

Poor in the Era of Promise: An Examination of the Experiences of Low-Income  
Community College Students in Tennessee

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## **Foreword**

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## Executive Summary

Despite increases in access to postsecondary education, addressing gaps in outcomes across socioeconomic groups remains challenging. Even if more lower income students are entering postsecondary institutions today than in the past, inequalities in persistence mean they are less likely to complete a degree than higher income peers. Complex social, financial, and academic factors can influence low-income students' persistence in college, creating multiple barriers to completing a credential. This study focuses on the persistence of low-income community college students in Tennessee. Using a mixed-methods approach, we specifically aim to shed light on the experiences of low-income community college students within the policy context of Tennessee, a state that has invested substantially in higher education. We believe that studying the experiences of low-income students within the particularly prominent policy context of Tennessee could have value for others considering or implementing promise programs and related strategies.

### ***What is the current context of college persistence and completion for low-income community college students colleges in Tennessee?***

For the 2013 and 2014 cohorts, the graduation rates for Pell grant eligible students at all thirteen Tennessee public community colleges are lower than the rates for students with no Pell grant or federal loan aid. At six institutions, the gap between graduation rates for Pell only and no Pell, no loan students was over 10 percentage points in the 2014 cohort. In our analysis of a sample of first-time, first-year students enrolled in one suburban community college in 2014 and 2015, we found that on-time credit hour progression (i.e. completing at least 12 hours each semester) had the largest contribution to completion for all students, particularly after the first year. The R-squared value increased five-fold once credit hour progression was included, explaining nearly 63% of the variation in three year degree completion. Furthermore, Pell grant recipients with zero EFC were least likely to have sufficient earned hours at the end of each semester to graduate within three years. Participation in dual enrollment, the ACT composite score, and passing first-year mathematics and English courses were also significant predictors of completion. Age and race were not statistically significant predictors, once other financial and academic factors are included.

### ***What are the financial, academic, and social experiences of low-income community college students in Tennessee?***

We conducted interviews and focus groups with 17 low-income students enrolled at one of two community colleges in Tennessee. Students described experiencing many of the academic, social, and financial challenges identified in the literature throughout their academic journeys. However, students also consistently described strategies that had helped them to persist in college, including: leveraging conventional and unconventional resources; building supportive social connections; creatively managing their time; drawing on self-reliance and self-reflection;

and taking advantage of supportive faculty and staff. Major findings that influenced our recommendations include:

**College Costs - Covering Expenses Beyond Tuition.** Many interview participants reported having trouble paying for basic costs of living such as housing, childcare, and transportation. Most students did not have consistent additional financial support beyond financial aid, and several were financially supporting others or contributing to household expenses. Students identified financial stress as a potential disruption to getting to class, completing assignments, visiting support services on campus, or even completing college.

**Academic Integration - Effective Teaching and Learning.** Students noted that many of the college courses they identified as challenging were difficult because of the course design, classroom teaching methods and/or availability of faculty outside the classroom. Indeed, interactions with faculty were important elements of students' college experiences, whether good or bad, revealing the crucial role these interactions can play in students' academic engagement and progress.

**Social Integration – Lack of Involvement in College Life.** Participation in clubs or other student organizations in college was largely viewed by students as a worthwhile effort primarily in relation to future enrollment in a university. Another common reason for low involvement was the lack of consistent or considerable amounts of time spent on campus outside of scheduled class periods. Campus involvement seemed to be highest among students who participated in on-campus employment or work study programs.

***What policies and/or practices does the literature suggest to support persistence and completion for low-income students in TN?***

We focused our review of policies and practices on interventions that would complement policies and practices already in place in Tennessee. Evidence suggests that need-based aid is one particularly effective strategy to support low-income student success. However, the literature indicates that additional interventions beyond promise programs—and even beyond need-based aid—are necessary to substantially increase the persistence and completion of low-income students. Three themes emerged in our review of additional interventions: Guided Pathways Approaches, Comprehensive Support Programs, and Pedagogies of Persistence.

**Recommendations**

Based on our findings, we suggest the following recommendations to support the persistence and completion of low-income students in Tennessee.

***Address Expenses Beyond Tuition.*** To address expenses beyond tuition, we first recommend that Tennessee **fully fund the Tennessee Student Assistance Award (TSAA)**. To



complement financial aid policies such as Promise or TSAA, we also recommend that the state or individual institutions look for opportunities to **collaborate and/or creatively fund comprehensive support programs** to address financial needs of their students not fully addressed by state aid. Finally, we call on institutions to **identify student living expenses** most relevant to students in their local contexts, and then also to **normalize these expenses as “real” costs of attending college**.

***Strengthen the Academic Core of the College Experience.*** To level the learning playing field for low-income students who enter college with diverse experiences, institutions and policymakers should **implement and/or expand meaningful, pre-college experiences**, such as dual enrollment. Community college administrators can also impact low-income student success by working with faculty to align new hire socialization, professional development, and reward structures to **focus on the scholarship of teaching and learning** shown to be effective in engaging diverse learners.

***Integrate Community College Students.*** To increase low-income students’ time and involvement on the community college campus, we recommend implementing a **state-level work-study program** to supplement existing federally funded work-study positions. **Establishing TRiO programs** on more campuses across the state is another effective way institutions could provide an appropriate integration pathway for low-income students attending community college.

*This work was conducted in partnership with Complete Tennessee, an advocacy and research nonprofit that is focused on completion in public higher education in Tennessee.*

## Introduction

Despite increases in access to postsecondary education, addressing gaps in outcomes across socioeconomic groups remains challenging. Over the last 40 years or so, enrollment gaps by income have narrowed a bit, from a 33 point gap in 1970 to a 26 point gap in 2016 (Cahalan, Perna, Yamashita, Wright, & Santillan, 2018). However, there is evidence of growing gaps in college completion between higher-income and lower-income students (Bailey & Dynarski, 2011; Cahalan et al., 2018; Carnevale & Smith, 2018; Ma & Baum, 2016). Even if more lower income students are entering postsecondary institutions today than in the past, inequalities in persistence mean they are less likely to complete a degree than higher income peers. Complex social, financial, and academic factors can influence low-income students' persistence in college, creating multiple barriers to completing a credential. One recent study found that, while about half of inequalities in college completion can be attributed to gaps in college enrollment by family income, inequality in persistence explains a substantial share of inequality in completion (Bailey et al., 2011). Accordingly, reducing gaps in college completion means not only increasing access, but also finding ways to increase persistence of lower-income students.

This study focuses on the persistence of low-income community college students in Tennessee. Community colleges are an important point of access to postsecondary education for many low-income students, but overall completion and transfer out rates remain low, particularly for low-income students (Juszkiewicz, 2015; Ma et al., 2016; McFarland et al., 2017). As institutions with a wide variety of programs and a diversity of learners, community colleges sometimes struggle to balance their missions of access with rising operating costs and the challenges of delivering a quality education, particularly to high need students (Immerwahr, Johnson, & Gasbarra, 2008). Focusing on persistence of low-income community college students is important because studies show there are real economic impacts for students who enter community colleges but do not persist to complete a credential (Carnevale, Smith, & Strohl, 2010; Belfield & Bailey, 2017). One recent analysis of education and earnings in six states indicated completing an associate degree yields strongly positive, persistent, and consistent earnings gains when compared with entering college but not completing an award (Belfield et al., 2017).

We aim to shed light on the experiences of low-income community college students within the policy context of Tennessee, a state that has invested substantially in higher education. In 2015, Tennessee became the nation's first free public K-14 education system through the establishment of the Tennessee Promise scholarship, which covers tuition for two years at a community or technical college in Tennessee. In 2018, the state implemented a similar program for returning adult students, Tennessee Reconnect. We situated our project against the backdrop of Tennessee Promise and the state's other "Drive to 55" initiatives, not only because that context is relevant to students' experiences in Tennessee, but also because, nationally, promise programs continue to enjoy a significant amount of attention as an attractive policy option in many political contexts. Nineteen states now structure at least one statewide financial aid

program as a promise program, and promise programs remained a key issue in several gubernatorial elections and legislative sessions within the past year (Mishory, 2018b; Walsh, 2019). Even though the design and definition of promise programs varies, we do believe that studying the experiences of low-income students within the particularly prominent policy context of Tennessee could have value for others considering or implementing promise programs and related strategies.

This work was conducted in partnership with Complete Tennessee, an advocacy and research nonprofit that is focused on completion in public higher education in Tennessee. Complete Tennessee independently assesses the state's progress towards its higher education goals, and evaluates the equity gaps in postsecondary attainment as well as leadership within the sector. Complete Tennessee works in three key areas to support the success of low-income students: community engagement and investment; advocacy and accountability; and leadership development. Our study supports Complete Tennessee's advocacy and accountability initiatives by examining the challenges and successes in low-income students' experiences in Tennessee's community colleges.

### **Tennessee Community College Context**

Since at least 2010, Tennessee has engaged in statewide higher education reform that has caught the national attention of policymakers and researchers. Driven largely by a state economy that is dependent on having a competitive workforce to attract businesses, the public postsecondary sector has become a laboratory of investment and innovation. The main institutional target of much of this policy innovation has been the community colleges and colleges of applied technology across Tennessee. In particular, recent policies have focused on increasing the number of Tennesseans with a postsecondary degree or credential through a combination of advising, mentoring, and financial aid.

In the 2017-18 academic year, community college students made up roughly 25% of public postsecondary enrollment in the state (Tennessee Higher Education Commission, 2018). Table 1 presents enrollment rates across the 13 community colleges (column 1), as well as the poverty (column 3) and college-going rate of the county where each college's main campus is located (column 4). The colleges are quite diverse and range in size from approximately 11,400 to 2,860 students. The institutions with the highest Pell grant eligible enrollment (column 2)—Nashville State and Southwest Tennessee—are located in the two most populated cities in the state: Nashville and Memphis, respectively. Overall, counties with lower poverty rates also tend to have higher college-going rates, although the county poverty rate does not necessarily correspond to the Pell grant eligible enrollment at an institution. For example, although the county poverty rate for Jackson State Community College is nearly the same as that for Southwest Tennessee Community College, the Pell grant eligible enrollment is nearly 20 percentage points lower. The county college-going rate is also lower for Jackson State, pointing

to a likely disconnect for low-income students who may be otherwise eligible for need-based aid, but are opting not to enroll in college.

Table 1

*Tennessee Community College Enrollment and County Context, 2018*

College	Headcount Enrollment	Percent Pell-Eligible Enrollment	County Poverty Rate	County College-going Rate
	(1)	(2)	(3)	(4)
Pellissippi State CC	11,396	43.7	14.6	64.1
Southwest Tennessee CC	9,220	61.3	20.8	63.5
Volunteer State CC	8,874	43.7	10.4	70.4
Chattanooga State CC	8,504	42.7	16.6	65.8
Nashville State CC	8,318	53.9	18.5	60.9
Motlow State CC	6,622	40.1	13.2	66.7
Walters State CC	6,125	46.3	19.2	66.4
Northeast State CC	6,124	49.6	18.3	67.1
Columbia State CC	5,948	40.2	15.4	60.1
Roane State CC	5,776	47.0	15.0	65.6
Cleveland State CC	3,016	42.4	19.8	64.7
Jackson State CC	4,786	44.2	20.0	60.9
Dyersburg State CC	2,860	43.1	17.8	69.9
<b><i>State Totals</i></b>	<b>87,569</b>	<b>47.1</b>	<b>17.6</b>	<b>63.4</b>

*Note.* This data originates from the Tennessee Higher Education Commission (THEC) 2018 Factbook.

**Financial Aid.** Average annual tuition and mandatory fees for a Tennessee community college was \$4,335 in the 2017-18 academic year. The average total cost of attendance—which includes estimated non-tuition expenses such as textbooks and supplies, off-campus housing, transportation, and other personal fees—at a community college was approximately \$16,000 in 2017-2018 (Tennessee Higher Education Commission, 2018). Although nearly half of community college students utilized at least some portion of the Pell grant in 2017-18, significantly fewer had access to federal loans to finance their cost of attendance. As of 2017,

four community colleges in Tennessee opted out of participating in the federal direct loan program, and of the remaining nine, participation ranged from 2% to 7% of the total first-time, full-time cohort—fewer than 100 students at each institution (U.S. Department of Education, National Center for Education Statistics).

There is a variety of need and merit-based state aid available to community college students in Tennessee. Commonly accessed sources of state financial aid include: the HOPE scholarship, a merit-based award; the HOPE Aspire award, a need-based grant offered as a supplement to the HOPE scholarship, the HOPE Access grant, a lower-merit and need-based award that converts to the traditional HOPE scholarship if the student maintains satisfactory academic progress; and the Tennessee Student Assistance Award, a solely need-based grant that is awarded according to priority filling of the FAFSA. In 2015, the state implemented the Tennessee Promise program for all recent in-state high school graduates. The program has several components, including a last dollar scholarship towards tuition and mandatory fees at any Tennessee public community college. Each participant is also assigned a mentor—a local volunteer who provides assistance in navigating entrance into college—and is required to complete at least 8 hours of community service each term to remain eligible. Other eligibility requirements include completing the FAFSA by a priority deadline, and attempting at least 12 credit hours and maintaining satisfactory academic progress each semester. In 2018, a similar program, Tennessee Reconnect, was implemented for adults—those who filed a FAFSA as an independent student or who are over the age of 24. A summary of these awards and their amounts can be found in Appendix A.

Most state aid is “stackable”—that is, students are able to qualify for more than one award, as long as the total federal, state, and private aid a student receives does not exceed the institution’s published cost of attendance. Tennessee Promise and Reconnect are an exception, as those funds can only be applied towards tuition and mandatory fees, not the total cost of attendance. Students with other sources of aid that total to more than the cost of tuition and mandatory fees do not receive any additional aid from Tennessee Promise or Reconnect, although they are still able to participate in the mentorship, priority registration and advising, and community service components of the program.

