



From Reconnection to Graduation

Volunteer State Community College

Meeting the Needs of Returning Adult Students at Community Colleges

TBR | The College System of Tennessee
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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 serving approximately 140,000 students each year.


The system is governed by the Tennessee Board of Regents.

This working paper is part of *Pathways to Success for Students with Some College, No Degree*-- a TBR project focused on paving the path to success for adult students at the state's community and technical colleges.

We are grateful to Ascendium Education Group for their financial support of this project.

From Reconnection to Graduation

- ➔ **More than half a million Tennesseans** have some college credit but no degree. Many of these Tennesseans made substantial progress toward a degree before leaving college.
- ➔ Over the past decade, 113,000 adults with some college but no degree reconnected with higher education at Tennessee community colleges. We call these students **reconnectors**.
- ➔ Upon re-enrolling, **fewer than half of reconnectors enrolled at the same college** where they were previously enrolled before stopping out of college.
- ➔ Among students who reconnected at Tennessee community colleges since 2010, **21% graduated within three years of reconnecting, and 26% graduated within six years.**

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- Some reconnectors faced significant obstacles on their path to success.**
- Success rates were much *lower* for students who enrolled in fully online courses during their reconnecting semester. This was especially true for students who reconnected at a different college than where they previously attended.
 - Equity gaps in success rates are *persistent*. These findings point toward the need for further research on the paths to success for Black reconnectors, low-income reconnectors, and female reconnectors.
 - Most adult students worked while enrolled and were responsible for childcare. Many adult students wanted *more* help from their colleges in balancing school with their life outside of the classroom.



To promote the success of reconnectors, we must ensure that advisors, success coaches, and faculty have the information they need to tailor their support of reconnecting students. **We identified four distinct groups of reconnectors** based on their enrollment history.

The Returners

- Reconnecting at the *same* college where they last attended.
- Earned *fewer* than 30 credits prior to their break.
- **13%** graduate within three years of reconnecting, and **19%** graduate within six years.

The Newcomers

- Reconnecting at a *different* college than where they last attended.
- Earned *fewer* than 30 credits prior to their break.
- **19%** graduate within three years of reconnecting, and **24%** graduate within six years.

The Comebackers

- Reconnecting at the *same* college where they last attended.
- Earned 30 or *more* credits prior to their break.
- **28%** graduate within three years of reconnecting, and **33%** graduate within six years.

The Fresh Starters

- Reconnecting at a *different* college than where they last attended.
- Earned 30 or *more* credits prior to their break.
- **27%** graduate within three years of reconnecting, and **32%** graduate within six years.

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The Question

Across Tennessee, more than 595,000 working-age adults have earned college credit but do not have a postsecondary credential. In other words, one in six Tennesseans between ages 25 and 64 previously attended college but did not graduate ([Lumina Foundation, 2020](#)).

Adults without a postsecondary credential face significantly worse employment outcomes than degree earners, according to a growing body of research ([Shapiro et al., 2019](#); [Bird et al., 2020](#)). As the supply of college-educated workers is expected to fall short of employer demand over the next decade, states have sought new ways to fill middle-skills jobs that require education beyond high school but not a four-year degree ([Carnevale, Smith, & Strohl, 2013](#); [National Skills Coalition, 2020](#)).

While these economic realities were present before the COVID-19 pandemic, its economic effects may exacerbate gaps between college graduates and those without a credential. Therefore, the COVID-19 crisis has sharpened states' focus on adult educational attainment. Essential programs offered at community colleges have become a focal point of these efforts, especially in critical areas like healthcare and logistics ([Bergson-Shilcock, 2020](#); [Cortez, 2020](#); [Jenkins & Fink, 2020](#)).

In response to the growing economic demands over the past decade, many states launched efforts to re-engage students with **some college but no degree (SCND)**. Over the past decade, Tennessee has invested in several such efforts to encourage adults to reconnect with college. Most notably, in 2018, the state launched *Tennessee Reconnect*, a last-dollar scholarship for adults that covers tuition and mandatory fees at community colleges. In the first year of the Tennessee Reconnect scholarship, community college enrollment by SCND adults rose almost 50% over the prior year--the first increase in adult re-enrollment since 2010 ([Lee et al., 2019](#)).

While statewide initiatives have lowered the barriers to accessing higher education for many SCND adults, these efforts alone may be insufficient to ensure adults' success. Among SCND students who re-enrolled over the past decade, 58% returned the following semester. *Only one in five SCND students who enrolled at a Tennessee community college over the last decade graduated within three years of reconnecting with college.*

Even more notably, significant equity gaps persist for Black and African American adult students.

At the same time, Tennessee community colleges have implemented a comprehensive suite of guided pathways over the past decade. These practices help students select a clear path to success, guide students to stay on their path, and ensure students are learning ([Bailey et al., 2015](#)).

However, these guided pathways were often designed for students entering college immediately after high school ([Jenkins et al., 2018](#)). More work needs to be done to build pathways for adult students who are enrolling part-time, working full-time, returning with prior credits earned, or who have experience that can be applied through assessments of students' prior learning.

To begin this work, this project seeks to build a body of evidence about the challenges that returning adults face, the strategies that promote their success after they return, and the data that can be leveraged to support them.

Key Questions

This paper will address several topics related to SCND students *in the following order*:

1. **Who are the *Potential Reconnectors*?** In this section, we will explore the pool of students we call *reconnectors* and explore how many SCND Tennesseans *could* re-enroll. We will also ask what their enrollment histories tell us about their departure from college or their advising needs when they return.
2. **Who are the *Reconnectors*?** In this section, we will ask how many SCND students have re-enrolled at Tennessee community colleges over the past decade and examine the data that can be leveraged to promote effective advising for these students.
3. **From *Reconnection to Graduation*:** In this section, we'll ask which reconnecting students are likely to succeed at a Tennessee community college and identify potential barriers to success.

Throughout, we will also explore the **Student Experience**, using survey data wherever possible to better understand how adult students' college experiences and non-academic responsibilities impact their success.



Tennessee College of Applied Technology at Knoxville

1

Who are the Potential Reconnectors?

- *Many SCND Tennesseans Last Attended a Community College*
- *Equity Gaps in Completion Rates Persist*
- *Employment Outcomes Lag for SCND Students*

1 The Potential Reconnectors

In 2015, as Tennessee set an ambitious educational attainment goal in the Drive to 55, the state's [Master Plan for Higher Education](#) identified adults with some college but no degree (SCND) as the "'sleeping giant' that must be awakened in order for the Drive to 55 to be realized." Without ensuring the success of these students, "it will be impossible to achieve the mission of the Drive to 55 without re-engaging these students and helping them finish their degree or certificate."

In Tennessee and across the country, the re-enrollment and success of returning adult students remains a critical component of the work of community colleges. A significant body of existing research has described the characteristics of SCND students and the potential barriers to their success. For example:

- In 2019, the National Student Clearinghouse identified 36 million people in the SCND population. Of these people, 67% last attended a community college ([Shapiro et al., 2019](#)).
- Similarly, a 2019 survey found that 52% of SCND Americans stopped out of associate degree programs ([Strada, 2019](#)). When asked why they left college before completing a degree, SCND students frequently mentioned difficulties in balancing school and work.
- In the labor market, SCND individuals fare better than people with no college experience at all ([Giani et al., 2020](#)) but see less favorable outcomes than college graduates ([Bird et al., 2020](#)).

In Tennessee, an estimated 595,173 people have some college but no credential, representing almost 17% of Tennessee residents ages 25-64 ([Lumina, 2020](#)). According to data from the U.S. Census Bureau [American Community Survey](#), more than 100,000 SCND Tennesseans live in Shelby County alone.

To better understand the SCND population in Tennessee, this section sheds light on questions about the enrollment histories of SCND Tennesseans and their employment outcomes compared to graduating peers.

Many SCND Tennesseans Last Attended a Community College

Using data on all undergraduate students enrolled at Tennessee public higher education institutions and select in-state private institutions, we first identified a population of SCND students who experienced a break in enrollment of at least three years. To examine long-term outcomes, we focused on students whose break in enrollment began between 2009 and 2014. We then focused on the subset of SCND Tennesseans who made substantial progress toward completion of a credential before their break.

245,363

Tennesseans left college between 2009 and 2014 without a degree

217,377

were between ages 18 and 50 at the time of their break

152,032

earned at least 30 credits before the break in enrollment

108,729

had a cumulative GPA of at least 2.0 at the time of their break

About the Data

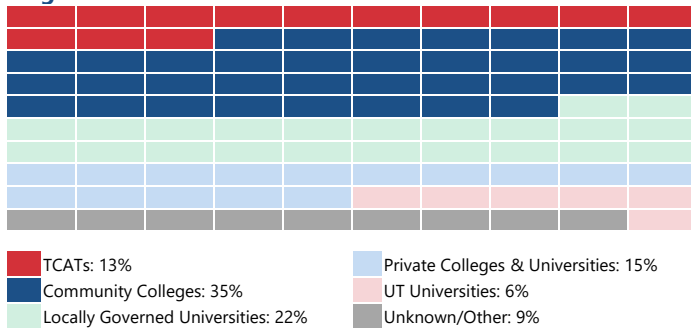
To shed light on the population of SCND Tennesseans, we used data from P20 Connect, the state's longitudinal data system. For this section of the report, the data included information from 2004 to 2018.

Using this dataset, we identified students who were enrolled but did not graduate. Then, we compared SCND students to their peers who graduated during the same period.

Building upon prior research from the Virginia Community College System ([Bird et al., 2020](#)), we further examined a subset of SCND students who may be most likely to re-enroll. Additional details about this sub-sample can be found in the *Data and Methodology* section at the end of this report.

From the 245,363 SCND Tennesseans who left college between summer 2009 and spring 2014, we further focused on the group of who were between the ages of 18 and 50 at the time of their break in enrollment, earned 30+ credits before their break, and had a cumulative GPA of at least 2.0. These students represent a subset of SCND Tennesseans who may be most likely to re-enroll (Bird et al., 2020). Of the 108,000+ students who met these criteria, nearly half last attended a public, in-state community or technical college. Figure 1 below shows the proportion of SCND students by their last college of enrollment prior to their break; 35% of these students last attended a Tennessee community college.

Figure 1: Sector of Last Enrollment for SCND Students



Among the SCND Tennesseans who last attended a community college, many had made substantial progress toward graduation. However, as in previous research, many SCND Tennesseans may have experienced a personal or academic shock during their final semester (Bird et al., 2020). The average GPA for SCND Tennesseans in this group who last attended a community college dropped from 2.9 to 1.6 in the break term, and SCND students completed only 50% of their attempted credits during their final term.

Equity Gaps in Completion Rates Persist

As Table 1 below shows, SCND outcomes reflect the persistent equity gaps in completion rates at community colleges. While 11% of community college graduates in this subset were Black, 21% of SCND students were Black.

Table 1: SCND Students who Departed Community Colleges

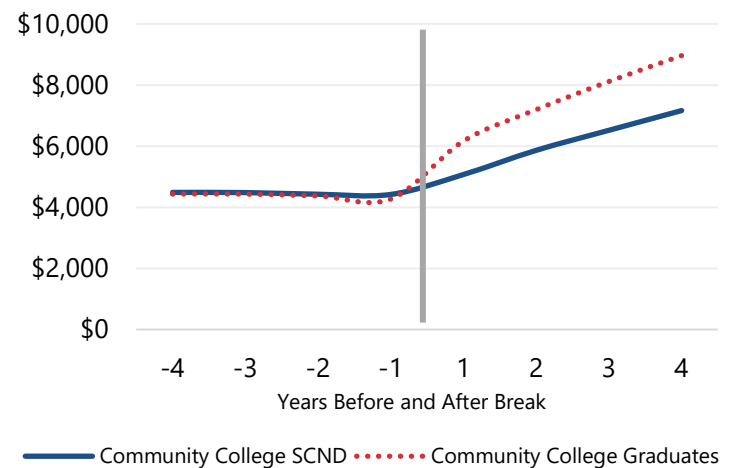
	SCND	Graduates
Female	61%	61%
Asian	2%	2%
Black or African American	21%	11%
Hispanic	3%	2%
White	70%	82%

Employment Outcomes Lag for SCND Students

For the subset of SCND Tennesseans described here, data on employment and wages show different outcomes for SCND students relative to students who graduated during the same period. Using Unemployment Insurance (UI) records, we can observe employment and wages for students four years before and four years after their departure from college.

