0.000	0.002	
Recent High School Grad	-0.123	0.010	***	-0.232	0.010	***	0.020	0.005	***	0.014	0.006	*
High School GPA	-0.130	0.005	***	-0.056	0.004	***	-0.022	0.002	***	-0.032	0.003	***
ACT Subject Score	-0.149	0.001	***	-0.112	0.001	***	-0.067	0.001	***	-0.082	0.001	***
Learning Support Math							0.055	0.003	***	0.074	0.003	***
Learning Support Reading				0.036	0.004	***				0.150	0.003	***
Learning Support Writing				0.061	0.004	***	0.162	0.003	***			
Number of Observations	87,693			87,655			87,658			87,646		

Note: Each panel reflects a separate logit estimation of the probability of a student being placed into a learning support course. Each model also includes controls for institution and term. The model predicting placement into any learning support includes the students' ACT composite score; other models include the ACT subject score that is used to determine placement. Estimates were calculated with robust standard errors. ***p<.001 **p<.01 *p<.05 ^p<.10

Appendix Table A2: Probability of Completing a Gateway Course in the First Year, First-Time Freshmen, Fall 2015-Fall 2019

	College-Level Math			College-Level Reading			College-Level Writing		
	Marginal Effect	Standard Error		Marginal Effect	Standard Error		Marginal Effect	Standard Error	
Low-Income	-0.032	0.004	***	-0.007	0.004	^	-0.019	0.004	^
In Learning Support Math	0.021	0.005	***	0.035	0.005	***	-0.012	0.004	***
In Learning Support Reading	-0.107	0.005	***	0.296	0.006	***	-0.091	0.005	***
In Learning Support Writing	-0.067	0.005	***	-0.001	0.006		-0.021	0.005	
Asian	0.117	0.017	***	0.020	0.018		0.010	0.015	
Black	-0.008	0.007		0.010	0.007		-0.021	0.006	
Hispanic	0.060	0.008	***	0.045	0.008	***	0.034	0.007	***
Other Race/Ethnicity	-0.022	0.009	*	-0.006	0.009		-0.016	0.008	
Male	-0.001	0.004		-0.021	0.004	***	-0.019	0.003	***
Age	0.006	0.003	**	0.008	0.003	**	0.004	0.002	**
Recent High School Grad	0.058	0.009	***	0.066	0.009	***	0.039	0.008	***
High School GPA	0.038	0.004	***	0.212	0.004	***	0.278	0.004	***
ACT Subject Score	0.011	0.001	***	-0.005	0.001	***	-0.009	0.001	***
Number of Observations	87,655			87,658			87,658		

Note: Each panel reflects a separate logit estimation of the probability of a student attempting and passing a college-level course with a grade of D or better by the conclusion of their first academic year of enrollment (including fall, spring, trailing summer, and any known credit earned prior to the student's first-time freshman term. Each model also includes controls for institution and term. Estimates were calculated with robust standard errors. ***p<.001 **p<.01 *p<.05 ^p<.10