### **Research Questions**

The conversation around college persistence and completion among educators, researchers, and policy-makers is often focused on quantitative data. Less frequently discussed are the perspectives and lived experiences of the students finding their way through the postsecondary milestones marked by these quantitative data. This study sheds light on the lived experiences of students across urban and rural regions of Tennessee as a complement to available quantitative data on persistence and completion. Our hope is that studying student experiences within this particular policy environment will provide policymakers and practitioners with

valuable recommendations to better support the persistence and completion of low-income students.

1. What is the current context of college persistence and completion for low-income students in public community colleges in Tennessee?
2. What are the financial, academic, and social experiences of low-income community college students in Tennessee?
3. What policies and/or practices does the literature suggest to support persistence and completion for low-income students in TN?

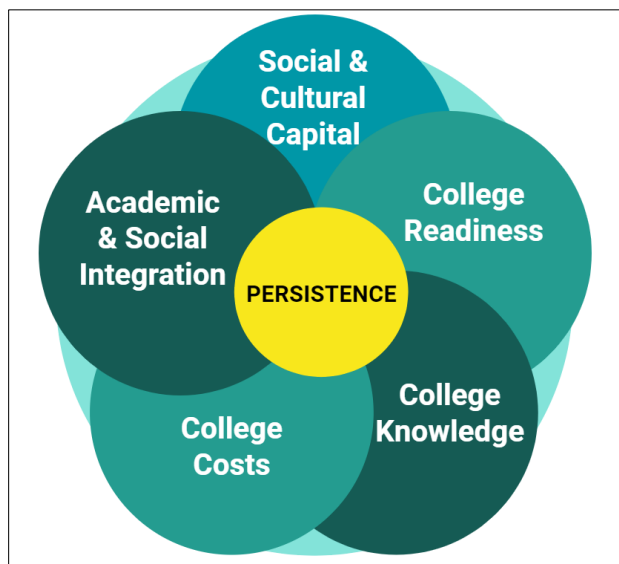
To answer the proposed research questions, we used a mixed-methods approach with the intent of diving deeper into college student persistence and uncovering trends in the thoughts and experiences of low-income community college students. Qualitative methods were employed to learn about student experiences, and quantitative methods were used to provide a more generalizable context to these narratives. The power of our mixed-methods study lies in the extension of gained meanings and understandings of student experiences as a complementary aspect to relevant quantitative college persistence data commonly utilized by key policy-makers and administrators.

### **Literature Review and Conceptual Framework**

Five primary concepts serve as the pillars of our framework for understanding influences on college student persistence—social and cultural capital, college knowledge, college costs, academic preparation/readiness, and academic and social integration. A student's family background significantly influences access to the social and cultural capital that shapes access to information about college (Coleman, 1988; Laureau, 1987). Without adequate knowledge of college prices, financial aid, and academic requirements, students may be less aware of their postsecondary options and less likely to apply to college. College costs—their real and perceived effects—are an obstacle for many college students, especially low-income students, and financial aid does not necessarily guarantee or promote persistence (Bowen & McPherson, 2016). Even if students acquire sufficient knowledge to apply and enroll in college, many students, particularly those from low-income or racially/ethnically diverse backgrounds, may struggle academically because their previous schooling did not prepare them for college-level work. Once on campus, the level of students' academic and social integration into the institution is influenced by their social and cultural capital, college knowledge, and academic preparation with which students enter college.

Accordingly, our study aims to explore students' experiences across five areas to better understand influences on persistence at selected Tennessee community colleges. These areas include: 1) social and cultural capital, 2) college readiness, 3) college knowledge, 4) college costs, and 5) academic and social integration. We identified these five areas as being the most

salient factors that can either positively or negatively affect low-income students' persistence in college. These areas were also hypothesized as having a uniquely distinct relationship on low-income students' persistence attending a community college, in particular. Figure 1 illustrates the overlapping nature and related influence that these five domains have on a student's persistence in college. We hypothesize that any one of these domains may lead to—or prevent—persistence. However, it is our theory that a student may compensate for one domain's negative influence by leveraging or adapting another domain's positive influence. We study these phenomena as they relate to low-income students' experiences attending a community college.



*Figure 1.* Conceptual model of factors affecting persistence.

### **Social and Cultural Capital**

Low-income students and students of color often do not have adequate access to the social and cultural capital necessary to enroll and persist in college (Bowen, Kurzweil, & Tobin, 2005; Perna, 2006). Social and cultural capital collectively refers to the intangible social networks, sources of information, ways of knowing, and belief systems that a student develops primarily because of his or her family background (Coleman, 1988; Laureau, 1987). Family background can create significant differences in social class, culture, income, housing, health and school quality, all of which influence enrollment and attainment gaps in college (Bowen et al., 2005). In fact, the role of family background in a student's choices for training after high school has increased over time. As a result, only 54% of high school graduates in the lowest income quartile enroll in college, and certain minority groups (African-American, Hispanics, and Native Americans) are much less likely to enroll in college than their non-minority peers (Bowen et al., 2005). Accordingly, troubling gaps in college enrollment across socioeconomic and racial/ethnic groups persist, despite a desire to attend college among students and families of all backgrounds (Perna, 2006).

Community colleges are often considered an easy access point in the higher education pipeline, particularly for individuals who are low-income. As these institutions have relatively low tuition costs, as well as low or no academic barriers to entry, access is virtually open to all who are able to attend. Community colleges have, thus, become viewed by policymakers as democratizing institutions that readily serve as vehicles to the middle to class by bringing postsecondary education to populations that are typically underserved (Cohen & Brawer, 1996).

Because community colleges are serving the underserved, the student body is widely diverse, both in students' backgrounds as well as their expectations and future goals. Social and cultural capital are valuable lenses through which to view student persistence. Particularly, the theory proposed by Berger (2000) explores how social and cultural capital can be determinants of persistence. Students with low levels of social and cultural capital are less likely to feel entitled to postsecondary education and, consequently, may not display persistence (McDonough, 1997). Berger further describes how students with higher levels of capital are most likely to persist at institutions with correspondingly high levels of organizational cultural capital (Berger, 2000). Berger specifically categorized community colleges as institutions that have low levels of organizational capital. By extrapolating these concepts, this means that low-income students—who are more likely to have lower levels of social and cultural capital—who enter community colleges—which are institutions that have low levels of organizational cultural capital—are at a greatly compounded disadvantage for persistence.

Rendon's (1994) validation theory has particular applicability to low-income students enrolled in community colleges. Validation theory addresses how disadvantaged students might find success in college—especially those who find it difficult to get involved, have been invalidated in the past, or have doubts about their ability to succeed (Rendon Linares & Munoz, 2011). Student validation theory attributes student involvement on the student's possession of the skills and capital needed to access opportunities for involvement on campus. Students who are first-generation, nontraditional, or from culturally diverse backgrounds are more likely to become involved when they have validating experiences—especially ones in which another individual takes a personal interest in them (Rendon, 1994).

In this study, we explore the impact of academic and social experiences on campus that can develop cultural and social capital for community college students who may lack such resources because of their family background (Karp, Hughes, & O'Gara 2011; Tierney & Venegas, 2006; Tinto, 1997). For example, Tierney & Venegas (2006) found that peer college counseling groups in an under-resourced high school provided both an information channel and college-going norms for students who would not otherwise have access to these resources (Coleman, 1988). The peer counseling group structure created "fictive kin" networks in which students were united by a specific purpose that offered both real resources—college information—and symbolic resources—a college-going identity (Tierney et al., 2006). Similarly, Karp (2011) found that a one-credit student success course for community college freshmen allowed students to form "information networks" with peers and faculty that simultaneously



promoted academic and social integration (Tinto, 1997). In addition, Tinto (1997) found that intentionally structured “classroom communities” in an urban community college created small supportive peer networks that bridged the academic-social divide and facilitated student involvement and increased learning.

While not claiming a simple, linear progression from involvement to persistence, these studies do confirm a potentially valuable relationship among formalized networks, student involvement, and persistence (Karp, 2005; Tinto, 1997). While these studies support the use of formalized programs to bolster students’ social and cultural capital, students may also develop informal networks, or appropriate social organizations created for other purposes, that create social and cultural capital in the college environment (Coleman, 1988). However, informal social connections on a nonresidential community college campus may be more difficult to develop than in four-year residential colleges and universities (Coleman, 1988; Karp, 2005; Tinto, 1997). Accordingly, we aim to build on the existing literature on formalized support programs aimed at bolstering social and cultural capital to also explore informal networks students may develop on campus to gain a deeper understanding of student persistence at selected Tennessee community colleges.

In addition, Perna (2006) outlined the way in which “habitus”—an individual’s ways of being and making sense of the world that encapsulates cultural capital—can impact students’ ability to act on available information on college prices and financial aid, a potential cause of the troubling variations in college access and completion across groups. Perna (2006) provided a conceptual model for a student’s “situated context” that affects decision-making around college, including: habitus, school and community context, higher education context, and broader social, economic and policy context. This model sheds light on the particular ways a student’s family background can impact use of crucial college knowledge, ultimately impacting his or her ability to enroll in college. For example, the significant non-monetary costs of learning about college prices and financial aid, or the economic and psychological differences around willingness to borrow, can shape how low-income students and students of color utilize price and aid information.

Higher education institutions are a primary source of information on college prices and financial aid for students, and their “reactive” approach to providing such information is particularly problematic for low-income students and some students of color (Perna, 2006). Students receive the most specific and important information about college prices and financial aid once they are on campus and enrolled (Perna, 2006). If some groups of disadvantaged students are less likely to enroll in the first place, then they are never granted access to the most specific and important information about prices and financial aid (Perna, 2006). However, there is also a need to understand how enrolled students are navigating their experiences once this information is available and its potential influence on college persistence. Accordingly, we aim to explore students’ experiences navigating the more nuanced information on prices and financial aid after they have enrolled at selected Tennessee community colleges. Our study seeks to extend

Perna's (2006) model to understand students' experiences with knowledge of price and financial aid once enrolled at a postsecondary institution, particularly in light of their family backgrounds.

### **College Readiness**

Students at community colleges enter with diverse academic backgrounds. The community college student population is composed of many types of nontraditional college students which include recent high school graduates originating from non-rigorous K-12 curricula or homeschooling, as well as adult students who are re-entering college after many years or decades following high school graduation. The community college mission is predicated on providing broad, open access to all who apply, irrespective of academic qualifications. Important to issues of retention and graduation is the level of academic preparation for college-level work.

Many policies and initiatives have been implemented with a focus on providing access to college for all. Still, given the variation in promise program structures and implementation, results could be limited if programs are not structured well to support completion. Even if low-income students gain access to college through reduced costs, their academic preparation for college-level work could be significantly diminished by the negative impacts of a lifetime of poverty and racism. College and university presidents have identified inadequate academic skills for college work as a significant threat to access to higher education (Immerwahr et al., 2008). These leaders believe that even if students can afford college, "inadequate preparation at the high school levels means they will not graduate" (Immerwahr et al., 2008, p. 18). Low-income students and students of color are at a particular disadvantage. A greater share of these students tend to be marginally qualified or unqualified for admission at four-year institutions, and many must take remedial courses upon entering (Venezia et al., 2004).

Since most community colleges have low or no academic barriers to entry, they frequently serve as a bridge to four-year institutions or the job market, offering developmental courses in writing, reading, and mathematics. Developmental courses allow community colleges to help bring academically underprepared students up to speed in preparation for college-level courses. However, students of color, adults, first-generation students, and students from low-income backgrounds are disproportionately represented among the millions of students who enroll in developmental education (Ganga, Mazzariello, & Edgecombe, 2018). Approximately two-thirds of community college students take at least one developmental course while enrolled (Center for Community College Student Engagement, 2016). Students who take developmental courses in college, in turn, have a significantly decreased likelihood of persisting to graduation: only 28% of recent high school graduates who were placed into developmental courses ever completed a degree or certificate program (Attewell, Lavin, Domina, & Levey, 2006). Remediation as traditionally taught has had, at best, modest effects on improving outcomes for students who enter college with weak academic skills (Ganga et al., 2018).

Of particular concern is the disparity in levels of academic preparation between strata of socioeconomic status (SES). In a national survey of eighth graders (Cabrera & La Nasa, 2000), 71.4% of students of lower SES were not qualified for college, compared to just 30.3% of students of higher SES. While approximately the same proportion of students who graduated from both groups eventually enrolled at a community college (21.9% vs 22.6%, respectively), the students of lower SES would be almost twice as likely to be placed in developmental courses (Cabrera et al., 2000). Recent data from the National Assessment of Educational Progress (2017) suggest that most lower-income students remain underprepared for college-level work in crucial subjects such as mathematics and reading. The achievement gap in mathematics between students eligible and not eligible for the National School Lunch Program (NSLP) widened between 2003-2017 for 4th graders and remained about the same for 8th graders (National Assessment of Educational Progress, 2017). Achievement gaps in reading among 4th and 8th graders also remained the same between 2003-2017 (National Assessment of Educational Progress, 2017). These widening and persistent gaps in areas critical for college readiness suggest that lower-income students have been consistently less academically prepared for postsecondary study than their higher-income peers.

While many colleges rely on summative, standardized aptitude tests such as the ACT to indicate college readiness, there have been links between college completion and other metrics that are more indicative of overall academic rigor in high school. In a policy report on the disconnect between K-12 and postsecondary systems, Venezia, Kirst, and Antonio (2005) note that a high-quality, rigorous high school curriculum has one of the most pronounced effects on postsecondary success. One example of this assertion is in the strong correlation between completion of a bachelor's degree and highest math course taken in high school (Venezia et al., 2005). Between the lowest level (Algebra I) and the highest (Calculus) there is a ten-fold increase in the likelihood of college graduation. Students in the higher level courses also received more targeted information about college-going, both from high school teachers and counselors, as well as higher education recruiters (Venezia et al., 2005).

Linking these together provides a clear framework: the starting point in college matters—a great deal—and that starting point is determined by academic preparation in high school. This study examines and verifies this link in order to better understand what impact college readiness has on low-income community college students' persistence.