Among community college graduates from 2009 to 2014, 78% were employed in Tennessee four years after leaving college, compared to only 66% of SCND students who last attended a community college. Additionally, as Figure 2 below shows, graduates out-earned SCND students soon after departing from community colleges, and the gap between graduates and SCND students grew over time. Four years after their break, Tennessee community college graduates earned, on average, \$1,800 more per quarter than SCND students.

Figure 2: Average Quarterly Wages Pre- and Post-Break



Note: Wages are based on the median quarterly non-zero wages for students where at least one quarterly employment record can be observed in each year prior to and after the break in enrollment. The vertical grey line represents the timing of the students' enrollment break.



More than half a million Tennesseans have some college credit but no degree. Many of these students last attended a community college, and some have made substantial progress toward a credential. Re-engaging these students is critical for reaching our attainment goal, closing equity gaps, and improving long-term employment outcomes.



Tennessee College of Applied Technology at Hohenwald

2

Who are the Reconnectors?

- *The Reconnectors' Return to College*
- *A Typology of Reconnectors*
- *Reconnectors' Prior College Enrollment*
- *When SCND Students Re-Enroll*
- *The Reconnecting Term*
- *Reconnectors' Background and Characteristics*

2 Who are the Reconnectors?



From 2010 to 2020, more than 205,000 adult students (age 25 and older) enrolled at Tennessee community colleges.

After peaking during the depths of the Great Recession, adult enrollment at Tennessee community colleges declined steeply over the next decade. During the 2010-2011 academic year, 48,635 adult students enrolled at community colleges. By 2017-2018, that number declined 40% to 29,306 adults.

Figure 3 shows adult enrollment at community colleges over the past decade. Most adult students had some prior experience with higher education. A smaller number (only 2,738 adult students in 2019-2020) were enrolling in college for the first time. During each year or term, we can categorize adult students into three groups based on their prior enrollment history, as described in Figure 4 below.

Figure 3: Adult Students at Tennessee Community Colleges

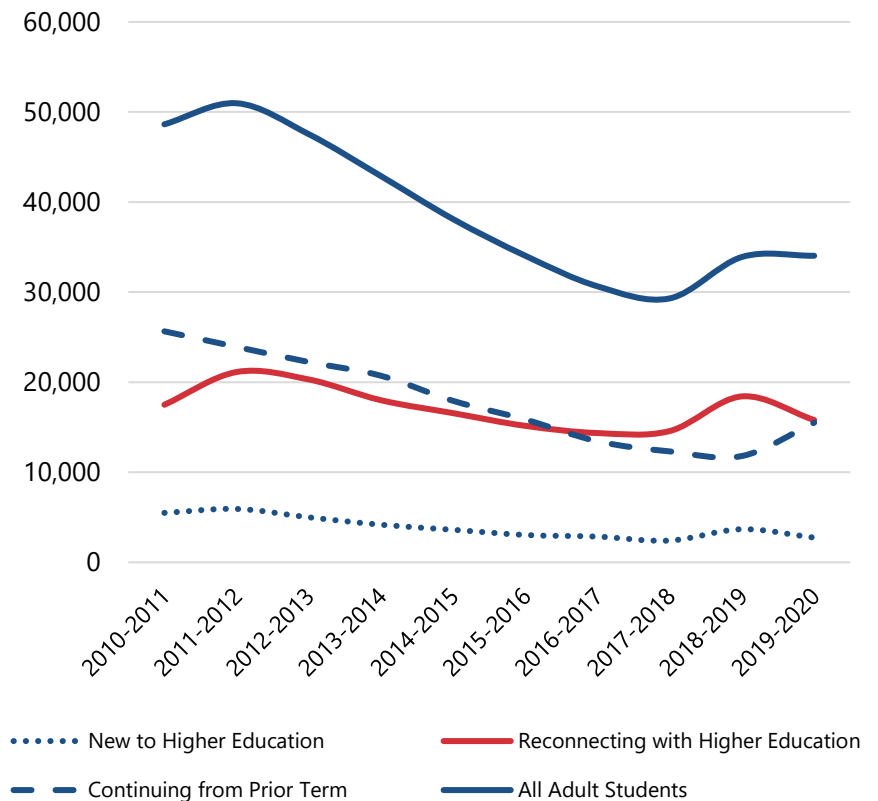


Figure 4: Three Types of Adult Students

New adult enrollees

Students age 25+ enrolling in higher education for the first time

Continuing adults

Students age 25+ who were enrolled in the prior term and remain enrolled

The reconnectors

Students age 25+ with prior college experience who are returning to college after at least a term away

Reconnectors were the largest group of adult students at community colleges. In 2019-2020, 46% of adult students at Tennessee community colleges were *reconnectors*—SCND students who are returning to higher education after some time away.

Although adult student enrollment declined over the past decade, the number of adult students increased 16% during the 2018-2019 academic year after the introduction of the *Tennessee Reconnect* scholarship. In that year, community colleges saw an influx in the number of *reconnectors*.

It's important to note that not all reconnectors, as described in this paper, are Tennessee Reconnect scholarship participants. New enrollees and continuing students are also eligible for participation in the Tennessee Reconnect scholarship, **so these terms are not synonymous.**

The Reconnectors' Return to College



From fall 2010 to fall 2020, more than 113,000 adults with some college but no degree reconnected at Tennessee community colleges.

The **reconnectors** are SCND students who re-enroll at Tennessee community colleges after some time away from higher education. For this portion of the analysis, we used enrollment data to identify a subset of students who:

- Had previously enrolled at any postsecondary institution from 1990 to 2020.
- Experienced a break in enrollment of at least one term (not counting summer terms).
- Returned to college after their enrollment break and enrolled as for-credit students at Tennessee community colleges from fall 2010 to fall 2020.
- Were age 25 or older when they first re-enrolled at a Tennessee community college.

From this subset of students, we also excluded students who had earned a degree (associate degree or higher) prior to reconnecting with college.

We also excluded students from the analysis whose enrollment was classified as transient, meaning they were enrolled in good standing at another institution and were taking courses intended to transfer to their regular institution. (For example, university students taking a single course at a community college over the summer before returning to their regular institution would be excluded here.)

Using these criteria, 113,337 reconnectors were identified at Tennessee community colleges from fall 2010 to fall 2020. Next, we analyzed the experiences of these students prior to their break in enrollment and upon reconnecting.

As noted in prior research, many SCND students re-enroll only to stop-out again and return again later ([Shapiro, et al. 2019](#); [Sheffer, et al. 2020](#)). Therefore, much of our analysis focused on the *first time* that a student reconnected at a Tennessee community college during the window where information was available from 2010 to 2020.

Adult SCND students who reconnect with college differ in meaningful ways that may impact their success, according to prior research ([Shapiro et al., 2019](#); [Sheffer et al., 2020](#)). For example, when we examined the first instance of re-enrollment among the 113,337 reconnectors to Tennessee community colleges from fall 2010 to fall 2020:

- 46% re-enrolled at the same college where they attended immediately prior to their break in enrollment; 54% changed colleges between their break and their reconnection.
- On average, reconnectors earned 23 credits prior to their break in enrollment. One in four reconnectors had previously earned three or fewer credits—having completed a single course or less prior to their break in enrollment.
- 65% of reconnectors were returning to college after more than five years away, and 27% of reconnectors returned after more than 10 years away from college.
- One in five reconnectors had enrollment records that stretched back to the 1990s.

About the Data

To learn more about Reconnectors at Tennessee community colleges, we used data from the TBR student information system. This dataset included data on enrollment, course outcomes, and awards at community colleges from 2010 to 2020. These data were supplemented with records from the National Student Clearinghouse dating from 1990 to 2020.

Reconnectors were identified based on their registration status and prior enrollment history. Here, we focused on SCND adults who returned to college after a break in enrollment of at least one fall or spring term.

Throughout this chapter of the analysis, we focused on Reconnectors' experiences at several points in time, including (1) All Reconnectors from 2010 to 2020; (2) Reconnectors in a specific term. For much of this analysis, we focused on the *first* time that a student reconnected with higher education during the period from 2010 to 2020. By focusing our analysis on a single point in time for each student (the first observable instance of their reconnection to college), we can more easily compare students' experiences during their prior enrollment, during their reconnecting term, and after reconnecting with college.

Additional details about this sub-sample can be found in the *Data and Methodology* section at the end of this report.

A Typology of Reconnectors

To understand the characteristics and outcomes of each type of returning adult student, Table 2 below summarizes the characteristics of **four types of reconnectors** according to dimensions that we find are key to understanding enrollment patterns and student success: (a) whether students are returning to the same college as their prior enrollment and (b) their progress toward a credential during their previous enrollment.

The next section identifies characteristics of reconnectors based on their prior college experiences, their experiences upon reconnecting with college, and their background. For each of these characteristics, we address the differences among four groups of Reconnecting experiences.



We grouped Reconnectors into four categories. We call these four groups the Returners, the Newcomers, the Comebackers, and the Fresh Starters.

Table 2: Four Types of Reconnectors

		How many credits did the student earn prior to their break in enrollment?	
		<30 Credits	30+ Credits
Did the student reconnect at the same college where they were previously enrolled before their break in enrollment?	Yes	<p>The Returners</p> <p>The Returners are re-enrolling at their previous college but earned few credits before their break. 23% of reconnectors were <i>Returners</i>.</p>	<p>The Comebackers</p> <p>The Comebackers are coming back to their previous college having earned a substantial number of credits before their break. 23% of reconnectors were <i>Comebackers</i>.</p>
	No	<p>The Newcomers</p> <p>The Newcomers are enrolling at a new college and had previously earned few credits. 34% of reconnectors were <i>Newcomers</i>.</p>	<p>The Fresh Starters</p> <p>The Fresh Starters are enrolling at a new college but have previously earned a substantial number of credits. 20% of reconnectors were <i>Fresh Starters</i>.</p>

Reconnectors' Prior College Enrollment

According to prior research, completion rates for returning adults are higher for students who made progress toward a credential prior to their break from higher education ([Shapiro et al., 2019](#)). To better understand these patterns for reconnectors, we examined the credits and number of terms that students were enrolled during their prior postsecondary experience before reconnecting.



Reconnectors earned 23 credits prior to their break in enrollment, on average.

During their prior enrollment, 43% of reconnectors earned more than a year's worth of college credit. However, reconnectors varied widely in their prior academic experiences. One in four reconnectors had previously earned three or fewer credits (equivalent to a single course). On the other hand, one in five reconnectors had previously earned more than 60 credits (more than is needed to complete an associate degree).

The number of credits that students earned prior to their break in enrollment is a key feature in our typology of reconnectors. On average, students classified as **Returners** had previously earned only 12 credits—a semester's worth of coursework. Students in **the Newcomers** group had earned 3.1 credits on average during their prior enrollment, representing a single course. However, **the Comebackers** and **Fresh Starters** had already earned, on average, nearly 60 credits during their prior enrollment.



The typical first-time reconstructor had previously been enrolled for four terms of college before their break.

On average, first time reconnectors had previously been enrolled in 4 terms (including fall, spring, and summer semesters). Half of first-time reconnectors had been enrolled for three semesters or fewer prior to their break in enrollment. The number of prior terms of enrollment differed across the categories of reconnecting students. On average, **the Returners** and **Newcomers** had previously been enrolled in two to four semesters, while **the Comebackers** and **Fresh Starters** had five to six prior terms of enrollment.

Table 3 below summarizes the prior enrollment experiences according to our typology of reconnectors.



Many students reconnect multiple times.

Of the students who Reconnected in fall 2018 (including both first-time reconnectors and repeated reconnectors), 37% of students had previously reconnected, stopped-out, and reconnected again at least once. One in ten reconnectors in fall 2018 was reconnecting for the third, fourth, or fifth time. As previous research has shown, many returning adult students will experience multiple cycles of stop-out and re-enrollment on their way to completion ([Sheffer et al., 2020](#)).

Table 3: Reconnectors' Prior Enrollment

	The Returners	The Newcomers	The Comebackers	The Fresh Starters	The Reconnectors	All
Median Credits Earned Before Stopping Out	12	3	57	59	23	23
Credits Earned Before Stopping Out						
<i>0 to 3 Prior Credits Earned</i>	24%	51%	0%	0%	23%	23%
<i>3.1 to 15.0 Credits Earned</i>	40%	26%	0%	0%	18%	18%
<i>15.1 to 29.9 Credits Earned</i>	36%	23%	0%	0%	16%	16%
<i>30.0 to 59.9 Credits Earned</i>	0%	0%	54%	51%	22%	22%
<i>More than 60 Credits Earned</i>	0%	0%	46%	49%	21%	21%
Average Terms of Enrollment Before Stopping Out	3	4	5	6	4	4

*Note: Credits include any college-level and remedial credits earned. The average terms of enrollment before stopping out is available only for 62% of first-time reconnectors. Missing data occurs for students whose prior enrollments could not be identified in TBR or National Student Clearinghouse data.

When SCND Students Re-Enroll

The typical SCND student left higher education after a short career at a community college, according to prior research on SCND students nationally. About one-third of returning SCND students in the United States re-enroll at the same institution where they were enrolled prior to their enrollment break. Further, when SCND students return to higher education after some time away, community colleges are their most traveled routes for re-enrollment and completion. The most successful returning students are those whose break from higher education was shortest ([Shapiro et al., 2019](#)).

We found similar outcomes for SCND students who reconnected at Tennessee community colleges.



Most reconnectors at Tennessee community colleges were previously enrolled at a different postsecondary institution than the college where they returned.

Among reconnectors enrolling at Tennessee community colleges for the first-time between fall 2010 and fall 2020, 46% re-enrolled at the same college where they last attended prior to their enrollment break. More than half of reconnectors were coming from another institution.

A student's path to and from college is an important distinction among reconnectors. In our typology, reconnectors categorized as **Returners** and **Comebackers** are defined by their return to the same college where the last enrolled.

Of the students who had last attended elsewhere and were reconnecting at a new college:

- 24% of **Newcomers** and 23% of **Fresh Starters** transferred from another Tennessee community college.
- 21% of **Newcomers** and 30% of **Fresh Starters** last attended a Tennessee public university.
- 55% of **Newcomers** and 47% of **Fresh Starters** last attended a private institution or an out-of-state institution.

However, reconnectors' enrollment patterns varied widely by community college. At Chattanooga State, Jackson State, Southwest Tennessee, and Walters State, more than half of reconnectors were returning to the same college as their prior enrollment. At Nashville State, on the other hand, only 34% of reconnectors were returning to the college; 66% had last attended elsewhere.

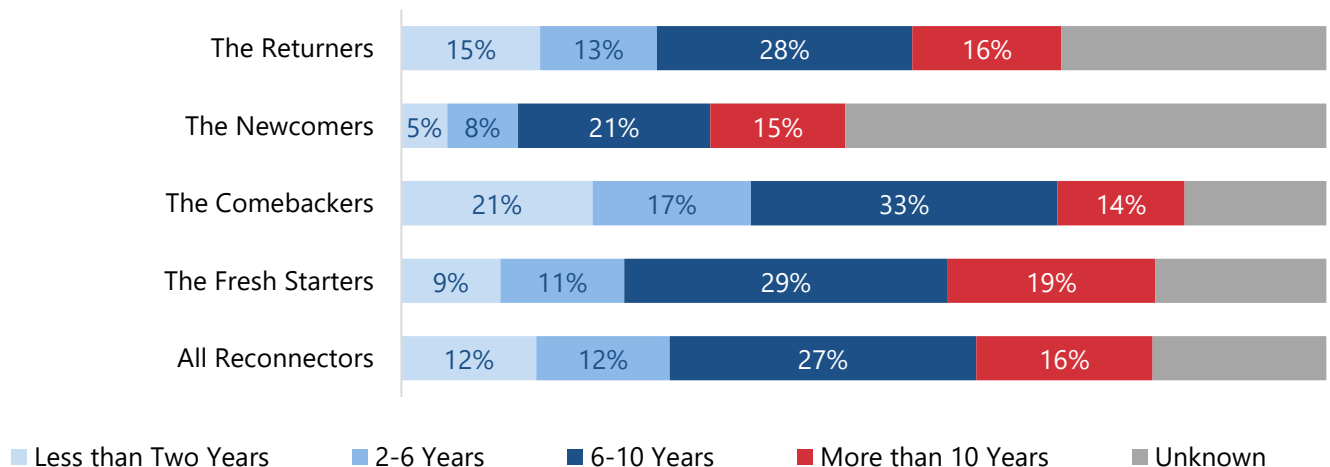


On average, reconnectors were away from college for seven years between their break in enrollment and their first reconnection.

For 62% of first-time reconnectors, we can observe data on the number of terms between their break in enrollment and their re-enrollment. On average, students had been out of college for seven years between their break and their re-enrollment. Notably, 16% of reconnectors had been out of college for more than 10 years.

Figure 5 below summarizes the number of years between students' last prior term of enrollment and their reconnecting term.

Figure 5: Number of Years Between Enrollment Break & Reconnection



The Reconnecting Term

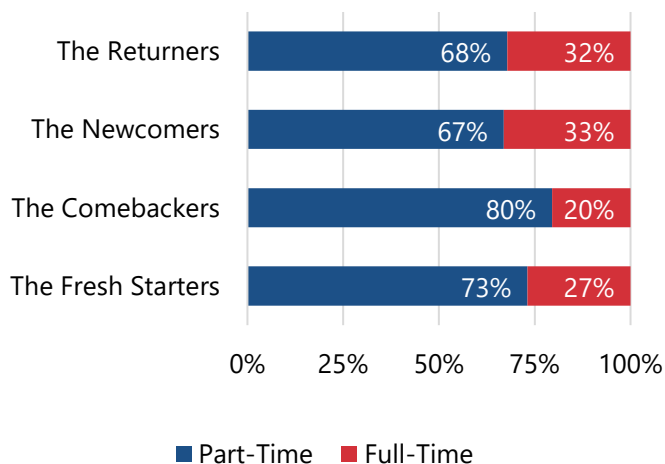


When they re-enroll, most reconnectors enroll part-time.

According to prior research, most returning adult students plan to attend part-time ([Silliman & Schleifer, 2018](#)). This is also the case for reconnectors at Tennessee community colleges. On average, students attempted 8 credits in their reconnecting semester. One in five reconnectors enrolled in three credits or fewer (representing a single course). Nearly half (46%) of reconnectors were enrolled in six credits or fewer. Only 29% of reconnectors enrolled full time (in at least 12 credits) in their reconnecting term.

However, as Figure 6 below shows, students classified as **the Comebackers** (those returning to their prior college with more than 30 credits) were less likely to enroll full-time than other groups. While 33% of **the Newcomers** were enrolled full-time, only 20% of **the Comebackers** were full-time.

Figure 6: Number of Credits Attempted in the Reconnecting Term



A quarter of Black reconnectors and 21% of low-income reconnectors were required to enroll in learning support courses in their first term back.

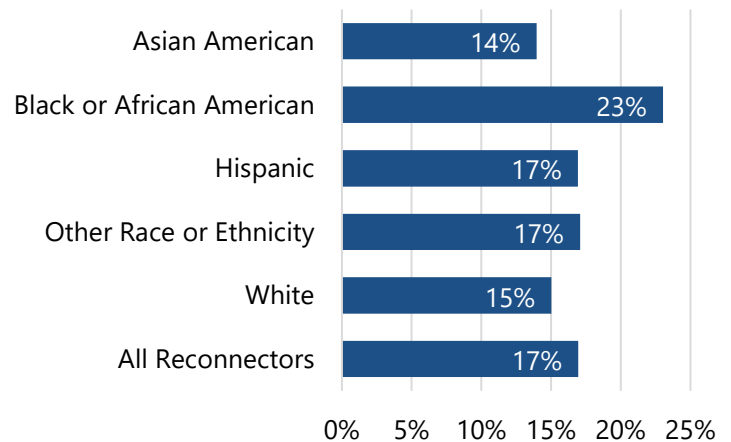
Remedial courses are a significant reason many near-completers leave community colleges without a credential and become SCND students, according to research on SCND students across the country. ([Chen & Hu, 2020](#)).

When they re-enroll, 17% of first-time reconnectors at Tennessee community colleges were required to enroll in

learning support courses to address remediation needs. As Figure 7 below shows, enrollment in learning support courses was more common for adult students of color: 23% of Black reconnectors and 17% of Hispanic reconnectors enrolled in a learning support course, compared to only 15% of White students. Additionally, 21% of low-income returning adults enrolled in a learning support course in their reconnecting term, compared to only 8% of non-low-income students.

However, learning support needs differed in meaningful ways among types of reconnectors. Among reconnectors students who were re-enrolling with limited progress toward a credential, learning support needs were more significant. Among **the Returners**, 29% enrolled in a learning support course during their reconnecting term. Similarly, 24% of **the Newcomers** were enrolled in a learning support course in their reconnecting term.

Figure 7: Percent of Reconnectors Enrolled in Remedial Courses in their Reconnecting Term



The predominance of learning support needs also varied across colleges. In fall 2019, 31% of first-time reconnectors at Jackson State and 23% of first-time reconnectors at Southwest Tennessee were enrolled in learning support math courses in their reconnecting term. Across the full period of data availability, 25% of Jackson State reconnectors enrolled in learning support in their reconnecting term--more than any other college. On the other hand, only 14% of reconnectors at Walters State were enrolled in learning support courses.



In their reconnecting term, nearly half of students took at least one class online, and one in five enrolled in online classes exclusively.

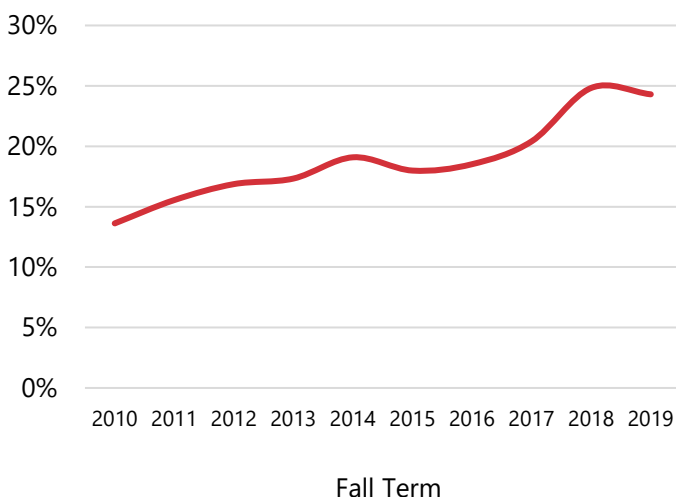
According to prior research, many adult students plan to enroll in online courses, even though they expect to have a better experience in in-person courses. Despite their belief that they will learn more in in-person courses, returning adult students are drawn to the flexibility of online courses (Silliman & Schleifer, 2018). This may be especially true for returning adult students in rural areas.

At Tennessee community colleges from fall 2010 to summer 2020, 42% of reconnectors took at least one course online during their reconnecting term. In fact, 21% of reconnectors took all of their courses online during their reconnecting term.

Over time, the prevalence of online coursetaking among reconnectors during their first term back grew, as Figure 8 below shows. By fall 2019, 24% of reconnectors were enrolled in all online courses during their return term, compared to only 16% in 2011. Similarly, in fall 2019, 28% of reconnectors were enrolled in a mix of in-person and online courses. In total, 53% of reconnectors in 2019 were taking at least one online class during their return term.