### **College Knowledge**

While many high school students intend on attending college, few have an accurate understanding of requirements and available resources. In the first two years of high school, students receive college information from family and peers. As students move closer to graduation, they begin to utilize counselors and teachers as well as college fairs and websites to learn more about postsecondary education (Bell, Rowan-Kenyon, & Perna, 2009). However, few schools have the capability to connect high school course work—rigor—with college

awareness and preparation—college knowledge (Bell et al., 2009). In addition, there is often a disconnect between what K-12 educators believe is expected of students in college and what is actually expected in college (Venezia et al., 2004). Unfortunately, these issues tend to disproportionately affect first-generation and low-income students (Bowen et al., 2005).

Students with lower levels of college knowledge are less likely to apply and enroll in college (Bell et al., 2009; Venezia et al., 2004). With fewer accessible informational resources about financial aid and application processes, students from low-income brackets often fail to file a FAFSA and miss out on the needed financial assistance. In addition, students do not understand how to navigate the financial aid application process and what course curriculum must be completed to be eligible for the state level aid programs (Tierney et al., 2006). It is common for families to underestimate the amount of financial aid available, so students may steer away from college due to financial concerns (Bell et al., 2009). As suggested by rational choice theory, the quality of choices individuals make regarding their continuation of higher education will vary as a function of the quality and quantity of information that is available to them (Grodsky & Jones, 2007). The idea is that if parents, guardians, or the students themselves, believe that tuition costs are prohibitively high, they will likely not make preparatory actions or decisions that lead to attainment of a higher education.

Students who do manage to enroll in college despite these challenges may be unprepared to navigate crucial student services that could derail their success and completion of a degree. Some policies and practices are attempting to fill the college knowledge gap with advising, registration and financial aid assistance to mitigate the lack of accurate information among students and their families. To combat this knowledge gap, state policies such as the TN Promise scholarship and mentor program pairs qualifying college-bound seniors with a volunteer mentor from the community who guides them through the process of applying for college. Building on the literature on college knowledge in high school, our study seeks to understand Tennessee community college students' experiences with key services like financial aid and advising in this policy context.

### **College Costs**

Another important influence on persistence and completion, particularly for low-income students, is the cost associated with attending college. Although financial aid may cover tuition and fees, other unknown or unexpected expenses may derail a student's ability to attend classes, maintain full-time status, or remain enrolled at all (Goldrick-Rab & Kendall, 2016). There is generally inadequate and/or inaccessible information about college costs and the financial aid process, particularly among low-income, first-generation, African American, and Hispanic students (Perna, 2006). Navigating the financial aid process in particular can be an insurmountable burden for under-resourced students and their families. Recent data indicates that 11% of undergraduates who live below the federal poverty line and 15% of students living between 100 and 150% of the poverty line had not filed a FAFSA (Bergeron & Flores, 2015).

These students not only missed out on critical federal aid such as the Pell grant and Supplemental Educational Opportunity Grant (SEOG), but also countless state aid and private grants and scholarships, as the FAFSA is often a requirement for non-federal financial aid as well.

Many aid grantors, including the federal and state governments, use a college's published cost of attendance (COA) as the standard for estimating how much aid a student should receive. Included in the calculation are tuition and mandatory fees, textbooks, housing/room and board, transportation, and personal expenses. Each institution is responsible for providing its own COA calculation, and these may vary widely between institutional types and localities (Goldrick-Rab, 2016). Current limitations on government-provided financial aid generally stipulate that the combination of grants, scholarships, and loans cannot be awarded in excess of the published cost of attendance. This means that at the very best, a student may "break even," but as is more often the case, the COA is not an accurate estimate of the actual net price to students, and they are left with a gap.

Absent from the cost of attendance calculation provided by colleges is the opportunity cost associated with going to college. This includes the forgone wages or income and job experience that a student loses by instead enrolling in college (Goldrick-Rab, 2016). While research demonstrates that obtaining a college degree is, on balance, worth the investment, the positive outcomes associated with completion do not apply equally across demographics. That is, low-income, first-generation, and students of color are more likely to experience less if any social mobility as a result of graduation from college. Further, students from low-income families also are frequently expected to contribute the family finances while in school—55% of students in one study gave money to their families and 17% provided at least \$200 per year (Goldrick-Rab, 2016).

As students and their families feel increasingly "trapped" between the economic need to attend college and real or perceived economic limitations to pay for it, policymakers are pressured to identify solutions (McGee, 2015). The core of promise program models—free or reduced tuition—primarily aims to impact college enrollment gaps by addressing "outright financial hardship" by providing funding for tuition and mandatory fees (Bowen et al., 2005).

However, not all promise programs address the other neighborhood and family factors that contribute to the low income-high income college enrollment gap, which can limit their potential impact on school quality, student achievement, and community development (Miller-Adams & Iriti, 2016; Perna et al., 2017). There is also concern that promise programs may serve to "downshift" students to community colleges or less-selective four-year institutions, potentially reducing their access to the benefits of completing a bachelor's degree (Miller-Adams et al., 2016). Student completion rates vary by institutional selectivity. For the 2009 cohort, the six-year completion rate of first-time, full-time freshmen at four-year institutions accepting 90% or more of applicants was 48%, while institutions that accepted less than a quarter of applicants had an 88% completion rate (McFarland et al., 2017). Along with completing college, attending an

institution of high quality also increases the returns to attending college (Oreopoulos & Petronijevic, 2013).

Nonetheless, there is some evidence that promise programs can have positive effects on not only access, but persistence and completion (Bartik, Hershbein, & Lachowska, 2015). One study of Kalamazoo Promise indicated that credentials earned after six years had increased between nine and 12 percentage points, and effects were strongest for ethnic minorities and women (Bartik et al., 2015). The Kalamazoo results align with other evidence on financial subsidies and completion. In their review of research evidence on the relationship between college costs and educational attainment, Deming and Dynarski (2009) concluded: “The best estimates suggest that eligibility for \$1,000 of subsidy increases college attendance rates by roughly four percentage points. Aid eligibility also appears to increase completed schooling and shift students from community colleges toward four-year schools” (Deming et al., 2009, p. 11). Accordingly, it is possible promise programs could have positive effects on completion, beyond the access provided by tuition benefits.

An arbitrary price differential between community college and the first two years at a four-year institution can distort students’ view of their options (Bowen et al., 2016). College students, especially low-income students, have a confusing decision to make when it comes to college choice. Because understanding and navigating college costs and financial aid programs, like Pell and promise, can be difficult for any college student—especially those who are low-income—this study seeks to better understand how college costs and financial aid programs impact the experiences and, potentially, the persistence of low-income community college students in Tennessee.

### **Academic and Social Integration**

Successful navigation of challenges involved with access, finances, and enrollment are merely the first step. Once students arrive on campus, there are many additional challenges they will face in persisting throughout their college career related to academic and social integration—particularly for low-income commuter students attending a community college. One of the primary theories applied to understanding voluntary student departure—commonly referred to as the issue of student persistence—is Tinto’s interactionalist model (1975, 1988). Tinto (1975, 1988) presents the process of voluntary student departure as being longitudinal in nature and postulates that students bring to college with them a set of traits such as ethnicity, secondary school achievement, parental encouragement for college, and family socioeconomic status. Tinto (1975, 1988) further describes how these traits influence students’ initial level of commitment to the institution and to the goal of college graduation. Tinto (1975, 1988) concludes that student entry traits and their initial levels of commitment affect the degree to which an individual becomes integrated into the institution’s academic and social communities—meaning the student’s individual level of academic and social integration affects their subsequent

level of commitment to the institution and to the goal of college graduation. In turn, these commitments have a direct influence on students' persistence.

Tinto's theory (1975, 1988) also describes how all students enter college with expectations. Consequently, academic and social integration can be hindered by unmet expectations of entering college students—which can, in turn, influence subsequent institutional and goal commitments and ultimately student departure (Braxton, 1995). In a study of several factors that can affect voluntary student departure and the influences of these factors on academic and social integration, Braxton (1995) investigated the alignment and match of students' expectations for academic and career development, opportunities for personal involvement, a collegiate atmosphere, and intentions to remain in the focal college. These factors have important implications for understanding student persistence, especially considering the unique situations of student experience in community colleges and technical institutions.

Tinto asserts that the classroom functions as a gateway for student involvement in the academic and social communities of college (Tinto, Goodsell, & Russo, 1993). Braxton offers various constructs to Tinto's theory that are derived from a consideration of the role of the college classroom in student persistence and identifies elements central to this concept—primarily academic-based practices such as active and cooperative learning strategies—that influence social integration in general (Braxton, 2000). Essentially, if social integration is to occur, then it must at least happen in the classroom. This point is all the more important for students attending non-residential community colleges, where attendance in the classroom is likely to be their only form of participation in college.

Economic stratification of participation matters. Despite the efforts of institutions at both four- and two-year colleges, as well as organizations and consulting firms which have been created to aid in increasing persistence, overall substantial gains in increased persistence have not occurred (Tinto, 2006). As low-income students are one of the most at-risk populations for high attrition rates, focusing on their success and persistence is essential to increase overall persistence. Life circumstances and experiences for low-income students affect where and how they go to college. And where and how one goes to college influences the likelihood of college completion (Tinto, 2006).

Community colleges are predominantly commuter institutions. In addition, the student body on a community college campus is diverse. It is comprised of individuals of different ages and capabilities that have varying schedules and divergent goals and expectations for their time in college. Some students attend for a technical certificate or associate's degree program, while others attend community college as a means to another end (i.e., transferring to a university). These elements make describing the function and understanding the role of academic and social integration at two-year institutions difficult. Much of the research in this area is based on an image of college life typified by residential four-year institutions with multifaceted interactions inside and outside the classroom among students and between students and professors (Bailey et

al., 2004). The commuter characteristic of community colleges makes students less likely to interact socially outside of school hours, with a substantial proportion of community college students attending part time and regarding what time they do spend on campus as transitory (Alfonso, 2004).

What limited research exists on academic and social integration of community college students shows inconsistent results. Some research has found small positive effects (Bers & Smith, 1991; Napoli & Wortman, 1998), other studies found no effect, and, in at least one case, social integration was found to have a negative effect (Nora, Attinasi, & Matonak, 1990). These studies use traditional metrics of integration—like interaction with faculty, interaction with peers and extracurricular involvement. However, it has been contended that these traditional metrics and models do not work as well for commuter colleges as residential colleges (Pascarella & Terenzini, 1991). The evidence provided on integration of community college students make clear that various traditional measures of social integration show little if any positive relationship with persistence at commuter institutions (Pascarella et al., 1991).

Limitations in operationalizing and applying seminal pieces of literature on academic and social integration exist, especially for use in the community college context. Much of our understanding of persistence and voluntary departure is founded on work that was primarily generated from research on traditional, residential four-year colleges and universities. One example of the differences that exist between community college students and traditional, four-year college students is that of separation from community of origin—a primary tenet of Tinto's Theory of Student Departure. Persistence within the first year, and particularly during the first semester, are important markers since approximately three-fourths of all dropouts leave at some time during the first year (Tinto, 1987). Integration within the first few weeks of the first semester are, therefore, regarded as a critical time for students.

According to Tinto's theory, for an individual to successfully transition as a member from one group to another—in this case, a non-college student to a college student—the first step is to effectively separate from one's community of origin. Academic integration and social integration occur as students abandon the values, norms, and behavior patterns from family and peer communities in favor of those of the academic and social subsystems at the institution where they are enrolled (Tinto, 1975, 1993). In theory, this allows an individual to transition successfully and eventually incorporate a new identity. Tinto (1993) observed that, of all the students who leave college, more than 75% do so because of difficulties related to a lack of fit between the academic and social skills and interests of students, with the remaining 25% dropping out because of academic failure. Beyond low-income students' preparation for college leading to early departure (i.e., dropping out because of poor grades), these students' actual and/or perceived level of "fit" is clearly important to their overall persistence.

Separation, the first stage in the process, or rite of passage, is the dissociation from one's previous communities, and it has frequently been used to explain why some students depart



during their first semester of college (Elkins, Braxton, & James, 2000). However, the effects of separation on persistence have received little empirical attention—especially considering the unique situation of community college students. The vast majority of two-year students enroll in community colleges while remaining in their communities of origin. In fact, many of these students—especially low-income students—either depend on others or have others depending on them, and they are not able to sever ties or completely abandon the norms and behaviors from their communities of origin while attending college. As most community colleges do not have on-campus housing, the very nature of attending community college negates one of the primary tenets of Tinto’s theory of student departure—that for adequate institutional integration to occur, college students must separate from their culture of origin (Deil-Amen, 2011). Therefore, understanding what integration looks like in the two-year commuter context is critical in appropriately interpreting data on persistence as well as in creating and implementing policies aimed at low-income student completion.

### **Summary**

While financial aid and promise programs aim to increase access to college—and have in many ways—the narrative is more complicated than it seems at face value, especially for low-income students. These access initiatives attempt to remedy many pre-college issues in the higher education pipeline. However, once a student does successfully overcome any deficiencies in social/cultural capital, academic preparation, college knowledge and college costs, the pipeline often springs a leak at the integration connection—especially for low-income community college students. Factors relating to social integration through and within the community college classroom provide important information in understanding student persistence at selected Tennessee community colleges. This study seeks to better understand influences of student entry traits and expectations, as well as the role of the classroom, on social integration and students’ subsequent institutional commitment at selected Tennessee community colleges. Beyond traditional metrics of integration, this study also seeks to further understand what factors are affecting low-income community college students’ actual and/or perceived level of fit into their institutions.

### **Analytic Methods and Results**

#### **Research Question 1: What is the current context of college persistence and completion for low-income students in public community colleges in Tennessee?**

#### **Quantitative Analysis**

We undertook a quantitative analysis to understand the context of persistence and completion of low-income students on a broad scale. Institution-level data was collected from the Integrated Postsecondary Education Data System (IPEDS). Since the IPEDS survey only began collecting outcomes measures disaggregated for Pell grant recipients in 2016, degree completion rates analyzed for this study are from the 2010 and 2011 first-time, full-time student cohorts.

A suburban community college, the same one where interviews were conducted for our qualitative study, was selected to provide student-level data for several reasons: it is the community college with the largest enrollment, it was an early adopter and pilot school for the Tennessee Promise and Reconnect programs, and its proximity to both the flagship state research university and several technical and applied colleges provided for a diverse student body with a range of educational aspirations.