These patterns also differed by college. In fall 2019, 58% of reconnectors at Volunteer State were enrolled in at least one online class, and 36% were exclusively online. At Northeast State, however, 58% of reconnectors were enrolled in no online courses in their reconnecting term.

Figure 8: Reconnectors Enrolled in Fully Online Coursework During their Reconnecting Term



Female students were most likely to be enrolled exclusively online. In fall 2019, 58% of female reconnectors were enrolled in at least one online course in their return term (and 27% were exclusively online). Among male reconnectors, only 42% were enrolled in an online course (and only 18% were exclusively online).

Online coursetaking also differed in meaningful ways across the four types of reconnectors. Students with fewer prior credits were generally less likely to be enrolled in exclusively online courses. Among **Newcomers** in fall 2019, only 48% were enrolled in at least one online class. However, 55% of **Fresh Starters** and 54% of **Comebackers** were enrolled in at least one online class.



Few reconnecting students applied credit from prior learning assessments.

In a national study of prior learning assessment (PLA) credits applied across 72 postsecondary institutions, 11% of entering adult students earned PLA credit, and students who earned PLA credit were more likely to persist and complete a credential (Klein-Collins et al., 2020). The benefits of PLA were most significant for students who have earned at least 15 credits for prior learning. However, previous research has found that adult students of color and low-income students were less likely to have applied PLA credit (Silliman & Schleifer, 2018).

Although Tennessee community colleges offer PLA opportunities, few reconnecting students applied PLA credits upon re-enrollment. Among students reconnecting in fall 2018 (including first-time reconnectors and repeat reconnectors), only 5% applied PLA credit. The average number of credits was 10.6.

Nearly half of reconnectors in 2018 who applied PLA in their reconnecting term were identified as veterans, dependents of veterans, or active-duty service members. For this population, American Council on Education (ACE) Military Service and other military service credit were the most common types of PLA applied in the reconnecting term. For non-veterans, institutional course challenge exams were the most common PLA applied in the reconnecting term. Overall, however, the application of PLA was rare for all reconnectors.

Reconnectors' Backgrounds and Characteristics.



Two out of three reconnectors were female. Female students were more likely to return to the same college where they previously attended than male students.

Sixty-three percent of reconnectors were female students, and the prevalence of female students among reconnectors grew over time (from 64% in fall 2011 to 68% by fall 2020). In fact, 41% of all first-time reconnectors from 2010 to 2020 were White female students, and 17% were Black female students. Only 6% of reconnectors were Black male students.

Male students were slightly more likely to be found among **the Newcomers** and **the Fresh Starters**, as men were more likely to have changed colleges between their break and return. While only 37% of all reconnectors were male students, 41% of **the Newcomers** were male students.



Most reconnectors were Pell-eligible at one point in their higher education career. In their reconnecting term, one in three reconnectors received a Pell grant.

Seventy percent of reconnectors were ever eligible for a Pell grant throughout their career in Tennessee higher education. From 2015 to 2020, when more detailed information is available, 36% of reconnectors from fall 2015 to fall 2020 received a Pell grant in their reconnecting term.

The Returners were more likely to be low-income students; 80% of **Returners** were Pell-eligible, compared to only 63% of **Newcomers**.



The average reconstructor was 35 years old at the time of their first reconnection.

More than a third of reconnectors were age 25 to 29, and 72% of reconnectors were under age 40. However, the population of reconnectors over age 40 rose slightly after the launch of the Tennessee Reconnect scholarship in fall 2018. Otherwise, the population of reconnectors by age varied only slightly across colleges, over time, and by other student groups, including our reconstructor typology.



Black and African American students were more likely to re-enroll at the same college where they attended prior to their enrollment break.

From 2010 to 2020, 23% of first-time reconnectors were Black or African American, and 3% were Hispanic. However, over time, the number of Black reconnectors fell slightly, from 1,833 in fall 2011 (22% of all reconnectors) to only 827 by fall 2017 (20% of all reconnectors).

Students of color are represented at higher rates among the groups of reconnectors who were returning to the same college of their prior enrollment; for example, 28% of **the Returners** were Black, but only 19% of **the Newcomers** were Black and only 18% of **the Fresh Starters** were Black. Conversely, Hispanic students were more likely to have changed colleges since their last enrollment.

Table 4 below summarizes the characteristics of returning adults according to our reconstructor typology.



Four percent of first-time reconnectors were identified as veterans, dependents of veterans, or active-duty members of the armed services.

Although this represents a small number of reconnectors, this group differed from other reconnectors in significant ways. On average, veterans, veterans' dependents, and active-duty members of the armed services earned 40 credits prior to their break in enrollment. Nearly one in four members of this population returned with more than 60 credits already earned. Relatedly, 33% of members of this group applied PLA credit at one point during their enrollment at a community college, and 31% applied PLA credits in their reconnecting term.

Table 4: Reconnect Students by Group

	The Returners	The Newcomers	The Comebackers	The Fresh Starters	All
<i>Female</i>	66%	59%	67%	64%	63%
<i>Asian</i>	1%	2%	1%	2%	2%
<i>Black</i>	28%	22%	24%	18%	23%
<i>Hispanic</i>	3%	4%	2%	3%	3%
<i>White</i>	65%	67%	70%	71%	68%
<i>Under Age 35</i>	62%	60%	58%	63%	61%
<i>Veteran</i>	2%	4%	3%	6%	4%

Spotlight on Student Experiences: How Adult Students Use Advising

College advising impacts a student's success, satisfaction, and retention (Zhang et al., 2019). However, a 2019 national survey found that most SCND students had poor experiences with academic and career advising prior to leaving college (Strada, 2019). We used Tennessee community college students' survey responses from the past decade to better understand adult students' advising experiences. We found that few adult students took full advantage of their college's advising services, even though they often felt that these services were important. However, adult students that did use advising services were typically satisfied with the quality of advising they received.



Many adult students did not take full advantage of their college's advising services, even though they recognized the importance of advising.

Previous research suggests the use of academic advising decreases among older students (Roessger et al., 2018). In particular, researchers have found that the probability of a student meeting with an academic advisor decreases the most between ages 18-22 and ages 23-27.

Women between the ages of 20-25 experience the steepest decline in their likelihood of meeting with advisors. These findings support the idea that adult students may be more self-directed and willing to control their own learning.

At Tennessee community colleges, *roughly two out of every five students (regardless of age or gender) used academic advising infrequently*

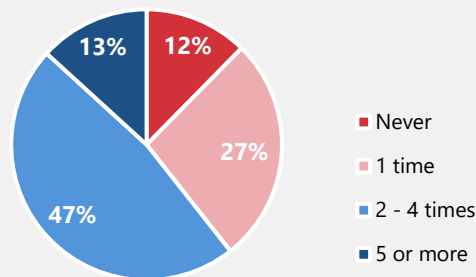
in 2019, according to data from the Community College Survey of Student Engagement (CCSSE). When students were asked to indicate how often they used academic advising during a year, 38% of traditional age students and 42% of adult students mentioned they never or only once used academic advising. Additionally, adult men used academic advising less than adult women. In fact, almost half of men ages 30-39 never or only once used academic advising compared to 40% of women ages 30-39. Finally, 41% of part-time adult students (compared to 35% of full-time adult students) never or only once used academic advising.

Although the overall proportion of adult students who never or only once used academic advising slightly decreased from 45% in 2017 to 39% in 2019, a sizable proportion of adult students still never or only once used academic advising.

Likewise, in 2019, when students were asked how often they used career counseling, approximately 4 out of every 5 students of all ages mentioned they never or only once used career counseling in 2019. In fact, 84% of traditional-age students and 85% of adult students mentioned they

never or only once used career counseling. These low rates were also present in 2017 and were consistent by race, gender, and part-time/full-time students. Confirming prior research regarding students' use of career counseling, these low levels of participation suggest career counseling was another resource not heavily utilized by adults.

Figure 9: How often did adult students use academic advising in the 2019 academic year?



Community College Survey of Student Engagement, 2019
Tennessee Community Colleges

Even though students did not frequently meet with an advisor, they did think these services were important. When students were asked how important academic advising was to them, almost every student across all ages mentioned academic advising was somewhat or very important to them. In fact, students between ages 30-64 found academic advising to be the most important relative to other ages. In 2019, 76% of students ages 30-39 found academic advising to be very important. These perceptions of importance were consistent across race, gender, and part-time/full-time students.

Lastly, when students were asked to indicate how important career counseling was to them, almost every

student mentioned career counseling was somewhat or very important to them. Compared to students ages 18-21, career counseling was very important to students ages 30-64 in 2019. Since adult students found advising to be important, but they did not frequently use it, this lack of frequent use may suggest barriers prevented them from meeting with an advisor.

Although students may have an obligation to seek out assistance when needed, institutions may need to be more proactive in meeting those needs. According to the Survey of Entering Student Engagement (SENSE) at Tennessee community colleges in 2019, *when students were asked if a specific person was assigned to them when they needed assistance, almost 60% of adult students said "no."* This was especially true among part-time adult students; 60% of these students said a specific person was not assigned to them versus half of full-time adult students. Additionally, according to CCSSE data in 2019, when students were asked if someone at their college contacted them when they were struggling, almost two out of every three adult students said "no." While many Tennessee community colleges have designated advisors trained to support adult students, the fact that the majority of adults did not take advantage of advising resources suggests colleges can be more proactive when reaching out to adults about advising services ([Klempin & Lahr, 2021](#)).

Unfortunately, in students' survey responses in 2017 and 2019, roughly 60% of students who had a poor overall experience at their school never met or only met with an academic advisor once. In addition, almost half of students who were uncertain they would take classes again never met with an academic advisor or only met with them once. Since research suggests the amount of time students spent with an advisor had a positive impact on their retention, degree completion, and feeling of connection, colleges who take a more proactive role in adult advising might be in a stronger position to best serve their adult students' needs ([Stevens et al., 2018](#)).



Adult students who frequently made use of their college's academic and career advising services were satisfied with the guidance they received.

According to previous research, adult students benefit from the quality of advising they receive ([Karmelita, 2020](#)). In particular, one study found that more than half of adult students who stopped out of a two-year institution felt

they received poor or fair academic and career advising ([Strada, 2019](#)). Luckily, adult students in Tennessee had a favorable view of their advising services. When students were asked how satisfied they were with their academic advising, almost every adult student mentioned they were somewhat or very satisfied with the quality they received. Furthermore, roughly half of students of all ages mentioned they were very satisfied with their academic advising. Finally, in 2017 and 2019, nine out of every 10 adult students mentioned they were somewhat or very satisfied with their academic advising. The more times an adult student spoke with their academic advisor, the more satisfied they were with their advising experience.

Similarly, when asked to indicate how satisfied they were with career counseling, a notable proportion of adult students mentioned they were somewhat or very satisfied with their career counseling. Unlike academic advising, roughly 40% of adult students were somewhat satisfied and less than half of adult students were very satisfied with their career counseling in 2017 and 2019. Although the level of satisfaction for career counseling was not as high as the level of satisfaction for academic advising, the high levels of satisfaction reported for career counseling suggests adults still benefited in some capacity.

Even if strong advising services were already in place, not every student experienced high levels of satisfaction. Consequently, these low levels of satisfaction negatively impacted a student's educational experience. In particular, one out of every five adult students surveyed in 2017 and 2019 who were not satisfied with their academic advising mentioned they had no plans to return or they were uncertain about coming back. One out of every four adult students surveyed in 2017 and 2019 who were not satisfied with their academic advising also had a poor or fair overall experience at their school. Since adult students did not have a positive experience with their advising, these results affirm the importance of transforming academic advising from a transactional service to a more relational approach ([Schaffling, 2018](#)).

To meet these needs, Tennessee community colleges have implemented relational advising approaches, and faculty members, advisors, and other staff members often formally or informally serve as mentors for adult students ([Klempin & Lahr, 2021](#)). Additionally, in the spring of 2021, Nashville State and Southwest Tennessee piloted a peer mentoring program for Tennessee Reconnect students that will allow student mentors to serve as another resource for adult students.



Southwest Tennessee Community College

3

From Reconnection to Graduation

- *Persistence and Perseverance*
- *From "Some College" to College Graduate*
- *Potential Barriers to Reconnectors' Success*

3 From Reconnection to Graduation

From 2010 to 2020, more than 113,000 Tennesseans with some college but no degree reconnected with higher education at a Tennessee community college. Many of these students had made substantial progress toward a postsecondary credential before departing college.

However, when they re-enrolled, some reconnectors faced roadblocks. Most reconnectors were enrolling at a different college than where they had attended previously and were returning after more than five years away from school. When they returned, many were enrolled part-time, often in fully online courses. Additionally, while Tennessee community colleges have built pathways for returning adults through transformed advising practices and adult-friendly policies (Klempin & Lahr, 2021), some adult students use these services infrequently.

This section will explore outcomes for reconnecting students, like how many persist after reconnecting and how many earn a postsecondary credential.

Persistence and Perseverance



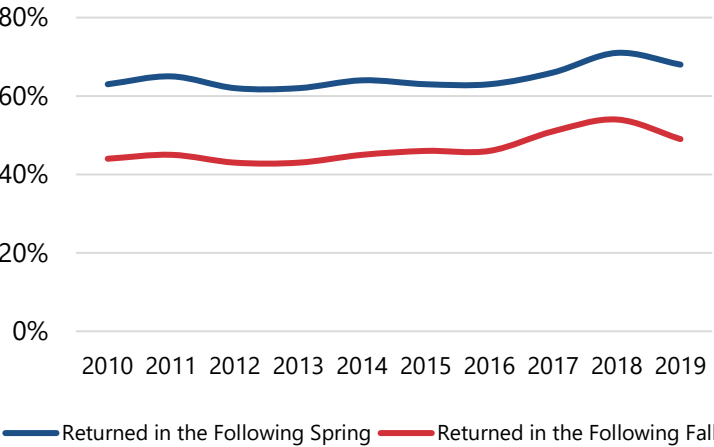
Among first-time reconnectors since fall 2010, 58% of students persisted to the next semester after reconnecting.

More than half of reconnecting students returned for the next semester *after* their reconnecting term (or graduated before the next semester began).

However, these patterns vary based on *when* students reconnect. For students who reconnected in a fall term, retention rates were higher than students who reconnected in the spring or summer. As Figure 10 shows, from fall 2010 to fall 2019, 65% of students who reconnected in a fall semester returned the following spring, and 46% returned the following fall (or graduated in the meantime).

However, many returning adult students will re-enroll, stop out, and re-enroll again several times. Based on their work schedules or family life, adults may choose to enroll seasonally, and traditional measures of persistence may be less meaningful for reconnecting students.

Figure 10: Retention for Fall Reconnectors



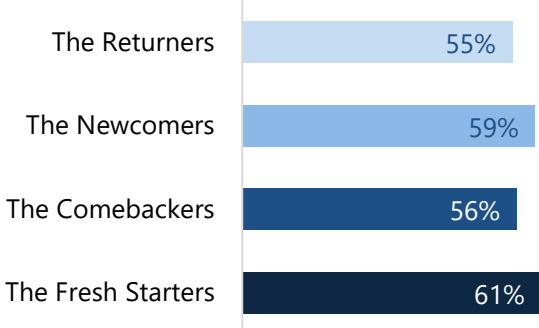
Of the first-time reconnectors from 2010 to 2020, one in three reconnectors (32%) stopped-out and returned again at least once after reconnecting. One in ten reconnectors stopped out and returned twice or more. Therefore, measures of perseverance over time may be more appropriate than traditional measures of persistence or continuous enrollment (Sheffer, et al., 2020).



Retention rates were slightly lower for students who were reconnecting at the same college where they previously attended before their break.

Retention rates differ for the four types of reconnectors that we have identified. Students who are reconnecting to a different college (like **Newcomers** and **Fresh Starters**) have higher retention rates than students who reconnected at the same college where they previously attended and stopped out, as Figure 11 below shows.

Figure 11: Reconnectors Who Persisted to the Next Semester after Reconnecting



From Some College to College Graduate



One in five reconnectors earned an associate degree or technical certificate at a Tennessee community college within three years of their reconnection.

From 2010 to 2017, 21% reconnectors earned an associate degree or technical certificate at a Tennessee community college within three years of reconnection. Twenty-four percent graduated within four years of reconnection, and 26% graduated within six years.

Some reconnectors were still enrolled after three years. Of those who had not graduated, 14% were still enrolled four years after reconnecting.

However, as Figure 12 below shows, success rates for returning students have increased in meaningful ways over the past decade. For students who reconnected in fall 2010, 20% graduated within three years of reconnecting. However, for students who reconnected for the first time in fall 2017, 29% graduated within three years of reconnecting.



Equity gaps persist in graduation rates among reconnectors.

Among Black reconnectors, 13% graduated within three years of reconnection, and 19% of Hispanic students graduated within three years, compared to 25% of White reconnectors. These equity gaps mirror many of the outcomes for first-time students at Tennessee community colleges ([TBR, 2020a](#)). Specifically:

- Graduation rates for Black reconnectors have grown over time, from 13% of 2010 reconnectors to 18% of 2017 reconnectors.

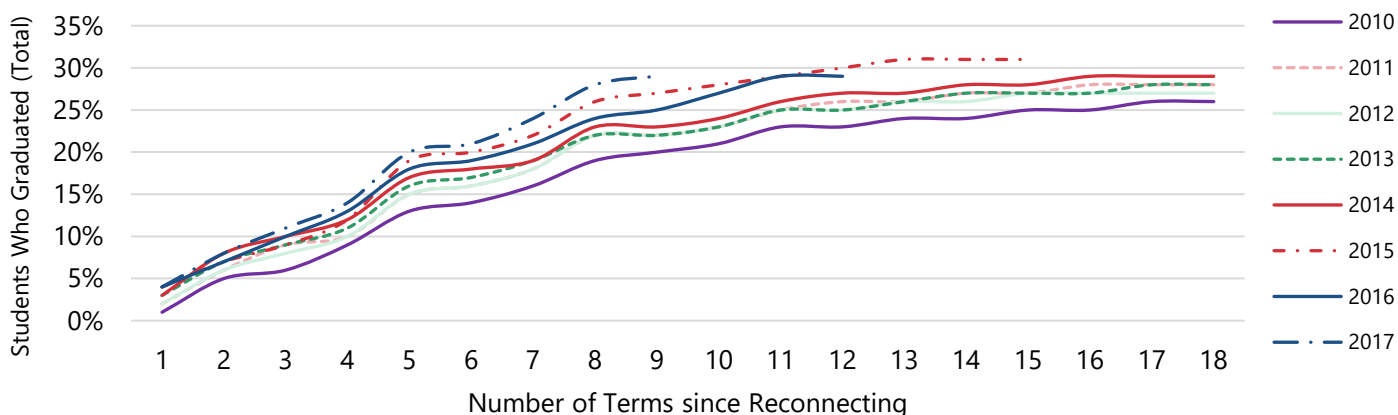
- However, the gap between Black and White reconnectors has widened over time. Among reconnectors who began in fall 2010, 22% of White reconnectors graduated—representing a gap of nine percentage points between White and Black students. Of reconnectors who began in fall 2017, however, 33% of White reconnectors graduated within three years—a gap of 11 percentage points.
- To close this gap, community colleges would have needed to graduate twice the number of Black reconnectors from 2017.
- 26% of male reconnectors graduated, compared to only 19% of female reconnectors.
- Students who were veterans, dependents of veterans, or active-duty service members graduated at much higher rates. From 2010 to 2017, 34% of reconnectors who were veterans, dependents of veterans, and active-duty services members graduated.



Success for reconnectors varies across community colleges. At several colleges, more than 40% of reconnectors graduate within three years.

Among students who reconnected in fall 2017 at Cleveland State, 46% graduated within three years of re-entry. At Walters State, 43% of reconnectors graduated within three years, as did 42% of reconnectors at Roane State. At Nashville State, however, 16% of reconnectors who entered in fall 2017 graduated within three years. For all reconnectors from 2010 to 2017, 12% of Nashville State reconnectors and 14% of reconnectors at Southwest Tennessee graduated within three years.

Figure 12: Graduation Rates Over Time (Fall Reconnectors)





The path from reconnection to graduation differs based on students' prior enrollment history.

Many reconnectors re-enrolled with some progress already made toward a credential, which may shorten their time to completion. On the other hand, most reconnectors re-enrolled at a different college than where they previously attended.

Unsurprisingly, as Table 5 below shows, graduation rates were highest among students we called **the Comebackers** and **Fresh Starters**—students who had earned more than 30 credits in their previous enrollment before reconnecting.

However, among students who reconnected from 2010 to 2017, only 19% of **Newcomers** and 13% of **Returners** graduated within three years. **Returners** in particular (students re-enrolling at the same college where they previously departed with fewer than 30 hours) were much less likely to graduate than other types of reconnectors. For example, while 24% of **Newcomers** graduated within six years, only 19% of **Returners** did the same.

Since many reconnectors enroll part-time, they may need more time to complete a program of study, especially if they earned few credits prior to their break in enrollment. However, six years after reconnecting, students who earned more credits *prior* to their break in enrollment were still far more likely to graduate.

Figure 13 below shows the six-year graduation rates for students who reconnected at community colleges according to the number of credits they earned during the previous enrollment prior to their break. Thirty-two percent of students who entered with at least 30 credits already earned prior to their break in enrollment graduated within six years of reconnecting, whereas only 20% of students who re-enrolled with 12 or fewer prior credits earned graduated in the same period.

Figure 13: Six-Year Graduation Rates by Credits Earned Prior to Reconnecting

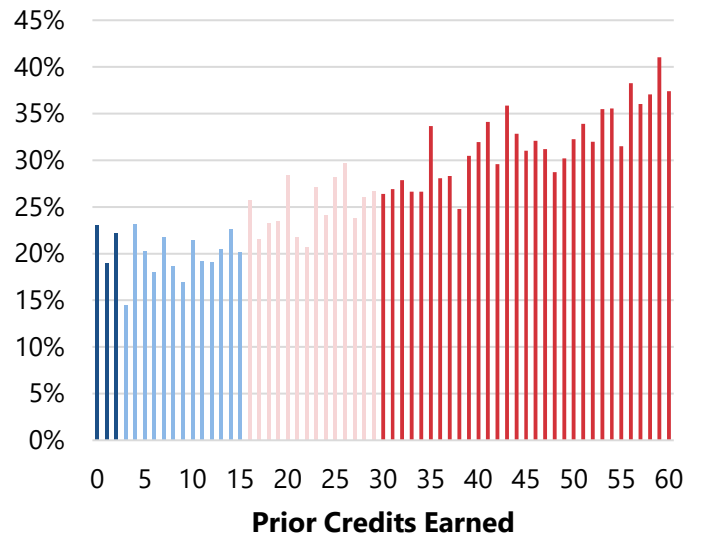


Table 5: Students who Graduated from a Community College Within Three or Six Years of Reconnection

	The Returners	The Newcomers	The Comebackers	The Fresh Starters	All Reconnectors
Graduated within Three Years of Reconnection	13%	19%	28%	27%	21%
Three-Year Graduation Rate by Prior Credits Earned					
<i>0 to 3 Prior Credits Earned</i>	10%	21%			18%
<i>3.1 to 15.0 Credits Earned</i>	12%	15%			13%
<i>15.1 to 29.9 Credits Earned</i>	17%	21%			19%
<i>30.0 to 59.9 Credits Earned</i>			26%	25%	25%
<i>More than 60 Credits Earned</i>			32%	29%	30%
Three-Year Graduation Rate by Student Group					
<i>Black or African American</i>	7%	11%	21%	17%	13%
<i>Hispanic</i>	10%	16%	27%	27%	19%
<i>White</i>	16%	22%	31%	30%	25%
<i>Female</i>	12%	15%	27%	24%	19%
<i>Male</i>	16%	25%	31%	31%	25%
Graduated within Six Years of Reconnection	19%	24%	33%	32%	26%

Potential Barriers to Reconnectors' Success

To understand the factors that might impact reconnectors' perseverance and success, we took a closer look at whether reconnecting students would persist to future semesters and complete a credential.