The school-based sample constitutes the entire population of degree-seeking, first-time first-year students who began at the suburban community college in the fall semesters of 2014, 2015, and 2016. These three cohorts were selected for study since they are the most recent groups with six semesters of data available, and they span across a major shift in higher education policy: the Tennessee Promise program was implemented at community colleges statewide in fall 2015. It is important to note that beginning fall 2018, the adult/independent student free college program Tennessee Reconnect rolled out statewide, and so subsequent samples may have different demographic makeup (in particular, we would expect to see higher proportions of students over the age of 24 as compared to previous years).

*Sample*

In order to operationalize the first research question, we requested variables that could be linked quantitatively to our conceptual framework. Six semesters (150% time for an associate’s degree) of longitudinal, de-identified, student-level data were collected from the fall (August) 2014, 2015, and 2016 cohorts of first-time, first-year students at the institution. Institutional data is collated from student application information and Banner, the student information system (SIS).

Table 2

*Enrollment Data for One Suburban Community College Over Time*

	2014	2015	2016
n	2,110	2,478	2,401
Pell grant eligibility	0.5417	0.4952	0.4873

Pell grant eligibility is a binary variable that indicates if a student was eligible for the Pell grant in their first year of enrollment. The Tennessee Promise status variable indicates if a student satisfied all eligibility requirements for the program, it does not mean the student received financial aid, nor if the student lost eligibility in future semesters. The dual enrollment variable indicates if the student received college credit for courses taken at the college, using the state dual enrollment scholarship. The EFC (expected family contribution) variable is only

reported for those students who are Pell grant eligible. First-generation status was also self-reported on the student's application. Course-level variables only record the name and final grade in the course, not the semester it was taken. Math course data is for the first college-level course attempted. English course data is the final or most recent attempt in the first-year composition course. Degree status indicates whether a student obtained an associate's degree, and does not include certificates of any length. Transfer and non-degree-seeking students are not included in the cohort. Observations with missing values were omitted from analysis.

### ***Methods***

Using Pell grant eligibility as the main disaggregating variable, we compared the differences in the various financial, academic, and background factors of low-income students, to describe their current context. Simple, two-tailed t-tests were used to determine statistical significance between the groups:

$$H_0: \theta_p = \theta_N$$

$$H_A: \theta_p \neq \theta_N$$

Where  $\theta_p$  represented the mean (or proportion) for each variable among Pell grant eligible students and  $\theta_N$  the mean among non-Pell grant eligible students.

We also performed an ordinary least squares regression analysis to model how the identified factors influenced the dependent variable of degree completion in term six for all students. In this analysis, the independent variables were grouped according to the framework developed through the literature review: background/socioeconomic status (age, race, first-generation status, Pell grant eligibility), college knowledge and readiness (ACT composite score, dual enrollment participation, Tennessee Promise eligibility), and academic integration/progress (grades of first mathematics and English courses taken and credit hour accumulation by term). The regression allowed us to create progressive models of completion, and examine the additive effects of including different factors as predictors of success.

## **Quantitative Results**

### ***Statewide Data***

Completion rates vary greatly between institutions and across the state. Table 3 provides degree completion rates for the first-time, full-time 2013 and 2014 cohorts at each Tennessee community college, disaggregated by type of federal aid received. Students who received the Pell grant and did not take up federal loans are counted in the *Pell only* columns. Students who did not receive the Pell grant, but instead took up federal loans are represented in the *Stafford Loan, no Pell* column. For the 2013 cohort, five community colleges did not have any students who participated in the federal loan program. In the 2014 cohort this number decreased to 4 institutions, as Columbia State Community College had federal loan student borrowers in that

year. Students in the *No Pell, no loan* columns did not receive federal financial aid in the form of the Pell grant or Stafford loans at all. However, students from any of these groups may have received state aid (such as HOPE or the Tennessee Student Assistance Award) or other grants, scholarships, or loans. In fact, on average, 59% of students in the 2014 first-time first-year cohort received state or local aid at Tennessee community colleges, with an average amount of \$2,430 in the 2014-15 school year. This number has increased substantially with the state’s renewed policy focus: the percentage of first-time, first-year students in 2016-17 receiving state or local aid at Tennessee community colleges ranged from 68% to 89%, with an average award amount of \$3,100. An institution-level breakdown of financial aid types, percentages of students, and average amounts for the three most recent school years can be found in Appendix B.

Table 3

*Completion Rates Across Tennessee Community Colleges*

	2013 cohort, 3-year grad rate			2014 cohort, 3-year grad rate		
	Pell only (%)	Stafford loan, no Pell (%)	No Pell, no loan (%)	Pell only (%)	Stafford loan, no Pell (%)	No Pell, no loan (%)
Chattanooga State CC	10.5	11.9	18.5	12.6	20.3	23.0
Cleveland State CC	20.1	21.2	25.5	18.1	7.4	23.1
Columbia State CC	4.4	*	84.6	24.9	22.9	33.2
Dyersburg State CC	15.4	15.0	25.0	13.8	29.4	26.4
Jackson State CC	9.5	*	13.1	13.1	*	22.5
Motlow State CC	26.9	27.9	31.8	30.5	26.7	37.9
Nashville State CC	10.9	11.9	39.8	16.3	28.6	22.6
Northeast State CC	19.0	*	29.6	18.5	*	33.6
Pellissippi State CC	16.7	17.0	22.3	21.9	17.3	34.8
Roane State CC	22.0	20.4	30.7	22.2	16.7	40.2
Southwest TN CC	7.8	*	14.8	8.8	*	13.2
Volunteer State CC	19.4	16.9	31.4	19.6	17.4	28.9
Walters State CC	25.4	*	27.1	19.8	*	35.3

*Note:* \*Institution did not report any students participating in the federal Stafford loan program (U.S. Department of Education, National Center for Education Statistics)

Across the two cohorts of reported data, the graduation rates for Pell grant eligible students are lower than the rates for students with no Pell grant or federal loan aid. At six institutions, the gap between graduation rates for Pell only and no Pell, no loan students was over 10 percentage points in the 2014 cohort. Over time, four institutions saw a decrease in the graduation rate for Pell only students, the largest at Walters State Community College with a nearly six point difference. Only four institutions—Pellissippi State, Motlow State, Jackson State, and Chattanooga State—were able to increase graduation rates for all students across the two cohorts.

***Suburban Community College Data***

Student-level data was made available by the suburban community college for further analysis of factors linked to completion among community college students. Across all relevant variables there is a statistically significant difference between Pell eligible and non-Pell eligible students. Pell eligible students are twice as likely to be non-white (12.8% vs. 25.4%)—however, first generation students made up nearly double the proportion of non-Pell eligible students (59.6%) as compared to Pell eligible students (31%). Non-Pell eligible students were also much more likely to be in the TN Promise program, had slightly higher ACT scores, and were less likely to have 60 credit hours but no degree at the end of their sixth semester. Pell grant eligible students were also significantly more likely to enroll in a math course with no minimum ACT requirement, a possible indication of lower math preparedness among that group of students.

Table 4

*Comparison Between Pell and non-Pell Grant Students Across One Suburban Community College*

	Non-Pell Eligible	Pell Eligible	p-value
<b>Background Characteristics</b>			
First Generation	0.596	0.310	0.000
Non-white	0.128	0.254	0.000
Adult (24 years and older)	0.031	0.101	0.000
Age	18.6	19.6	0.000
<b>Pre-College</b>			
ACT Composite Score	20.8	19.2	0.000
Dual Enrollment	0.175	0.078	0.000
TN Promise**	0.768	0.554	0.000

Table 4 (continued)

Academic				
	On time, Year 1	0.471	0.323	0.000
	On time, Year 2	0.3196	0.2011	p=0.000
	On time, Year 3	0.2576	0.1947	p=0.000
	60+ hours and no degree*	0.0632	0.0443	p=0.015
	Degree completers*	0.3147	0.2143	p=0.000
	N	3449	3540	

Note: \*Includes only the 2014 and 2015 cohorts; \*\*Includes only the 2015 and 2016 cohorts

Four stepwise OLS regression models were compared for explanatory power of the dependent variable, degree status in term six. Only the 2014 and 2015 cohorts were included in this analysis, as the 2016 cohort had not completed their sixth semester at the time this analysis was conducted. Model 1 contains only background/socioeconomic characteristics of students. Model 2 incorporates college knowledge and readiness, including ACT composite score, whether a student took at least one dual enrollment course while in high school, and Tennessee Promise status (which would indicate that the student completed the FAFSA on time, registered early for classes, completed eight hours of community service as a high school senior, and met at least once with a community mentor). In Model 3 the indicator variables of passing the first attempted college-level math course and the first-year composition course were included. These courses may have been passed at any point in the six semester data span. The fourth model includes variables that indicate on-time progression towards a degree within three years: that is, whether the student had earned at least 24 credit hours by the end of semester 2; at least 48 hours by the end of semester 4; and at least 60 earn hours by the end of semester 6.

Table 5

*Stepwise Regression of Student Characteristics on Degree Completion in Term 6*

	Model 1	Model 2	Model 3	Model 4
Nonwhite	-.0506*** (.0127)	-.0079 (.0144)	-.0010 (.0168)	-.0093 (.0146)
Age	-.0015 (.0013)	.0018 (.0075)	.0077 (.0082)	-.0001 (.0066)
First Gen	.0135 (.0101)	-.0159 (.0113)	-.0243* (.0132)	-.0189 (.0116)
Pell Eligible	-.0735*** (.0105)	-.0407*** (.0115)	-.0302** (.0133)	-.0021 (.0117)

Table 5 (continued)

TN Promise	.0522*** (.0109)	.0153 (.0128)	.0343*** (.0114)
ACT Composite score	.0181*** (.0015)	.0102*** (.0019)	.0067*** (.0016)
Dual Enrollment	.1841*** (.0159)	.0717*** (.0259)	.0842*** (.0232)
Passed Math		.1766*** (.0155)	-.0033 (.0146)
Passed English		.1975*** (.0176)	.0538*** (.0163)
On time, Year 1			.0487*** (.0155)
On time, Year 2			.2680*** (.0193)
On time, Year 3			.5161*** (.0175)
R-squared	.0131	.0779	.1298
			.6281

Note: \*p<0.1 \*\*p<0.05 \*\*\*p<0.01

This regression analysis shows that age and race are not statistically significant predictors once other financial and academic factors are included. On the other hand, participation in dual enrollment and the ACT composite score are statistically significant predictors of completion across all models where they are included, pointing to the importance of college readiness for community college students.

In Tennessee, high school juniors and seniors are able to apply for state aid to enroll in college courses offered by both two- and four-year institutions. When dual enrollment is further disaggregated by zero and nonzero EFC of Pell-grant eligible students (Figure 2), the three-year completion rate for zero EFC students almost quadruples (from 16% to 46% across all cohorts) for students who took a dual enrollment class during high school.

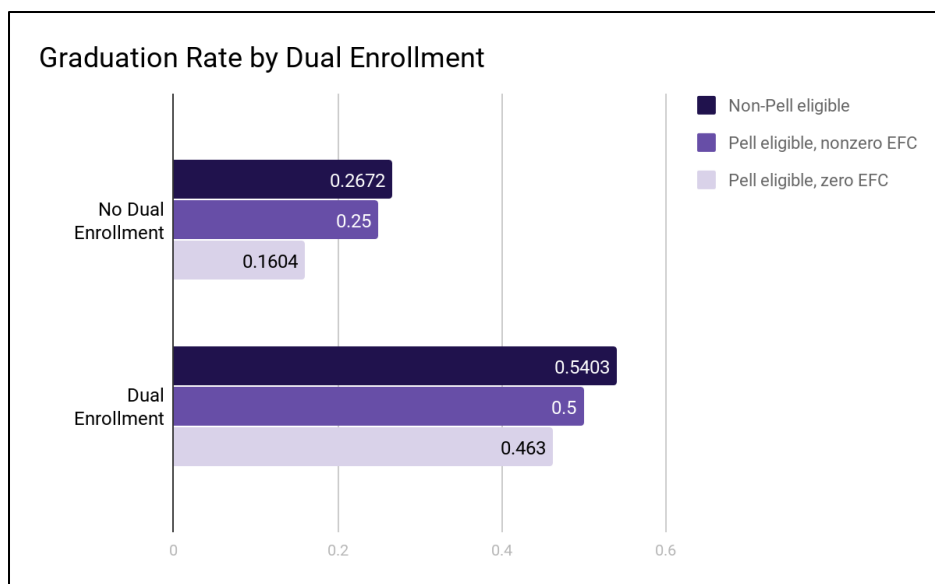


Figure 2. Completion Rates by Dual Enrollment Participation

Successfully passing the first-year mathematics and English courses also appeared to have a somewhat significant effect on likelihood of degree completion in six terms. In particular, the first-year English course is a requirement for all degree programs at this institution, in both applied/career and university parallel/transfer majors, whereas a math course could be substituted for by other natural science courses for some majors. This would explain the English course’s statistical significance in the final model.

An interesting, incidental finding is the significant relationship between passing the two courses. As shown in Figure 3, across all levels of need, students were most likely to pass both English and math courses at some point in their first six semesters of enrollment than to pass only one or neither. However, for a student who passed her math course successfully, there is a 90% chance she also passed the English course. If a student did not pass their first attempted math course, this percentage drops down to 50%. If the courses are reversed, 70% of students who passed English also passed their math course. This can be interpreted as an important link across disciplines in terms of student success—that is, there appear to be universal tools or characteristics that students can tap into, in order to be successful in their critical, first foundational courses.