As we constructed this analysis, we relied on prior research that explored outcomes for re-enrolling students or near completers (for examples, see [Chen & Hu 2019](#); [Shapiro et al., 2019](#), [Sheffer, et al. 2020](#)). In considering the probability that a reconnecting student would remain enrolled or would graduate, we accounted for:

- *Reconnectors' Prior Enrollment History:* This category of variables included students pre-SCND enrollment history before their break in enrollment, such as the number of prior colleges they attended, the number of prior reconnections, the number of terms that passed between their break in enrollment and their reconnection, and the number of credits earned before their break.
- *The Reconnecting Term:* This category of variables included students' experiences when they reconnected to college, such as whether they reconnected to the same college as where they previously attended, the number of hours they attempted in their reconnecting term, whether the student enrolled in online courses, learning support requirements, the application of prior learning assessment credit, and the student's academic focus area upon their return to college.
- *The Students' Background and Characteristics:* This category of variables considered students' personal characteristics, including their race and ethnicity, gender, age at the time of reconnection, academic preparation, low-income status, and whether they were a veteran, dependent of a veteran, or active-duty service members.
- *Environmental Factors:* This category of variables accounted for the environment in which the student was reconnecting, including the region of the state where they lived and the unemployment rate in their county when they reconnected. We also accounted for differences that could be attributed to the college where a student was enrolled as well as differences over the time period of the sample.

Below, we summarize key findings from this analysis. When we examined the factors that correlated with the short-term and long-term success of reconnectors, we found:

- After accounting for other influences on success, students who were reconnecting to the same college as where they attended prior to their break were 5 percentage points more likely to persist to the next semester than students who were enrolling at a new institution.
- Students who were enrolled in all online courses during their reconnecting term were 8 percentage points less likely to persist than students enrolled fully online and 6 percentage points less likely to graduate within three years than students who took only in-person courses.
- All else equal, Black and African American reconnectors were eight percentage points less likely to return for their next semester and eight percentage points less likely to graduate within three years than were White students.

The section below describes the results of this analysis and highlights key findings about the relationship between students' prior enrollment history, reconnecting experience, background, and environment on success.

About the Data

To learn more about which reconnectors successfully persist and graduate at Tennessee community colleges, we used data from the TBR student information system. This dataset included information from 2010 to 2020. These data were supplemented with information from the National Student Clearinghouse.

To better understand the relationship between reconnectors experiences and their success, we estimated iterative models on a series of outcomes. These outcomes included semester-to-semester retention, course outcomes, and graduation with two, three, or four years of reconnecting. All models were estimated with control variables for term and college of enrollment. In the section below, we highlight the most consistent findings related to the probability that students will persist to the semester beyond their reconnecting term and the probability that students will graduate within three years.

Additional details about the results of these analyses can be found in the *Data and Methodology* section.



A student's experience in higher education prior to reconnecting is related to their long-term success.

Students whose break from higher education was long are less likely to persist and graduate than students who took a short break.

Number of Terms Since Last Enrollment

- The amount of time that passed between a student's break in enrollment and their reconnection was correlated with their probability that they would persevere beyond their reconnecting term, after accounting for other factors in their success.
- All else equal, students who were away from college for seven years (the average amount of time away) were three percentage points less likely to persist than students who were away for only two years.

Credits Earned Before Reconnecting

- Unsurprisingly, students who earned more credits prior to their break in enrollment were more likely to graduate. All else equal, for every six additional credits that a student earned prior to their break, the probability of graduating within three years increased by a percentage point.
- For students who earned fewer than 30 credits before their enrollment break (like the students in **the Returner** and **Newcomer** groups), the number of credits they earned before stopping out was correlated with persistence. Within these groups, every additional six credits that students earned before their break increased the predicted probability of term-to-term persistence by two percentage points.



Students' experiences in their reconnecting term are correlated with their success.

Reconnecting to the Same College as Prior Enrollment

- All else equal, students who were reconnecting to the same college as where they attended prior to their break were 5 percentage points more likely to persist to the next semester than students who were enrolling at a new institution.

- However, the impact of switching colleges faded during subsequent semesters. Students who reconnected at the same college as their prior enrollment were only 1.4 percentage points more likely to graduate within three years than students who reconnected at new institutions.

Number of Hours Attempted in the Reconnecting Term

- The number of credits that a student attempted during their reconnecting term was significantly correlated with the likelihood that a student would persist to the next semester.
- All else equal, for every additional three-credit course that a student took, the predicted probability of persisting rose by nearly 6 percentage points.
- Students who enrolled full-time in their reconnecting term were almost twice as likely to persist as students enrolled in only six hours.

Online Coursetaking

- All else equal, students who were enrolled exclusively online in their reconnecting term were far less likely to persist to the next semester.
- Students who were enrolled in only online courses were 8 percentage points *less* likely to persist than students enrolled fully in-person.
- However, students who were enrolled in a mix of online and in-person courses were 5 percentage points more likely to return the next semester than fully online students.
- Similarly, students who took all of their courses online during their reconnecting term were 6 percentage points less likely to graduate within three years of reconnecting than students who took none of their courses online.
- The effects of online coursetaking were especially significant for students who were reconnecting to a new college than where they attended before their break. Students in **the Newcomer** and **Fresh Starter** categories were 9 to 10 percentage points *less* likely to persist after their reconnecting term if all of their courses were online than if they attended in-person. They were also 6 to 7 percentage points less likely to graduate in three years than in-person students.

Learning Support Requirements

- Unsurprisingly, students who were required to take a learning support course in math, reading, or writing were less likely to realize success. Learning support students in each subject area where learning support is offered were 3 to 4 percentage points less likely to return the following semester.
- The relationship between learning support enrollment and graduation was even stronger. All else equal, students who were required to take a learning support course in math or writing during their reconnecting term were 9 to 10 percentage points less likely to graduate within three years than other students. Reconnectors who required learning support reading upon their return were 14 percentage points less likely to graduate within three years of reconnecting.



Equity gaps persist in success rates for reconnectors, even after accounting for other factors that might influence students' success.

- After accounting for other factors, Black and African American reconnectors were less likely to return for the next semester and less likely to graduate within three years.
- Specifically, when all other factors are held at their average level, the predicted probability of Black or African American reconnectors returning the next semester is eight percentage points lower than for White students. The probability of graduating within three years is also eight percentage points lower for Black or African American students than for White students. Hispanic reconnectors were three percentage points less likely to graduate than White students.
- Female reconnectors were more likely to return for the following semester, but only slightly. All else equal, female reconnectors were two percentage points more likely to return than male reconnectors, although the difference is

statistically significant. However, female students were slightly *less* likely to graduate within three years than male students.

- Students who were ever eligible for a Pell grant were two percentage points less likely to return the following semester and one percentage point less likely to graduate, all else equal. The relationship between socioeconomic status and retention was small but statistically significant.



Other factors, like unemployment rates in the areas where students live, are also correlated with their likelihood of success.

- We also explored the impact that a students' environment may have on students' path from reconnection to graduation, including institutional effects, regional differences, and changes over time.
- Most notably, the unemployment rate in a student's county of permanent residence during their reconnecting term (a proxy for economic forces that may affect a student's likelihood of staying enrolled) was positively and significantly correlated with graduation rates. All else equal, for each percentage point that the unemployment rate in a student's county increased, their probability of graduating within three years rose by 0.4 percentage points.

Spotlight on Student Experiences: Life Outside of the Classroom

Adult students face a variety of academic and non-academic barriers when pursuing their education (Kazis et al., 2007). In the following analysis, we used Tennessee community college students' survey responses from the past decade to provide an overview of adult students' non-academic responsibilities including their work and family life. We found that the majority of adult students had significant responsibilities outside of their academic work, and they did not feel their college helped them balance school with their work and family responsibilities.



Most adult students had significant responsibilities outside of their academic work.

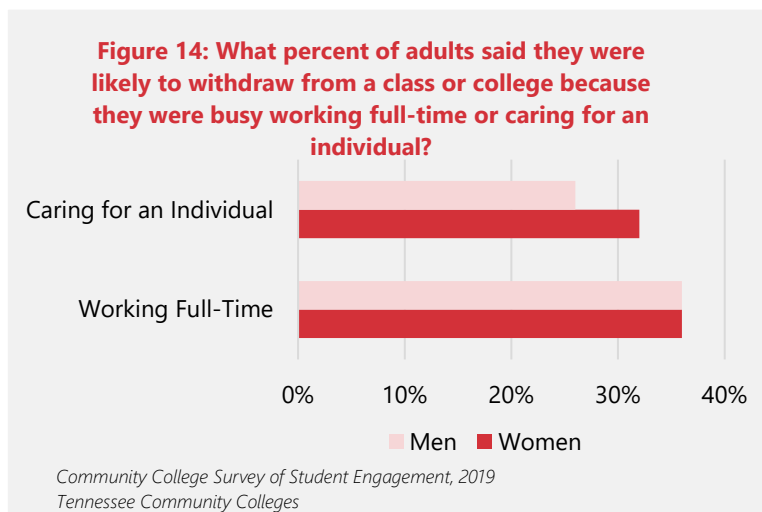
Adult students work over 40 hours per week compared to younger students (Center for Community College Student Engagement, 2020). Since balancing work and attending college can be a struggle for students, these students said they were more likely to withdraw from school. Confirming the findings of previous research, roughly half of adult students at Tennessee community colleges worked more than 30 hours per week compared to a quarter of traditional age students. Additionally, 60% of adult men worked more than 30 hours per week compared to half of adult women students. Three out of four adult men ages 40 - 49 worked more than 30 hours per week. These findings suggest, and is confirmed by previous research, that work poses difficulties for students to take their needed courses.

Consequently, when students are faced with these course scheduling difficulties, they may be less engaged in their coursework and are more susceptible to stopping out or pursuing majors that are more convenient for them (Center for Community College Student Engagement, 2020).

Although a higher proportion of adult men worked more than 30 hours per week compared to adult women, a higher proportion of adult women provided care for an individual. When asked how many hours they provided

care for an individual, 51% of adult women said they provided care for more than 30 hours per week (compared to only a quarter of men). Additionally, 75% of adult women (compared to 50% of adult men) said they cared for a child. Most notably, 45% of adult women worked more than 30 hours per week while *also* caring for a child. The fact that most women provided care for an individual for more than 30 hours per week, had a child that depended on their care, or worked more than 30 hours per week while caring for a child suggests women

had less time to devote towards their education compared to other students. Since prior research suggests time has a direct effect on college persistence and credit accumulation, the less time women have to spend on coursework may leave them prone to stopping or dropping out of Tennessee community colleges (Wladis et al., 2018).



The time required to complete a degree balanced with working full-time or providing care for an individual may jeopardize a student's academic momentum (Wladis et al., 2018). At TBR colleges, approximately 60% of adult students working full-time and 60% of adult students who provide care for an individual said they might withdraw from a class or college because of these responsibilities. In particular, almost one out of every five adult women who provided care for an individual for more than 30 hours per week said they were uncertain or had no plans about returning to school. Similarly, almost one out of every five

adult men who worked more than 30 hours per week said they were uncertain or had no plans about returning to school. In both instances, these findings confirm prior research and suggest work and providing care for an individual negatively impacts college persistence and completion ([TBR, 2020c](#)).



Many adult students did not feel as if their college helped them balance or cope with their non-academic responsibilities.

Previous research reported students were much more engaged overall in their studies when someone helped them decide how to balance their academic work with their non-academic responsibilities ([Center for Community College Student Engagement, 2020](#)). Unfortunately, across all years, few adult students at Tennessee community colleges mentioned a college staff member spoke with them about their non-academic responsibilities when selecting their courses. Regardless of age, the majority of adult students remained neutral or disagreed that a staff member talked with them about their commitments outside of school. These findings were most pronounced for adult students between the ages of 25-29. Of the adult students ages 25-29, one out of three respondents disagreed that a college staff member spoke with them about their responsibilities outside of the classroom.

Not only did some students feel a lack of support balancing non-academic responsibilities with their course selection, but some also felt an overall lack of support from their community college when coping with non-academic responsibilities such as work or family. When asked to indicate how much their college emphasized coping with non-academic responsibilities, 3 out of 4 adult students believed their college offered some or very little support. Unfortunately, this lack of support was felt in 2011 and remained persistent through 2019. In 2011 and

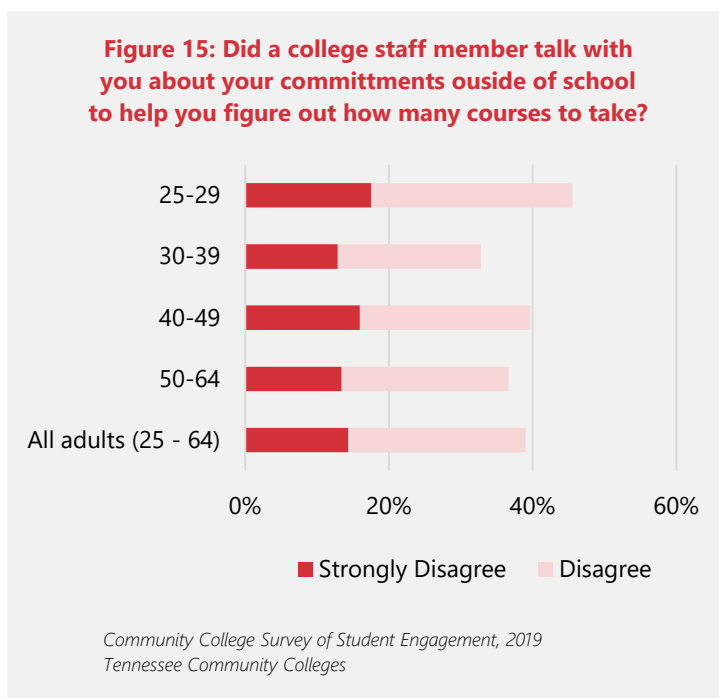
2019, approximately 75% of adult students mentioned their college offered some or very little support. These findings were also prevalent across part-time/full-time students and by gender, but they were most pronounced for adult students 40 - 49 years of age and for adult students who worked more than 30 hours per week while caring for a child.

Unfortunately, research suggests this potential lack of non-academic support negatively impacts students' college completion ([Helmcamp, 2015](#)). At Tennessee community colleges, roughly one out of every five adult students who felt very little support for their non-academic responsibilities had no plans to return to college or were uncertain. Similarly, roughly one out of every five adult students who felt very little support had a poor or fair college experience. These results were similar across race and gender too. Since non-academic supports address financial, developmental, and other social factors

often linked to lower college completion, this lack of support potentially impacts adult students' educational attainment ([Helmcamp, 2015](#)).

In order to provide support for students' non-academic responsibilities, TBR has created guides to share with students facing difficulties with issues such as the COVID-19 pandemic and food insecurity. Some of these resources include mental health awareness, financial assistance during COVID, guidance when completing a SNAP

application, and recordings about campus' food pantries ([TBR, 2020b](#)). Since research suggests stable child care, personal support from college faculty and staff, and accommodating employers as leading factors influencing a student's ability to pursue their degree, these support services indicate colleges are trying to address their students' needs ([Matus-Grossman & Gooden, 2017](#)). Even though most students at Tennessee community colleges felt a lack of support for their nonacademic needs, work is underway to provide increased support.





Southwest Tennessee Community College



Conclusions & Next Steps

What Comes Next?

Over the past decade, 113,000 adults with some college but no degree reconnected with higher education at Tennessee community colleges. Most of these students reconnected at community colleges after attending elsewhere, but many had made progress toward a credential before leaving college. Yet, for Tennesseans who reconnected at community colleges, only **21% graduated within three years of reconnecting.**

For Tennesseans with some college but no degree, community colleges must continue to pave the route from reconnection to graduation. Based on our analyses, we have identified several next steps for research and action:



Continue to learn about the needs of returning adults, and ensure advisors have the information they need to tailor their support of reconnecting students.

From their prior career in higher education to their experiences in their reconnecting term or their own personal circumstances, returning adults' needs are not uniform. Future research must account for differences among adult students. Additionally, we must ensure that advisors and faculty have access to the information that will help tailor their support of returning adults.

Next Step: As part of this project, a data toolkit about adult students' advising needs and outcomes will be shared with community colleges across the state.



Address equity gaps in success rates among returning adult students.

Black students reconnecting with college were less likely to persist and graduate than White students. Low-income students also succeeded at lower rates, as did female students. Future research must continue to address these outcomes as well as identify campus practices that help narrow these gaps.



Support the expansion of services designed to support returning adults.

Many adult students did not take full advantage of the opportunities that are designed to promote their success, like prior learning assessments or academic advising. To encourage the success of returning adults, colleges may need to promote greater awareness

of the services designed to help adult students and proactively ensure these opportunities can be accessed by all adult students.



Identify and address barriers to success for reconnecting students.

When they re-enrolled, some reconnectors faced significant obstacles to their success. Most were enrolled in learning support courses or in online courses that were tied to poorer outcomes. Going forward, we will need to better understand coursetaking patterns and outcomes for returning adults. We will also need to ensure that advisors have access to information about the impact of these academic barriers.

Next Step: The next two working papers in this project will explore the impact of flexible course schedules, accelerated programs, online courses, and adult-focused teaching and learning strategies.



Help adult students balance school with responsibilities outside of the classroom, including their work and family lives.

Most reconnecting students balanced school with work and childcare. To ensure success for reconnecting students, further research will need to address the impact of non-academic responsibilities on students' outcomes, especially since many SCND students reported that finances, emotional stress, and family responsibilities contributed to their decision to stop out ([Rothwell & Brennan, 2021](#)).

Next Step: The final working paper in this project will explore the relationship between reconnecting and employment, including the impact of working while enrolled as well as the impact of graduating on students' employability and financial stability.



Unpack the effects of COVID-19 on reconnectors enrollment and success.

The data in the analyses presented here largely pre-date the COVID-19 pandemic. As additional data on reconnecting enrollments in 2020-2021 is available, we will need to explore how COVID-19 affected patterns of re-enrollment and success for SCND students.

Data & Methodology

About the Data

Data Definitions

Definitions of some college, no degree (SCND) students differ within existing research. We use a definition developed by the National Student Clearinghouse, which defines SCND students as those who have entered postsecondary education after high school but have not earned a formal credential and are no longer enrolled. Due to data limitations, some reconnectors may have earned a diploma or certificate from a Tennessee College of Applied Technology. These students may be included in our sample of reconnectors, although the number of students in this category is expected to be small.

The Potential Reconnectors

In the section titled “The Potential Reconnectors,” we sought to learn more about the population of SCND Tennesseans. For this section, we used data from P20 Connect, the state’s longitudinal data system. This dataset included administrative data on employment and education records from the 2004 to 2018. Using this dataset, we identified students who were enrolled but did not graduate between summer 2009 and spring 2014 and compared these students to peers who graduated during the same period. This included students who attended TBR colleges, public universities in Tennessee, and select private institutions in the state.

Building upon prior research from the Virginia Community College System ([Bird et al., 2020](#)), we identified a sub-sample of SCND students.

This sub-sample narrowed our focus for this portion of the analysis by:

- Including SCND students who experienced a break in enrollment of at least three years or graduates who completed their first degree between Summer 2009 and Spring 2014.
- Including students who were between the ages of 18 and 50 at the time of their enrollment break (SCND) or first degree (graduates).
- Included SCND students who earned at least 30 credits prior to their break and had a cumulative GPA of at least 2.0 at the time of their break.
- Excluded students who were exclusively dual enrolled students.
- Excluded SCND students and graduates who enrolled at another higher education institution within three years of their break (SCND) or first degree (graduates).

The Reconnectors

In the section titled “The Reconnectors,” we analyzed data on enrollment patterns for SCND students who return to college at a Tennessee community college. To learn more about reconnectors at Tennessee community colleges, we used data from the TBR student information system. This dataset included data on enrollment, course outcomes, and awards at community colleges from 2010 to 2020. These data were supplemented with records from the National Student Clearinghouse dating from 1990 to 2020.

Reconnectors were identified based on their registration status and prior enrollment history. We focused on SCND

adults who returned to college after a break in enrollment of at least one fall or spring term.

To understand the patterns of enrollment and outcomes for SCND students who return to college, we examined reconnectors from two perspectives:

The First Reconnection

- To understand long-term outcomes and patterns of reconnection, we observed the first instance of SCND students returning to higher education at a Tennessee community college during the window of available data fall 2010 to fall 2020.
- This approach allowed us to identify patterns of enrollment for returning SCND students from the first time that they returned to college during the observable period through graduation or subsequent stop-outs and restarts.
- By focusing our analysis on a single point in time for each student (the first instance of their reconnection to college), we can more easily compare students' experiences during their prior enrollment, during their reconnecting term, and after reconnecting with college.

The 2018 Reconnection

- To further understand patterns of reconnection, we also conducted a case study of reconnections in a unique term. In fall 2018, the Tennessee Reconnect scholarship launched statewide, providing tuition-free community college for adult students and resulting in a significant influx of returning adult students.
- Additionally, this approach allowed us to analyze outcomes for all students who reconnected at community colleges in fall 2018, not just those reconnecting for the first time. According to previous research, many SCND students will return to college only to pause, return, and stop out again ([Sheffer et al., 2020](#)). By focusing our analysis on a single term, we can further analyze outcomes for all students who reconnected, beyond the students' first instance of reconnection.

From Reconnection to Graduation

In the section titled "From Reconnection to Graduation," we focused on short-term and long-term outcomes for reconnecting students. To learn more which reconnectors successfully persist and graduate at Tennessee community colleges, we used data from the TBR student information system. This dataset included data on enrollment and awards at community colleges from 2010 to 2020.

To better understand the relationship between reconnectors' experiences (like their prior enrollment history, reconnecting term, background, and environment) with their success, we estimated iterative models on a series of outcomes. These outcomes included semester-to-semester retention, course outcomes, and graduation with two, three, or four years of reconnecting. All models were estimated with control variables for term and college of enrollment. In the appendix tables below, we highlight some of the most consistent findings related to the probability that students will persist to the semester beyond their reconnecting term and the probability that students will graduate within three years.

Spotlight on Student Experiences

In the two sections titled "Spotlight on Student Experiences," we analyzed adult students' responses to two systemwide student surveys. The Survey of Entering Student Engagement (SENSE) and the Community College Student Survey Engagement (CCSSE) are surveys administered to community college students asking questions pertaining to institutional practices and student behaviors. The first of these student engagement surveys, SENSE, captures a student's mindset in the earliest weeks of their college enrollment. The second of these student engagement surveys, CCSSE, captures institutional practices and student behaviors that are highly correlated to student learning and student retention. We analyzed responses to the SENSE from 2015 and 2017 and response to the CCSSE from 2011, 2014, 2017, and 2019. CCSSE and SENSE are administered at all Tennessee community colleges, and results were analyzed for all 13 institutions. Approximately 10,000 students across the system participated in each survey administration. Of the 37,499 responses to the CCSSE from the pooled survey responses, 10,934 were from adults age 25 and older. From the 16,119 pooled responses to the SENSE, 1,625 were from adult students age 25 and older. Responses are weighted in order to account for undersampling of part-time students.