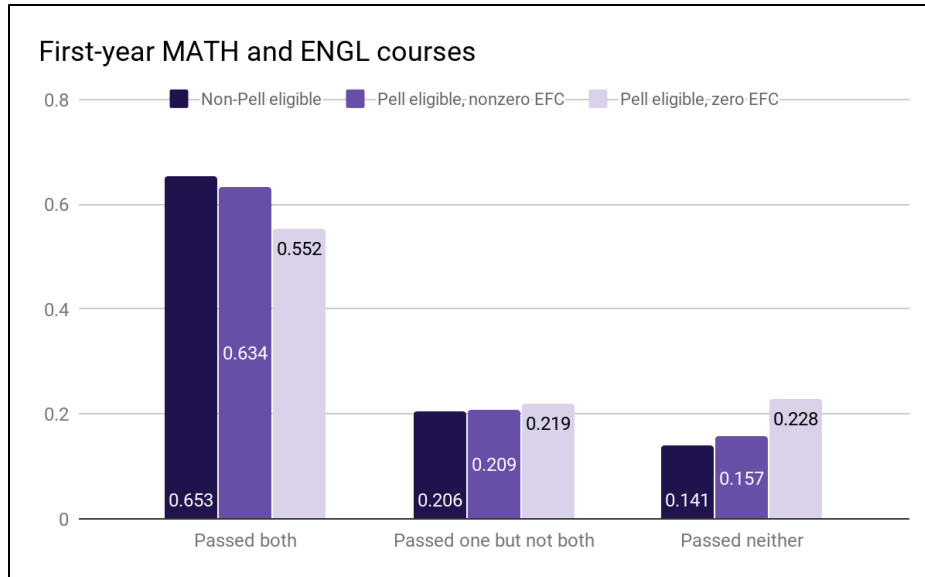


Figure 3. Course Completion by Discipline

On-time credit hour progression (i.e. completing at least 12 hours each semester) has the largest contribution to completion for all students, particularly after the first year. In fact, once credit hour progression is included in the model, the R-squared value increases five-fold, explaining nearly 63% of the variation in three year degree completion.

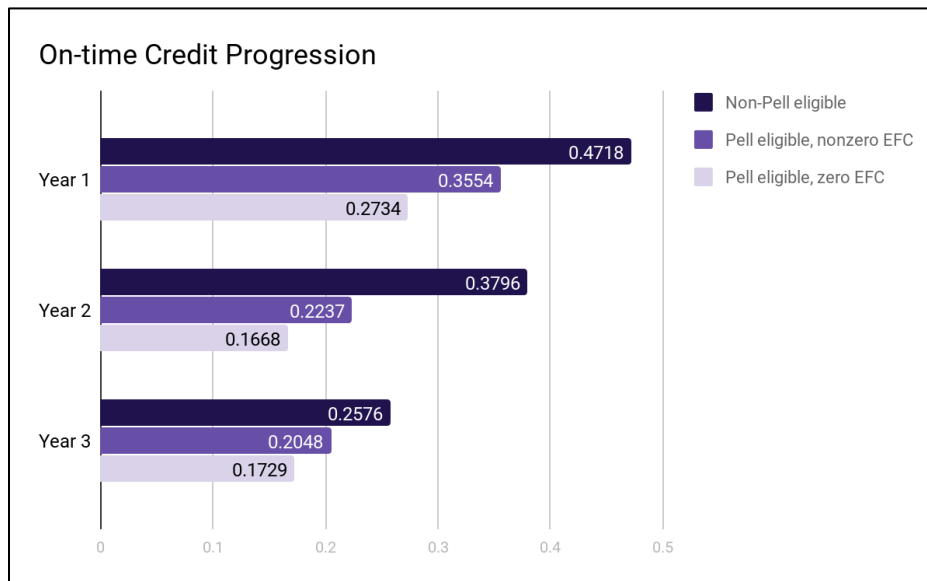


Figure 4. Percentage of Students with On-time Progression

On-time progression is also negatively correlated to overall level of need—students receiving the Pell grant and with zero EFC are least likely to have sufficient earned hours at the end of each semester to graduate within three years. Figure 4 shows that although the gap

between non-Pell eligible and both groups of Pell eligible students narrows over time, it does so as the rate for all students decreases substantially over time.

This is also evident on a term-by-term basis, as the mean credit hour accumulation gap was most pronounced between non-Pell eligible and Pell eligible, zero EFC students. As seen in Figure 5, the difference in credit hours earned increased over time, starting with a 3 hour (one course) difference in the first term that increases to an 11 hour (or nearly full semester) difference by the sixth semester between non-Pell eligible and zero EFC Pell eligible students. Further, after the second semester, zero EFC Pell eligible students increase on average by less than one course per semester, compared to the nonzero EFC Pell and non-Pell eligible students who increase by more than three hours between terms two, three, four, and five. However, persistence across all levels of need wanes by the sixth term, with the average gain less than two hours between the fifth and sixth semesters.

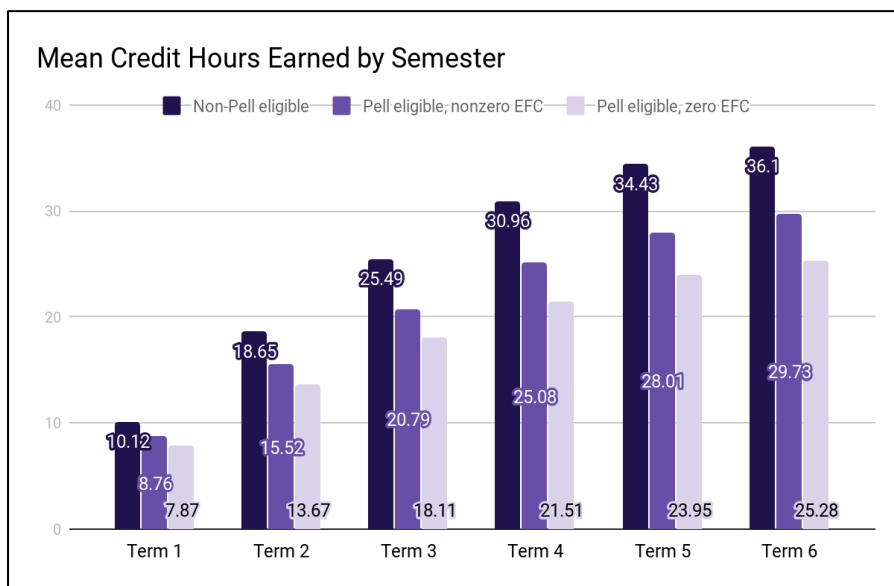


Figure 5. Mean Earned Credit Hours each Term

Overall, this school-based sample illustrates the differences and gaps between non-Pell and Pell grant eligible students. Across almost all indicators and variables, these gaps are further exacerbated by EFC, particularly for Pell grant eligible students.

### Quantitative Limitations

In this study, we have used mainly used Pell grant eligibility as a binary proxy for low-income status, since that was the most universally reported variable in the quantitative data, and easy to explain for recruitment of qualitative interviewees. However not all students who receive the Pell grant are necessarily in the lowest income quintiles, and not all students qualify for the maximum award. In fact, the Pell grant is offered in varying amounts based on both EFC and the published cost of attendance for the student’s selected institution. In the 2018-19 school year for

example, the minimum Pell grant amount that could be awarded was \$600, for EFCs ranging from 0 to 2700, depending on cost of attendance. Further, the binary Pell variable does not capture if there is a change in a student's status—for example a student can become ineligible for the Pell grant in subsequent semesters due to a change in their income. Future study of barriers to completion for low-income students should include disaggregation by income quintile, rather than solely relying on access to grant aid as an indicator for economic status.

**Research Question 2: What are the financial, academic, and social experiences of low-income community college students in Tennessee?**

**Qualitative Analysis**

A qualitative approach was used to answer our second research question with the intent of diving deeper into college student persistence and potentially uncovering trends in the thoughts and experiences of low-income community college students. Qualitative inquiry lends itself to understanding human meaning-making (Patton, 2015). Primarily a form of exploratory research, qualitative methodologies are used to gain an understanding of underlying motivations, reasons, or opinions. The potential power of our mixed-methods study lies in the extension of gained meanings and understandings of student experiences as a complementary aspect to relevant quantitative college persistence data commonly utilized by key policy-makers and administrators.

***Data Collection***

As our client is a non-profit organization not affiliated with any one particular institution, we first had to identify and connect with appropriate individuals at the selected community colleges. Our original research design called for participation from four institutions based on geographical location. However, it was difficult to garner sustained communication and/or support with some of the originally selected institutions. Of the two institutions that were willing to work with us, we established contact with both colleges' presidents—who extended support of our research to appropriate faculty or administrators at the respective colleges. These institutional points of contact were crucial in our recruitment of eligible participants for focus groups and interviews. Campus contacts shared recruitment materials and assisted with arranging time and space for interviews at their campuses. While we made initial contact with two urban and two rural community colleges, we ultimately secured interviews with eligible participants at three campuses of two institutions: the main campus at a suburban community college; the main campus of a rural community college; and a secondary campus of the rural community college.

The points of contact leveraged different avenues at their colleges to recruit participants—the suburban institution utilized their TRiO department while the rural institution used the first year experience (FYE) course. All participants were volunteers who responded freely from the shared Vanderbilt IRB-approved recruitment materials (see Appendix C). Through financial support provided by Complete Tennessee, we were able to offer participants a

\$20 gift card to Walgreens as an incentive. Focus groups and interviews were conducted on participants' college campuses with the cooperation of site contacts. All participants reviewed and signed the Vanderbilt IRB-approved consent form (see Appendix D) prior to beginning the interviews and were given a copy of the consent form for their records. Focus groups and interviews were audio recorded with participants' permission. Participants were assigned pseudonyms to ensure confidentiality—and are referred to by their pseudonyms in this study. Audio recordings were transcribed verbatim and uploaded into Dedoose, an online qualitative analysis software. The same interview protocol was followed for focus groups and individual interviews. Sessions were approximately 90 minutes in length. Questions were generated directly from salient concepts established in our literature review which pertained to participants' academic, social and financial experiences related to college. The protocol was developed to reflect themes in our conceptual framework: social and cultural capital; college readiness; college knowledge; college choice; college costs; and academic and social integration (see Appendix E).

### *Sample*

Our intended sample was low-income college students across particular regions of the state rather than students at particular institutions. Our sample was one of stratified convenience. It is stratified in that we divided the population into rural and urban segments. It is convenient because we sampled readily available cases (i.e., volunteers). In order to participate in the study, students were required to be 18 years or older, be eligible for the Pell grant or other need-based financial aid, and have enrolled in college within the last two years. Any student meeting eligibility criteria could participate in the study. All participants were volunteers who responded to the recruitment materials. We conducted semi-structured interviews and focus groups with a total of 17 low-income students who were currently enrolled in one of the two Tennessee community colleges. On the main campus of the suburban community college, we were able to conduct two focus groups of six students each (12 participants). At the rural community college, we did not garner enough volunteers at designated times for focus groups. Accordingly, we conducted individual interviews with two students at the main campus of the rural community college and three students at the second campus, using the same interview protocol (five participants).

Because of the eligibility criteria that students be Pell eligible, all participants self-identified as low-income. Interview participants reflected the variety of backgrounds, academic pathways, and personal goals that are typical of students at a community college. The majority of participants were adult students (24 or over), several of whom had previously attended a college or university and were now returning to college after a period of stopping out. A few of the adult students had not previously attended college and two had earned a GED before enrolling. Only five of the 17 participants were traditional age students attending college right out of high school. This mix of student participants meant that some students were answering questions on topics

such as family background, high school preparation, and access to college from a much different vantage point than other students.

***Methods***

Using Dedoose to collaboratively code and analyze the data, we first defined broad categories for coding that were derived from key concepts in the literature and aligned with our protocol (parent codes). We then reviewed the transcripts individually, employing open coding to identify more specific codes within the broad code categories (child codes). Next, we collaboratively discussed, defined, and narrowed the identified child codes. Following this, we again utilized open coding for a third round of analysis, working individually and then collaboratively to identify and define any parent and child codes not represented in our previously identified codes. A copy of the codebook is included as Appendix F. To identify thematic findings, we reviewed the frequency of code applications. Prevalent codes that informed our findings are summarized in Table 6 below. Finally, we utilized axial coding to identify relationships between codes, which subsequently informed our discussion of the results and recommendations.

Table 6

*Qualitative Analysis Code Frequency of Most Prevalent Codes*

<i>Code</i>	<i>Frequency</i>	<i>Code</i>	<i>Frequency</i>
<b>Social &amp; Cultural Capital</b>		<b>College Costs</b>	
Family motivation/encouragement	23	Costs of college	12
Family education background	20	Costs of living	14
Family obligations	17	Paying for college	13
Peers in college	16	<b>Integration</b>	
Supportive friends	13	Expectations for college	14
<b>College Readiness</b>		Entry into programs	11
High school preparation	27	Faculty interactions in class	18
Challenging college course	17	Faculty interactions outside class	12
Highest high school math class	14	Nature of college classes	12
<b>College Knowledge</b>		Involvement in college	17

Table 6 (continued)

College choice	14	Opportunities for involvement in college	13
College awareness	13	Student connections	14
Community college choice	13	Time spent on campus	19
<b>Access to college</b>		Transportation	12
Assistance/pathway to college	14	Work obligations	11
<b>Financial Aid</b>			
Financial aid challenges	15		

*Note.* This is not an exhaustive list of codes that were used in analysis. For full list of codes, refer to codebook in Appendix F.

**Qualitative Results**

While the total number of participants in our study was lower than originally anticipated, the group of individuals who comprised our qualitative sample were surprisingly diverse and offered an array of unique perspectives. Truly, this is the nature of a community college—a diverse student body who comes from widely ranging backgrounds and enters with widely ranging goals and expectations.

*Cultural and Social Capital*

*Family Background.* As we might expect, the majority of participants (11) were first-generation college students, with neither parent finishing a degree. Several of the first-generation students also noted that their parents had not finished high school and/or later earned a GED. Even though some of the first-generation participants were strongly encouraged or expected to attend college by their parents, the amount of direct assistance they received from parents on college and financial aid applications, as well as navigating college once enrolled, was not as noticeable as those whose parents did attend college. Whether motivated to attend college by their families in a positive or negative way, first-generation students reported facing challenges in college access and persistence typically provided by the cultural and social capital that is valuable for accessing and persisting in college.

Several of the first-generation students noted problematic or unsupportive relationships with their families. Because “Darla” is a single mother, she mentioned that her own mother was not supportive of her attending college instead of working:

I don't really get a lot of encouragement from my family, 'cause I'm a single mom, so I should be working right now, even if it's at McDonald's, and I'm not doing that right now.

A lot of the time I get, ‘Well, you did this to yourself, and you're in this position because you decided to go to school’ ...I just try not to see her [my mother] a lot, because she has a lot to say about it.

Leveraging motivation from their experience of problematic relationships with family was certainly a common theme among participants. “Roger”, who first declined to talk about his family because of their problematic relationship, later volunteered this perspective on how he is motivated by his family’s struggles:

I guess my family did have an inspiration on me . . . Because they're always low income, scraping by, like not trying to do anything for themselves . . . Yeah, they're stuck, majorly, and my family's always struggled and that did give me inspiration to wanna be somethin.

The returning adult students tended to be particularly reflective about their family background, having had more time to contemplate its role in their academic journeys. “Jerry,” an adult student at the rural community college, reflected on his upbringing:

It was back in the 70s and it was a Cheech and Chong generation. So it was pretty wild. And my mother was dysfunctional, and my grandmother lived with us. And she only had a fifth grade education. So she can only help so much, but my mother was absolutely no help. I had nobody really to support me. Life experience is really the only preparation for college that I had.

Conversely, younger students whose parents did graduate from college noted receiving assistance from mom or dad on their college applications and FAFSA. One participant recognized the advantage of having a mother who had attended college, as she was able to provide assistance with completing the FAFSA and other application materials.

*Extended Family Support.* First-generation students, as well as some of those whose parents had attended college, reported relying on extended family networks to access the kinds of support and resources for college that other students might get from parents who graduated college. For example, many participants had significant and supportive relationships with college-going siblings. In some cases, siblings who attended college prior to or at the same time as participants provided motivation and/or real-time support when facing challenges. For example, “Darla,” who is studying medical office administration, noted her sister is both an inspiration and a practical support to her:

My sister, she's successful, so I have to do it, because she did it. She's an X-ray tech, so every time I have questions or need help, she helps me.

Other participants had siblings attending the same college as them and/or siblings with whom they live and who are also in college. “Eduardo” is a first-generation, traditional-age

student whose parents relocated back to Texas shortly after he began community college in Tennessee. He and his brother remained together in Tennessee, where they live and attend college together:

We each have jobs and friend groups. And so it's hectic. But I would say we're really supportive of each other. And like, last night, he had an assignment due, and I was like, are you going to do it? And, you know, we just try to help each other to not fall behind.

For older, returning students, spouses/partners also provide important motivation and support. Several adult students noted the important role their spouses or partners have played in (re)accessing and persisting in college. “Carl” reported that meeting his partner was an important turning point that helped him gain stability after relocating to Tennessee following Hurricane Katrina and living in a hotel. He indicated that earning his GED and going to college was a result of meeting his partner. Likewise, “Mary” described how her relationship with her boyfriend, who graduated from a nearby four-year university, has helped her achieve her goals that differ from her family background:

I'm first generation college. My family, I don't even think my dad has a GED . . . And just was a maintenance man his whole entire life, he's made it work. My mom has her high school diploma but she got a job working transportation with the school board and just kinda stayed there. I knew I always wanted better for myself . . . my biggest supporter would have to be my boyfriend. He graduated from UT. We've been together for about 5 years now and he went through UT and everything. . . . he brings out the best in me.

Similar to the other students with spouses/siblings, “Mary” went on to describe specific instances in which her boyfriend provided critical support as she navigates college, such as the time he offered guidance and moral support when she wanted to change majors.

*Supportive Peers in College.* Results relating to peers in college were uneven across participants. Some participants noted that they knew peers attending college and/or that many students from their high schools did go on to college. However, a similar number of participants noted that their high schools or hometowns did not have a college-going culture and that many peers went on to jobs or other non-college pursuits like the military. Since many students were returning adults, peers in college also meant friends that had met at their current institution, rather than peers they knew in high school. Similarly, results on supportive friends in or out of college were also uneven across participants. Those who had high school peers that went on to college generally did not note those to be supportive connections that remained in their lives. A few participants had made supportive friends as adults in college—students in their programs or who were working in the field, for instance. However, the extended family networks described above were much more prominent supports for students across interviews.



### *College Readiness*

*High school preparation.* Even though several participants reported that their high schools offered college preparatory curriculum (e.g., advanced placement, honors), and some indicated that guidance counselors helped them apply for college, nearly all participants indicated they did not or do not feel prepared for college. Some did not participate in the college preparatory curriculum; in fact, some were not even aware that there was two “tracks” in their high schools until after they had entered (and, for some, stopped out of) college. The adult students—particularly those who were returning to college after stopping out—may have a self-reflectiveness about their high school experience that the traditional age students who were in college for the first time do not.

Several participants had become painfully aware of the differences in student outcomes among students who took college preparatory curriculum and those who did not:

If you didn't take AP, you really just napped. People would just nap through school. Out of those AP classes, I have like at least two people I know that have doctorates now. A lot of people went to Duke or NCU or MTSU or ETSU. It is only those people.

Overall, only two participants felt well-prepared for college. One of those students, “Eduardo”, noted that his homeschool co-operative included content on time management, which had been very helpful to him thus far in college. “Eduardo” also indicated that he felt “ahead” of his fellow college students in some subjects, such as history. He also entered directly into college-level math, whereas many other participants noted that math was a significantly challenging college course for them, some taking statistics or algebra multiple times at the community college.

*Challenging college courses.* In addition to math courses, college courses that required writing seemed to present another significant challenge for some students, along with a couple notable mentions of science courses. In many cases, students indicated the important role of tutoring in helping them be successful in math, writing, and science courses, even if they had to repeat the course multiple times. Tutors provided support for the content or skills that seemed to be missing from their academic preparation, but also helped to support students through courses that were designed or taught in a way that students did not find accessible or supportive.

Some college courses were described as particularly challenging because of the course design, classroom teaching methods and/or availability of faculty outside the classroom, reasons that are not necessarily related to students’ academic preparation. Overall, students reported inconsistent experiences across the courses they identified as challenging. One participant observed that some faculty “go through the information so quick and they're talking to you like you're professors, and they don't stop or anything, to see if you get it.” Similarly, other students noted classes where the professor just talked at students or moved quickly through slide

presentations. Some also highlighted issues with teacher accessibility or availability, and lack of ongoing support or encouragement from teachers, as challenging.

These experiences contrasted other, more positive experiences in courses, even those that had challenging material. “Mary” ended up “loving” statistics, a course several other students mentioned as challenging, because of an “amazing professor”: “It was difficult but she cared.” Many participants described choosing which courses to take (or re-take) based on informal word of mouth from other students about the instructor’s teaching style or availability for support. Choosing courses carefully based on instructor styles seemed to be a strategy for success employed by many, particularly to get through challenging courses.

### *College Knowledge*

*College Choice.* Most participants chose to attend college to better their career prospects and/or because of a lack of available, desirable career prospects. Most participants, in fact, noted that their decision to attend college—and specifically a community college—was influenced by Tennessee Promise and Tennessee Reconnect.

Given the number of returning adult students among participants and the recent rollout of Reconnect, it was a prominent theme among participants when explaining their reasons for returning to college. Students often described Reconnect as playing as much an inspirational role as a financial one in their decision to enroll in college, as evidenced by this exchange among focus group participants:

- “Darla”: I don't know, people just give me strength. I just love hearing that people keep going.
- “Carl”: Especially with the Reconnect. I feel like with that, it has given people a second chance. And so you get that, kind of: ‘If they can do it, I can do it’ kinda deal.

One returning adult student at the suburban community college, “Patricia,” had worked at a local manufacturing facility that is one of the area’s largest employers. However, she struggled with the testing required to change positions. She soon realized that her lack of education was holding her back from getting a better job. “Patricia” found out about Tennessee Reconnect around the time she was struggling with employment and decided to give college a try:

I was frustrated so I was really tired of working with these temp services and I was like, okay. There has to be something better . . . I was homeless for four years and I really, really struggled. I was here, and my father had just passed like that August . . . so I was like, “I have to do somethin’.”

*Choosing a/this Community College.* Many participants described community college as a smart or desirable choice, even if they were returning to college and had not chosen it the first

time around. These students seemed particularly aware of their lack of useful knowledge to make their college choice the first time around, making choices not based on affordability, accessibility, or academic support, but on cultural ideas about “college.” One student summed it up this way when asked what advice he would give to high school students:

We grew up watching TV, Stomp the Yard, all these different shows that we watch. When have you ever seen a show with a community college in it? . . . Every time you think of fun, think of college, our perception is merely for university . . . UT 'cause of football, somewhere else because of partying, all these other places. To where then they end up having to wait till they become Reconnect students to get back in the school 'cause they dropped out. I guess tell them just to make a very, very informed decision based on money.

Some students also mentioned their reasons for choosing the specific community college at which they are currently enrolled, including location, campus support and resources, and recommendations from others. “Kevin,” a returning student using Reconnect who is very involved at the suburban community college described his choice this way:

I dreaded—I was not wanting to come to [suburban community college] at all. It was against everything I had . . . I just was stuck up. I didn't want to, until I had messed up in life, and I had to come back to [suburban community college], but I really wish I woulda came to [this community college] first.

Two of the traditional age students noted that Tennessee Promise, as well as their goals of transferring to a nearby four-year university, led them to choose the rural and suburban community colleges at which they were currently enrolled. One participant, “Jonathan,” was attending the rural community college, but was not eligible for either Promise or Reconnect because he was a returning adult student who had outstanding student loans from a first try at a university. “Jonathan” specifically chose this community college because of its proximity to his home and because he saw it as a supportive and affordable pathway back to the four-year university to receive his bachelor's degree

The learning environment also played a role in students' choices to attend a community college or the specific college at which they were enrolled. “Eduardo,” one of the traditional age students on Promise, noted that he also chose a community college because of small class sizes and more opportunities for faculty interaction. Though they did not necessarily explicitly connect it to their college choice, many of the returning adult students noted the differences between class sizes and faculty interaction at a large university versus a community college. Two other students noted that, when choosing between the accessibility of an online college and a community college, the classroom seemed like a better fit for them as learners. Some students also noted choosing their particular community college because they became aware of the level

of campus support (e.g. tutoring) and community (e.g., student services and meeting students like them) while touring the campus or from others who had already attended.

### *College Costs*

All but two participants were receiving the Pell grant and/or Tennessee Promise or Tennessee Reconnect to pay for college. One student's parents were paying his tuition because he had outstanding loans from his first attempt at a university. Another student was receiving Reconnect last semester, but was paying out of pocket this semester because he "procrastinated."

Most participants noted that the financial support from Pell, Promise, or Reconnect influenced their decision to attend college. A few also noted that the tuition support received from these sources made it possible for them to remain in college. Others, though, noted that, even with tuition support, costs of living outside of college, and the related need to work, also presented challenges. Some students confessed they had no idea what kind of financial assistance they were receiving—just that they were receiving assistance of some kind. This seemed to be common among the traditional-age students who were driven to apply to TN Promise during high school and were unsure whether they were currently receiving financial aid through Pell or Promise.

*Expenses beyond tuition.* Nearly all of the students, regardless of their available financial resources, identified textbooks as an important cost beyond tuition. Textbook costs were a frequent topic of discussion in the interviews. Many described "workarounds," such as getting multiple trial memberships to online textbooks and printing one chapter at a time. Others mentioned simply not needing them for some courses. Some blamed professors, some blamed the college, but all who mentioned textbooks seemed to find the costs burdensome and unnecessary. One student specifically noted that one way to improve Promise would be to include support for purchasing textbooks.

Some students, though, were receiving financial support from other sources to cover additional expenses. "Harrison" had an aunt who paid for her textbooks; "Darla's" parents were supporting her financially this semester (the first time she has not worked since she was 16); and "Amelia" noted that she was living in HUD housing, significantly reducing her living expenses. Others recognized that they had expenses beyond tuition, but tended to minimize the burden of those costs or did not necessarily see those costs as related to their enrollment in college. For example, when asked about costs outside of college that have affected him in college, traditional-age Eduardo said he could not think of any "besides monthly bills." Another student at the rural community college indicated he "only had to put gas in his truck."

Nonetheless, several participants seemed more acutely aware of the challenges that costs of living could present while attending college. Two participants, "Kevin" and "Kimberly," who were in a relationship with each other and caring for children, noted that they have to balance

their financial priorities outside of traditional college costs. “Kevin” explained how their situation differs from “somebody else that has money”:

They [somebody else that has money] can just keep going and get to class. For us that’s not going to work. We can’t come to class, or she can’t come to class, or something as simple as we ran out of gas . . . The question with the dependents is like our kids—we have to make sure that they’re set before we can do anything.

Another student who is also a parent and not working described how living expenses can present financial challenges, even if students are receiving financial aid:

Well, budgeting is the most important thing, because I’m not working right now. I did get an allotment from scholarships and stuff. I’m just trying to make that stretch, for anything, whether it’s a tire to get to where you gotta go, and then you didn’t plan for it. Or if it’s school pictures, or something related with caring for her [my daughter].

Several students were aware that covering costs of living by working can take a toll on academics, but that taking out loans has its own pitfalls.

When asked about challenges to college completion for low-income students, “Jonathan”, a returning adult student at the rural community college, summarized how balancing college costs and costs of living can impact students:

The stress level is dependent on how much money you need a month. So, let’s say, you got financial aid, and everything is kind of paid for, so you just need a little, you know, a little money in your pocket, you might not work a whole 40 hours. So you might have a part time job that you have to manage with school and homework. So your stress level might not be that high. But if you have a car note, rent, and you’re not getting financial aid, it’s a whole different stress level. See what I’m sayin’?