Data Appendix

Table A1: Spotlight on Student Experiences

Survey Question	Years	All Responses	Adult Student Responses
Community College Survey of Student Engagement (CCSSE)			
<i>How often have you used the following services during the current academic year? - Academic advising/planning</i>	2017, 2019	19,297	4,765
Never		15%	16%
1 Time		24%	26%
2-4 Times		48%	46%
5 or More Times		12%	12%
<i>How often have you used the following services during the current academic year? - Career counseling</i>	2017, 2019	19,225	4,742
Never		69%	68%
1 Time		15%	16%
2-4 Times		13%	12%
5 or More Times		3%	3%
<i>How important are the services to you at this college? - Academic advising/planning</i>	2017, 2019	18,713	4,589
Not at all		7%	8%
Somewhat		23%	21%
Very		69%	72%
<i>How important are the services to you at this college? - Career counseling</i>	2017, 2019	18,385	4,488
Not at all		24%	25%
Somewhat		29%	26%
Very		47%	49%
<i>Someone at this college contacts me if I am struggling with my studies to help me get the assistance I need.</i>	2019	6,921	1,645
No		64%	65%
Yes		36%	35%
<i>How would you evaluate your overall educational experience at this college?</i>	2017, 2019	19,466	4,667
Poor		2%	1%
Fair		13%	8%
Good		52%	49%
Excellent		34%	43%
<i>When do you plan to take classes at this college again?</i>	2017, 2019	19,381	4,686
I will accomplish my goal(s) during this academic term and will not be returning		18%	15%
I have no current plan to return		5%	3%
Within the next 12 months		62%	69%
Uncertain		15%	12%

Survey Question	Years	All Responses	Adult Student Responses
<i>How satisfied are you with the services? - Academic advising/planning</i>	2017, 2019	16,659	4,017
Not at all		8%	9%
Somewhat		44%	40%
Very		48%	51%
<i>How satisfied are you with the services? - Career counseling</i>	2017, 2019	7,728	1,831
Not at all		18%	17%
Somewhat		42%	38%
Very		41%	44%
<i>About how many hours do you spend in a typical 7-day week doing each of the following? - Providing care for dependents living with you (parents, children, spouse, etc.)</i>	2011, 2014, 2017, 2019	37,691	10,891
None		45%	27%
1 - 5 hours		16%	9%
6 - 10 hours		8%	7%
11 - 20 hours		6%	7%
21 - 30 hours		4%	6%
More than 30 hours		22%	44%
<i>How much does this college emphasize the following? - Helping you cope with your non-academic responsibilities (work, family, etc.)</i>	2011, 2014, 2017, 2019	37,815	10,934
Very Little		40%	42%
Some		34%	33%
Quite a bit		17%	16%
Very much		10%	10%
<i>How likely is it that the following issues would cause you to withdraw from class or from this college? - Working full-time</i>	2011, 2014, 2017, 2019	37,589	10,670
Not likely		42%	43%
Somewhat likely		22%	22%
Likely		17%	16%
Very likely		19%	20%
<i>How likely is it that the following issues would cause you to withdraw from class or from this college? - Caring for dependents</i>	2011, 2014, 2017, 2019	37,499	10,646
Not likely		51%	45%
Somewhat likely		22%	24%
Likely		15%	15%
Very likely		12%	16%
Survey of Entering Student Engagement (SENSE)			
<i>Was a specific person assigned to you so you could see him/her each time you needed information or assistance</i>	2015, 2017	16,246	1,389
No		57%	59%
Yes		43%	41%

Survey Question	Years	All Responses	Adult Student Responses
<i>From the time of your decision to attend this college through the end of the first 3 weeks - A college staff member talked with me about my commitments outside of school to help figure out home many courses to take</i>	2015, 2017	16,738	1,625
Strongly Disagree		11%	16%
Disagree		29%	28%
Neutral		25%	24%
Agree		21%	16%
Strongly Agree		13%	16%
<i>During the first three weeks of your first semester/quarter at this college, about how many hours did you spend in a typical 7-day week doing each of the following? - Working for pay</i>	2015, 2017	16,119	1,360
None		29%	25%
1 - 5 hours		9%	5%
6 - 10 hours		8%	6%
11 - 20 hours		14%	4%
21 - 30 hours		18%	10%

Table A2: Probability of Returning for the Semester after the Reconnecting Term

		Model 1		Model 2		Model 3		Model 4	
		Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error
The Students' Background	Asian American	0.000	0.012	-0.011	0.019	-0.006	0.019	0.003	0.020
	Black or African American	-0.065 ***	0.005	-0.071 ***	0.006	-0.076 ***	0.006	-0.076 ***	0.006
	Hispanic or Latino	-0.027 ***	0.009	-0.018	0.012	-0.025 *	0.013	-0.011	0.013
	Other Race or Ethnicity	-0.012	0.008	-0.009	0.011	-0.013	0.011	-0.014	0.012
	Female	-0.004	0.003	0.004	0.004	0.018 ***	0.005	0.018 ***	0.005
	Student Age at Time of Reconnection	-0.001 ***	0.000	-0.002 ***	0.000	-0.001 **	0.000	-0.001 **	0.000
	Academically Underprepared in Math	0.038 ***	0.004	0.031 ***	0.005	0.011 *	0.006	0.009	0.006
	Academically Underprepared in Reading	-0.029 ***	0.006	-0.021 **	0.008	-0.011	0.008	-0.008	0.008
	Academically Underprepared in Writing	-0.040 ***	0.006	-0.035 ***	0.007	-0.032 ***	0.008	-0.034 ***	0.008
	Low-Income Student	0.052 ***	0.004	0.049 ***	0.005	-0.009	0.005	-0.021 ***	0.006
	Veteran, Dependent, or Active-Duty Service Members	0.070 ***	0.009	0.066 ***	0.012	-0.011	0.012	-0.019	0.013
Prior Enrollment	Number of Prior Colleges			0.016 ***	0.003	-0.007 ^	0.004	-0.006	0.004
	Number of Prior Stop-Outs			-0.015 ***	0.002	-0.006 *	0.002	-0.006	0.003
	Credits Earned Before Reconnecting			0.000	0.000	0.000 *	0.000	0.000	0.000
	Number of Terms Since Last Enrollment			0.003 ***	0.000	0.002 ***	0.000	0.002 ***	0.000
The Reconnecting Term	Reconnecting to Same College as Prior Enrollment					-0.048 ***	0.006	-0.051 ***	0.007
	Hours Attempted in Reconnecting Term					0.019 ***	0.001	0.019 ***	0.001
	Enrolled in No Online Courses					0.075 ***	0.006	0.077 ***	0.006
	Enrolled in Some, but not All, Online Coursework					0.051 ***	0.007	0.053 ***	0.007
	Required Learning Support Math in Reconnecting Term					-0.035 ***	0.008	-0.041 ***	0.008
	Required Learning Support Reading in Reconnecting Term					-0.030 ^	0.017	-0.034 ***	0.017
	Required Learning Support Writing in Reconnecting Term					-0.037 ***	0.013	-0.037 **	0.014
Degree Seeking in Reconnecting Term					0.014 ^	0.008	0.024 **	0.009	

		Model 1		Model 2		Model 3		Model 4	
		Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error
Academic Focus Area in Reconnecting Term	Arts					-0.031	0.024	-0.100 ***	0.025
	Business					0.017	0.017	-0.049 **	0.018
	Education					0.009	0.019	-0.056 **	0.020
	Health					0.022	0.016	-0.041 *	0.018
	Humanities					-0.005	0.016	-0.067 ***	0.017
	STEM					0.026	0.017	-0.043 *	0.019
	Social Science					-0.003	0.020	-0.070 **	0.021
	Unknown					-0.177 ***	0.017	-0.241 ***	0.019
Other Factors	Average Unemployment in County							-0.001	0.007
	Number of Observations	106,151		67,521		65,691		63,166	

Note: Logit estimates with robust standard errors. All models were estimated with control variables for term and college of enrollment. Includes students who reconnected at Tennessee community colleges from fall 2010 to fall 2019. Outcomes are available through fall 2020. The dependent variable takes on a value of 1 if the student returned for the subsequent semester or graduated during the reconnecting semester. The dependent variable takes on a value of 0 if the student did not return for the subsequent semester and had not graduated. This table reports the estimated marginal effects for each variable and the delta-method standard error, where all other variables are set at their mean value. ^p<.10 *p<.05 **p<.01 ***p<.001

Table A3: Probability of Graduating Within Three Years of Reconnection

		Model 1		Model 2		Model 3		Model 4	
		Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error
The Students' Background	Asian American	-0.047 ***	0.010	-0.040 **	0.015	-0.025 ^	0.015	-0.017	0.016
	Black or African American	-0.076 ***	0.004	-0.076 ***	0.004	-0.076 ***	0.004	-0.075 ***	0.004
	Hispanic or Latino	-0.037 ***	0.008	-0.029 **	0.011	-0.031 *	0.010	-0.028 **	0.011
	Other Race or Ethnicity	-0.027 ***	0.007	-0.044 ***	0.008	-0.044 ***	0.008	-0.042 ***	0.009
	Female	-0.051 ***	0.003	-0.042 ***	0.004	-0.008 *	0.004	-0.008 *	0.004
	Student Age at Time of Reconnection	0.000 **	0.000	-0.001 ***	0.000	0.000	0.000	0.000	0.000
	Academically Underprepared in Math	-0.034 ***	0.004	-0.014 **	0.005	-0.004	0.005	-0.004	0.005
	Academically Underprepared in Reading	0.003	0.006	-0.001	0.007	0.001	0.007	0.001	0.007
	Academically Underprepared in Writing	-0.038 ***	0.005	-0.036 ***	0.006	-0.034 ***	0.006	-0.036 ***	0.006
	Low-Income Student	0.018 ***	0.003	0.021 ***	0.004	-0.011 **	0.004	-0.014 **	0.004
	Veteran, Dependent, or Active-Duty Service Members	0.059 ***	0.008	0.053 ***	0.010	-0.005	0.010	-0.014	0.010
	Prior Enrollment	Number of Prior Colleges			-0.005 *	0.002	-0.005	0.003	-0.003
Number of Prior Stop-Outs				-0.005 **	0.002	-0.001	0.002	-0.002	0.002
Credits Earned Before Reconnecting				0.001 ***	0.000	0.002 ***	0.000	0.002 ***	0.000
Number of Terms Since Last Enrollment				0.000 *	0.000	0.000 **	0.000	0.000 ***	0.000
The Reconnecting Term	Reconnecting to Same College as Prior Enrollment					0.013 *	0.005	0.014 **	0.005
	Hours Attempted in Reconnecting Term					0.016 ***	0.000	0.016 ***	0.000
	Enrolled in No Online Courses					0.056 ***	0.004	0.056 ***	0.004
	Enrolled in Some, but not All, Online Coursework					0.026 ***	0.005	0.028 ***	0.005
	Required Learning Support Math in Reconnecting Term					-0.096 ***	0.007	-0.095 ***	0.007
	Required Learning Support Reading in Reconnecting Term					-0.139 ***	0.025	-0.140 ***	0.025
	Required Learning Support Writing in Reconnecting Term					-0.089 ***	0.015	-0.085 ***	0.015
Degree Seeking in Reconnecting Term					-0.131 ***	0.006	-0.126 ***	0.006	

		Model 1		Model 2		Model 3		Model 4	
		Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error
Academic Focus Area in Reconnecting Term	Arts					-0.108 ***	0.023	-0.133 ***	0.024
	Business					-0.064 ***	0.017	-0.090 ***	0.019
	Education					-0.080 ***	0.019	-0.106 ***	0.020
	Health					-0.119 ***	0.016	-0.145 ***	0.018
	Humanities					-0.130 ***	0.016	-0.155 ***	0.018
	STEM					-0.052 **	0.017	-0.078 ***	0.019
	Social Science					-0.024	0.020	-0.052 *	0.022
	Unknown					-0.288 ***	0.016	-0.315 **	0.018
Other Factors	Average Unemployment in County							0.004 **	0.001
Number of Observations		88,115		57,154		55,431		53,188	

Note: Logit estimates with robust standard errors. All models were estimated with control variables for term and college of enrollment. Includes students who reconnected at Tennessee community colleges from fall 2010 to fall 2017. Outcomes are available through summer 2020. The dependent variable takes on a value of 1 if the student earned a technical certificate or associate degree from any Tennessee community college within three years (9 terms) of reconnecting at a community college. The dependent variable takes on a value of 0 if the student did not earn a credential within three years of reconnecting. This table reports the estimated marginal effects for each variable and the delta-method standard error, where all other variables are set at their mean value. ^p<.10 *p<.05 **p<.01 ***p<.001

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