### *Academic Integration*

*Expectations for College.* Most students were not able to articulate any concrete expectations they had when they entered college. If they had expectations, they were often big picture or intangible. Particularly, students had not given much thought to their goals or expectations for academic development in college. “Mariana,” who had attended a traditional public high school, reflected that going to college was simply the thing to do following high school graduation. Most of her friends in high school were going to college. She specifically commented on her desire to attend college because of the access opportunity that financial aid provided her—despite the fact that she had not considered exactly why she was enrolling in college:

I mean, everyone wants to "go to college, get some knowledge." I feel like I’ve never really thought about it. But I mean, I just wanted to go to college because I had this

opportunity—whether it was through Tennessee Promise or financial aid (Pell). I didn't just want to waste it because it is still college.

Many traditional-age college students, many of whom entered college immediately following high school because it was “the thing to do,” tended to have vague expectations for college. For example, “Nancy,” a traditional-age student, questioned the usefulness of a college education in meeting her goals. She intended to become a writer or editor, eventually becoming a “work-at-home mom,” and thought she might not really need college classes to do that. Other traditional-age students believed they should be in college, but were not able to identify a clear academic or career expectations. Nonetheless, some of the traditional-age students had a more positive perspective on the purpose of their community college education. While many still had no clear expectation for career pathways, they saw community college as a stepping stone for transferring to a university.

Expectations for college seemd to be more apparent for adult college students. “Jerry”, a former truck driver who attended high school in the 1970s and is enrolled in college for the first time, commented on his expectation for a specific career following completion of an associate's degree program: “I’m majoring in medical office. And that will give me a job or something to do.” Similarly, Patricia, a returning adult student, had experienced limited mobility in her local manufacturing jobs and returned to college specifically to expand her career opportunities in that field.

*Faculty Interactions.* Faculty interactions with community college students tend to be largely confined to scheduled class sessions. With the exception of the select faculty members who may sponsor a student club or organization, students on the community college campus have little direct or ongoing involvement with faculty. Several students noted difficulty communicating with or meeting faculty outside of class time. A common theme among students was that the most engaging faculty outside the classroom tended to be those regularly available for extra help or those involved with special programs or extracurriculars at the college. Reflecting on her classroom experiences, “Mariana” said:

I think it depends on what class you take, the demographic is different, whether you're in an honors, because we do offer honors classes here, or whether you take an introduction class.

Another student commented on an honors English professor’s involvement with an extracurricular student organization:

I know my English professor, he is the one who's in charge of the writing club that I've been wanting to go to, and he's been encouraging me to go to. And of course, they're part of the honors program. So some of the honors stuff that I would get, I do get information about them. And then also from my my honors professor, he would let me know about those things. So that’s always good.

Overall, faculty interactions were clearly important elements of students' college experiences, whether good or bad. Students often went into great detail about positive or negative experiences with faculty when questioned on several different topics, revealing the crucial role these interactions can play in students' college experiences.

*Campus Support Resources.* Several participants noted the importance of campus resources, particularly academic support services such as tutoring. Students mentioned campus support resources as reasons they chose the particular college they attended, as a way they managed their particularly challenging college courses, and as a way to supplement classroom instruction that was not working for them or limited contact with faculty for extra help.

Students at the suburban community college were connected with TRiO student support services. TRiO had also connected them with tutoring support. "Carl," a student who is attending the suburban community college on Reconnect, described the importance of TRiO and tutoring in his academic success:

I got all A's right now but I wouldn't have got it without TRiO. . . and without the tutoring, it's helped because you know, I never wrote an essay or anything. If, I didn't have [the tutor's] help, I wouldn't be where I'm at right now.

"Roger," an adult student at the suburban community college, described how utilizing campus tutoring outside of TRiO also provided different perspectives to help him be successful:

Because one perspective is alright, but if you get other perspectives it will give you a deeper understanding, and they are really really amazing tutors up there. [The TRiO tutor's] really amazing, but different teachers give you different perspectives, and you learn more about it and you have a better understanding and it gets easier. But those people up there [tutors in the library] are really, really amazing for me.

Students tended to view these support resources as the college caring about their success.

*Time Management.* The importance of time management was a common theme. Many students described complications with balancing school and other life obligations, particularly work schedules. Nearly all of the participants worked, primarily at off campus jobs. Most of the students had work obligations that placed significant demands on their time. Some specifically mentioned the impact their work obligations had on their academic work.

"Jonathan", a returning adult student who had just started at the second campus of the rural college, works overnights as a valet at a hotel. When we met for our interview at 9:00 a.m., he had just come off of his overnight shift. When asked if he considered how to balance work and school when returning to college, "Jonathan" stated:

Yeah, that's why I only took three classes. Cause I wanted to, you know, start light. And just keep working, so I can pay my bills.

Since “Jonathan” is not receiving any financial aid this semester, he was free to reduce the number of courses he was taking to be less than full time to accommodate his work schedule.

“Patricia”, a Reconnect student at the suburban community college, was, at one point, working two jobs while attending school. When asked what advice she had for college administrators to improve support for students’ biggest challenges, she described the demanding work schedules she and other students are trying to balance with academics:

Well, I mean they [students] have too much, because I'm doing work, study . . . when I started I said was working at [the manufacturing facility], getting up at four o'clock in the morning and I worked there 'till like four thirty, five, in the afternoon. Then I would come over here [to the college] from six fifteen to nine fifteen and leave here and go to work down at [automotive plant], drive another hour, and work from eleven at night . . they [automotive plant] would let me off early so I could get back at [manufacturing facility] but it's a quarter from eleven to seven and . . . I was just living on fumes . . . when I left [the automotive plant] I went home, I showered, and by the time I ate something I was sitting here . . . trying to do homework.

*Availability of Courses.* Several students commented on difficulties of completing required coursework for their degree programs on campus due to a lack of available in-person courses offered on site. “Mariana,” who selected to be an English major in community college with the intention to transfer to a university to major in film, described her experience with being forced to take online courses:

Not all of my required classes are on campus. I'm having to take my Spanish courses online for an English major, which I guess a lot of people have to do nowadays. But the school requires that I take all four semesters of foreign language, but they only offer two on campus. So for my last two semesters here, I'm having to pay out of pocket for the online Spanish class. And so that's just something that was just really irritating. I did it because I want to be an English major. But that was just something that I didn't really understand is how they had it required, but then they didn't offer it.

In some cases, the lack of on-campus course offerings has actually served as a roadblock to students resulting in withdrawal of coursework. “Nancy,” a traditional-age student who had completed high school via homeschooling, commented:

I know that we only have two language options here. It's either Spanish which I had sort of tried in high school and I didn't like at all. And there was French which I mostly did Duo Lingo [a phone app] before so thought I would do French. But we don't have a French professor here. It had to be all online. I didn't know what I was doing or who to talk to so ended up having to drop that class because I did not have enough information, me myself, to be able to get through it.



### *Social Integration*

*Campus Involvement.* A common thread throughout student interviews was the lack of consistent or considerable amounts of time spent on campus outside of scheduled class periods. In most cases, if any additional time is spent on the community college campus outside of class, it is essentially in waiting until the next class period begins. Frequently mentioned hotspots were libraries, where many students commented on spending time between classes to complete homework or study. Other campus facilities were rarely mentioned—and no facilities were specifically mentioned as places to socialize outside of non-scheduled class hours. Several students mentioned having considered spending extra time on campus but not following through. One student commented:

I've recently been wanting to [come back to campus] just so I can go into the library. But, I haven't. I go to campus for the classes. I've gone to the bookstore, you know if I had to, or go to the cafeteria occasionally.

Campus involvement is highest among students who participate in on-campus employment or work study programs. For example, “Kevin,” who has an on-campus employment position commented:

I may have a class on a Monday or Tuesday or whatever, and I may wanna miss that class. But I don't wanna miss work, 'cause I gotta pay, my kids may need shoes or something. So me working on campus, me having to be in the office and student council president, [even though] I may not want to go to class, I have to come to work. While I'm at work, I might as well go to class. It's right down the hall.

“Mariana,” who participates in a work study program as part of her financial aid, felt relatively involved—though, her involvement was essentially restricted to her role as a writing tutor:

I would say the Writing Center, writing tutoring, has really made me enjoy my time here a lot more. I'm a lot more involved with things here. And I understand a little bit more with how things work. Like with applying and other types of paperwork, stuff like that.

Participation in clubs or other student organizations in college was viewed as a worthwhile effort primarily only in relation to enrollment in a university. There was a divide among students about when participation is most beneficial—whether one should become involved at a community college or wait until enrollment in a university. The students who were involved in additional opportunities outside of scheduled classes, such as student government or even work-study programs, had an intention to continue their education at a university. In juxtaposition, students who mentioned their intention for enrollment in community college was to obtain a certificate or associate's degree did not seem interested in personal involvement in student organizations or campus activities. One student, whose goal was to graduate with an associate's degree in English and begin a career in writing, described how her First Year

Experience (FYE) professor was the only source of information she had received about opportunities for personal involvement on campus. Her FYE professor awarded extra credit to students who attended the campus club fair that was held in the center of the rural campus.

*Connections to Other Students.* While most students indicated that they felt comfortable around others campus, they generally could not speak to any meaningful or long-lasting social connections they had made to their peers on campus—especially through a classroom experience. Those who did mention specific social connections attributed them to direct involvement with extracurricular activities. One student, a writing tutor, described her feeling of connectedness specifically through extracurricular involvement—as opposed to her prior lack of connectedness when her only involvement was through attendance in class:

I do feel connected to others on campus. I would say that's partly because of tutoring. Because I interact with them [the student body] a lot. And then there are people who have come and have sessions with me multiple times. So we can recognize each other and say hello in the hallway, and that's nice. But before that, I pretty much kept to myself and would maybe talk to people I sat by in class.

Some students further commented on their lack of involvement, or even awareness, of other students that have the same major as them or others who would be in the same program of study. One student commented:

I've only seen one other English major, and that was whenever we were registering for classes, like last semester. I know I'm not alone, but I think there's only like two of us.

*Projected Reasons for Leaving College.* Since our sample of interviewees are, by definition, currently persisting in college, we asked a few questions about whether or not they had contemplated leaving and, if they ever did leave, for what reasons they would do it. In some conversations, students generally talked about challenges that low-income students face while attending college. The most prevalent reasons were as follows: 1) cost of living outside of tuition, 2) struggling academically either with grades or with the format/teaching methods of classes, and 3) lack of purpose or direction in college. Interestingly, these were the only three projected reasons for early departure that were mentioned by participants.

*Advice to Education Leaders and Policymakers.* Finally, we were interested in directly asking participants if they had any advice or comments to share with education leaders and policymakers regarding their personal experiences as low-income students enrolled in community college. A freshman student who enrolled in community college immediately following completion of nontraditional highschooling described how she “knew” there must be a lot of resources but didn't know what they were or how to approach them. She also commented on the importance of communication between the institution and the student beyond the initial enrollment or orientation phase. Particularly worrying was that she acknowledged once speaking

to a completion coach during orientation but never had follow-up interactions—and she wasn't actually sure what a completion coach even was:

I think they should communicate more with their students, because we have all things on our shoulders to do but there's so many things that we forget, especially as a freshman, there's so many things that I am still figuring out. A lot of times, I don't know where to reach for help. Even though they say I have all these resources. But where, where are they? Because a lot of times where they'll tell you the beginning of the year, and then they don't tell you again. They'll tell you when you first start. And if you don't pay attention, or you don't write it down somewhere where you know it might get lost. I haven't talked to my completion coach since orientation. I'm honestly not sure what a completion coach is.

Another traditional-age student commented on the role of policies like Promise and the effect they have in pushing high school students to immediately enroll without having figured out exactly what they want out of college:

I think people need to figure out specifically what they want to do first. I personally believe that if you don't know what you want to be that you shouldn't go to college just yet, because there's so many people that are spending money on classes, and they keep changing their major. With Tennessee Promise you have to use it right after high school. Because of that there's a lot of people who are just business majors, because it's kind of like a general thing. And then there's a lot of people who are just literally undecided. And I feel like Tennessee Promise is a good opportunity, and they should take it. But also you need to sit down and figure out what actually you want to do.

### ***Summary***

Though individual student experiences were nuanced and different from each other in many respects, the interviews did yield several thematic findings. Participants described experiencing many of the academic, social, and financial challenges identified in the literature throughout their academic journeys. However, much of the thematic findings reveal the ways these students have (re)accessed and persisted in college thus far, despite facing many obstacles. Across the interviews, participants reported several common strategies for success, including: leveraging conventional and unconventional resources; building supportive social connections; creatively managing their time and balancing responsibilities; drawing on self-reliance and self-reflection; and taking advantage of accessible and supportive faculty in the community college environment.

### **Qualitative Limitations**

*Scope.* There were several limiting factors that determined the scope of our study: 1) focusing specifically on low-income community college students affected the generalizability of

findings to all low-income college students, 2) exclusion of race and gender in our analysis, and 3) exclusion of departed students (those who did not persist in college). Due to constraints in time and resources, we only interviewed those students who were, by definition, currently persisting. While this gave us insight into low-income students who are currently enrolled and experiencing community college, it did not allow us to capture absolute explanations as to why low-income community college students do not persist. It was outside the scope of this study to identify, locate and arrange interviews of low-income students who had departed community college.

*Access to Sites.* Access to geographically diverse institutions was limited in this study. The initial study design called for data collection to occur at institutions located within particular rural and urban regions of the state—with a total of 4 institutions (2 rural and 2 urban). Our largest limitation in site selection was the absence of a primarily urban institution. Despite applying to and following procedure to access students at an urban community college, we were ultimately denied entry onto the campus by institutional administrators which led to our inability to include participants at an urban institution. We were, therefore, not able to analyze responses from both rural and urban students. Interestingly, because Tennessee's community colleges often have numerous sites across their multiple-county service area, we determined that categorizing an institution by its general type of geographic location is not necessarily an accurate classification. For example, in our study, we interviewed participants that were students at the same institution but at different campus sites—one site being very rural and the other located in a growing suburban area. Though we were limited in access to a larger number of institutions, because we were able to interview students at different campus site locations, we were still able to capture responses from both rural and suburban students.

*Access to Students.* Access to low-income college students was difficult as we had to heavily rely on the availability and willingness of institutional administrators and faculty to promote our study to their student body. Since we were working with different institutions, there was no standard process for this—and we truly relied on the kindness of strangers. One institution leveraged its first year experience course as the platform for promoting our study, while the other institution utilized their TRiO Student Support Services office. Since we had to use these pre-existing pathways to reach students, this resulted in limiting our reach to particular subsets of low-income students at the community colleges and created a selection bias. Beyond institutionally-supported promotion of the study, participants had to voluntarily self-identify, which created a self-selection bias. The initial study design called for at least 40 participants. Due to the varying success in promotion—compounded by the self-identification effort required of participants—our pool of interviewees was greatly limited.

**Research Question 3: What policies and/or practices does the literature suggest to support persistence and completion of low-income students in TN?**

To answer our third research question, we focused our review of policies and practices on interventions that would complement policies and practices already in place in Tennessee. Even though Tennessee Promise has increased enrollment in the state's public community colleges, its effect on persistence and completion, especially for low-income students, is less clear. A recent analysis of outcomes for the first Promise cohort at Pellissippi State Community College indicated that the five-semester certificate and associate's degree completion rate was 23%, compared to 7.6% for students not enrolled in Promise (Driscoll & Benitez-Ramirez, 2019). The six-semester certificate and completion rate for the 2015 cohort was 30.1%, an over the pre-Promise six-semester completion rate of 23.5% (Driscoll et al., 2019). While these results suggest Tennessee Promise may be supporting completion, it is not yet clear what role Promise funding or the program requirements might play in student persistence and completion. Furthermore, Promise may be funneling more resourced and better prepared students into community colleges, meaning that student characteristics beyond Promise participation could be influencing their ability to be successful. At a minimum, the outcomes and experiences of the Promise cohort, on the whole, are not the same as the experiences and outcomes of low-income students.

While evidence of the specific impact of promise programs on low-income student outcomes is limited, several scholars have noted the limited role these policies may play in low-income student outcomes (Harnisch & Lebioda, 2016; Mishory, 2018; Perna, Leigh, & Carroll, 2018; Poutre & Voight, 2018; Wardip, Divringi, & DeMaria, 2018). One key reason impacts could be limited for low-income students is that most are structured as last-dollar scholarships that funnel promise funding to middle-income students who qualify for no or significantly less need-based aid. Many low-income students can have their tuition costs reduced or eliminated using the Pell grant and/or state need-based aid, meaning they never even receive promise dollars. Even if they do receive some promise dollars, promise awards generally do not translate into funding that can cover expenses beyond tuition and fees that can have a serious impact on low-income students' ability to persist. The rigor and number of program eligibility criteria and institutional-type requirements are other features of promise programs that may limit positive impacts for low-income and other disadvantaged student populations (Perna et al., 2018). While some promise-type programs, such as the New York Excelsior, have an income cap that attempts to funnel more resources to lower-income students, this program feature does not focus directly and exclusively allocate funding to low-income students in the same way as need-based aid.

**Guided Pathways Approaches**

Guided pathways approaches focus on helping community college students successfully select, enter, and complete an academic and career pathway. Several states and some institutions are implementing variations on a guided pathways approach to support student success, many

with the support of partners such as Achieving the Dream, the American Association of Community Colleges, the Lumina Foundation, Complete College America and more. While not specifically targeted at closing equity gaps between higher-income and lower-income students, evidence suggests that some elements of guided pathways could be helpful in moving low-income students toward completion. Given that low-income students are more likely to accumulate debt in college without finishing a credential, intentional course-taking and pathway planning seems to be a strategy that could reduce the unintended negative consequences of flexibility and self-guided exploration common in many community colleges (Goldrick-Rab, 2016; Jenkins & Cho, 2012; Jenkins & Cho, 2013). Because many low-income students may not have the cultural and social capital to make informed decisions about careers, academic programs, and college courses, the program and course selection elements of guided pathways practices could be particularly useful in helping low-income students complete a credential with minimal excess credit and debt accumulation.

Jenkins and Cho (2012) argued that failing to enter a college-level program of study is one reason community college students do not complete a postsecondary credential. They suggested that helping students to quickly and successfully enter academic programs could positively influence completion rates at community colleges (Jenkins et al., 2012). They advocated for using entrance into a coherent program of study, defined in their study as taking and passing nine college-level credits in a program, as an important intermediate milestone toward completion (Jenkins et al., 2012). They used this milestone to examine the progress of a cohort of first-time community college students over five years, determining the proportion of students who earned a certificate or associate's degree from a public two-year college, transferred to another two-year institution, or transferred to a public or private four-year institution within that time. Through quantitative analysis of a cohort, they found that students who did not enter a program within one year of enrolling were far less likely to enter a program at all and were, therefore, less likely to earn a credential (Jenkins et al., 2012). Results were disaggregated by students entering a liberal arts and sciences program, students entering a career and technical education (CTE) program, those who attempted 9 credits but did not enter a program, and those who did not attempt 9 credits. A greater proportion of students who entered a program in either liberal arts and sciences (21%) or CTE (35%) had earned an associate's degree or certificate at the community college within five years when compared to the overall cohort (14%) (Jenkins et al., 2012). Not surprisingly, students who did not enter a program did not complete a community college credential.

Eighty-five percent of students who successfully entered a program did so within the first two-full years of entry (Jenkins et al., 2012). Most notable, perhaps, is that over half of the students who entered a program in the first year had completed a credential at the community college, transferred to a four-year institution, or earned a bachelor's degree within five years, compared to only 37% of those who entered a program in the second full year after entry (Jenkins et al., 2012). Also, about 20% of students who had entered a program by the end of their

second year were still enrolled after five years and had earned at least 30 credits; however, it is not clear from this study whether these credits would count toward a credential (Jenkins et al., 2012). While the authors note that these outcomes could be a result of the students' pre-college characteristics, specifically academic preparation, they also pointed out that the reading and writing placement test scores of the concentrators and failed attempters were more similar to each other than to those of the non-attempters. This finding suggests that successful entry into a program as measured by completion of three college-level courses is not necessarily a result of academic preparation alone (as measured by test scores).

Jenkins and Cho (2013) later advocated for the “guided pathways” approach to help all students clarify goals, create a roadmap to those goals, and complete a credential. They argued that guided pathways programs should include intentionally designed “on-ramps” to academic programs, as well as ongoing and embedded advising, progress tracking, feedback and support for students who attempt a program (Jenkins et al., 2013). In their analysis of student progress in academic programs, they speculated that the gap between students who attempted a concentration (75%) and those who successfully entered a program by completing three college-level program courses (56%) could be a result of students struggling to pass “gatekeeping” courses in particular programs (e.g. Econ 101 for business students or Eng 101 for transfer students) (Jenkins et al., 2012). They also noted that there were inconsistent results across specific academic programs, suggesting the need for more comprehensive approaches to program entry and support (Jenkins et al., 2012; Jenkins et al., 2013).

Tennessee has had success implementing the guided pathways approach as part of their “completion practices” across the state’s 13 community colleges. The Tennessee completion practices include specific activities to achieve each reform area: 1) mapping pathways to student end goals; 2) helping students choose and enter a program pathway; 3) keeping students on path; 4) ensuring that students are learning. A 2018 report from the Community College Research Center (CCRC) revealed that TN community colleges achieved substantial growth in leading indicators of longer-term outcomes since implementing completion practices (Jenkins, Brown, Fink, Lahr & Yanagiura, 2018). There was substantial growth in credit accumulation and gateway course completion over the past 4-6 years, especially since 2015 when several colleges had implemented some of the practices at scale (Jenkins et al., 2018).

However, the CCRC report also indicated several areas that had not been implemented, not implemented to scale, or were in early stages of implementation. For example, only three institutions had brought to scale special supports to help students succeed in the “gateway” courses in each academic focus area (beyond college-level math and English) (Jenkins et al., 2018). Only two colleges had brought to scale an alert and advisement system for students at risk of falling off their program plan and interventions to get students back on track (Jenkins et al., 2018). While most institutions had brought to scale identifying and assessing student learning outcomes, only three had done the same for embedding high-impact learning practices into coursework and only one had done so for portfolios (Jenkins et al., 2018). Several colleges

mentioned potential challenges in sustaining that level of innovation required by the completion practices, specifically in light of personnel turnover and fiscal uncertainty (Jenkins et al., 2018). The report indicated colleges may need to reconsider approaches to hiring and professional development, college finance, and other functions to continue supporting innovation in various academic and support practices (Jenkins et al., 2018). Indeed, additional strategies may be needed to fully implement, sustain and bring these particular completion practices to scale across Tennessee's community colleges.

The California Advancement Academies (CAAs) are an example of a guided pathways approach that emphasizes ongoing and contextualized academic support that could bolster the academic success of low-income students in TN, particularly in crucial gateway program courses. Researchers in California used the results of an in-depth qualitative study of students in the successful but smaller Career Advancement Academies (CAA) to offer recommendations for the design of a systemwide guided pathways approach in that state. CAA aimed to bring students into postsecondary education who might not have otherwise done so. CAA students were more likely to be people of color, low-income, and first-generation (Roach et al., 2018). Participants represented a variety of life experiences, but many were managing childcare, transportation or food challenges (Roach et al., 2018).

From 2011 to 2014, 23% received a system-recognized certificate or degree, a rate that was three percentage points higher than among comparable non-CAA students, a result that was both statistically significant and attributable to the CAAs (Roach et al., 2018). Notable features of the CAAs that likely contributed students' academic success and their persistence in college despite multiple life challenges include: accelerated and contextualized teaching and learning in English and math; grouping students into cohorts; intensive student support services and case management. Contextualized learning in English and math allowed students to work on problems from their field, increasing their engagement and moving them through their field of study more quickly. Importantly, this required collaboration between faculty in English and math and faculty in the field of study. The cohort of students created peer learning communities that researchers found to be a key program feature that helped students to support each other through challenges in and out of school (Roach et al., 2018). The intensive support provided in the CAAs aimed to help students develop soft skills and college knowledge (Roach et al., 2018). The CAA support also helped students handle personal issues that might deter them, even offering referrals to other social services when appropriate (Roach et al., 2018).

### **Comprehensive Support Programs**

Programs that offer low-income community college students integrated, comprehensive academic and financial support that incentivizes successful college engagement behaviors have also been shown to influence persistence and completion. These programs can be costly, necessitating creative and collaborative partnerships across public and private sectors and/or



outside funders. Nonetheless, the positive results for persistence and completion can render the programs cost-effective in the longer term.

The City University of New York's (CUNY's) Accelerated Study in Associate Programs (ASAP) program has produced some of the most promising results related to supporting completion of low-income community college students. ASAP specifically aimed to reduce program students' time to an associate's degree through a package of services and requirements that was unusually comprehensive and long-term, providing a variety of wrap-around services and requirements for students over three years of study. ASAP tied financial support, including a tuition waiver, a free Metrocard and free textbooks, to required full-time enrollment and utilization of individualized advising, career development, and tutoring.

In 2015, MDRC researchers used results of a randomized control trial (RCT) to compare and draw conclusions about the effects of ASAP program participation for two cohorts (Scrivener et al., 2015). Eligibility criteria for sample members that entered the study included characteristics such as: family income level below 200% of the federal poverty level—or eligible for a Pell Grant, being in need of developmental coursework, new or “nearly new” students with less than 12 credit hours, residence in New York City, expressed willingness to attend college full-time, and in an ASAP-eligible major. Students were then randomly assigned to the program group or control group. MDRC's comprehensive three-year evaluation of ASAP assessed program implementation, analyzed the cost-effectiveness of the program, and evaluated the program's impact on educational outcomes. The evaluation found that ASAP was well implemented and cost-effective, and, most notably, that it nearly doubled graduation rates for program participants (Scrivener et al., 2015).

In 2015, the MDRC collaborated with three community colleges in Ohio to replicate and study ASAP in that context. The Students Accelerating in Learning (SAIL) program targeted students that were Pell-eligible, required remediation, had earned less than 24 credits, were degree-seeking and currently in good standing with the college. Similar to the results in New York, the two-year graduation rates of the Ohio SAIL program group more than doubled (increasing by 140%) (Sommo, Cullinan, Manno, Blake, & Alonzo, 2018). After two years, 19% of the program group had earned a degree or credential, compared with eight percent of the control group, a statistically significant increase of 11 percentage points (Sommo et al., 2018). Overall, the program group outperformed the control group on persistence in school, credit accumulation, and graduation (Sommo et al., 2018). For example, Ohio SAIL students earned 2 credits more per semester, resulting in a 37% increase in credits earned after two years when compared with the control group (Sommo et al., 2018). Early results also indicate that SAIL participants significantly outpaced the control group in important first year milestones, including completion of gateway math and English courses and earning 15 or more credits (Mercado, 2019).

The Ohio SAIL program elements did vary a bit from those in CUNY ASAP to fit the local context. For example, while the CUNY ASAP included metrocards for public transportation, the Ohio SAIL program included \$50 gift cards from a grocery chain that students could use for gas or groceries (Sommo et al., 2018). The academic and career advising requirements were also somewhat revised to fit the staffing at the Ohio colleges, which was far less (and advising caseloads much higher) (Mercado, 2019). At least one college also found that block scheduling as implemented in CUNY was not feasible for their students, so they implemented a workaround version to fit their students' needs while also intentionally scheduling students' required courses (Mercado, 2019). Students meeting the tutoring requirement also continues to be a struggle that the colleges are trying address (Mercado, 2019; Sommo et al., 2018). Indeed, it may be difficult for institutional leaders and policymakers to know which elements of a comprehensive support program should be prioritized in their own contexts, particularly as many face constrained resources and competing agendas.

However, the Ohio replication project, as well as MDRC's speculative analysis around the role of various ASAP elements in the original CUNY evaluation, create some potentially practical takeaways for practitioners or policymakers who aim to create similarly impactful programs. Each major element of the CUNY ASAP was compared with the usual college services in those areas. For example, the significant "service contrast" between the level of advising received by program participants versus that received by non-participants suggests that the ASAP advisement may have had a significant influence on educational outcomes (Scrivener et al., 2015). The evaluators also attempted to extrapolate some "meta" findings that could help in the design of similar programs across institutional contexts. For instance, they noted that the fact that participation in ASAP represented both "an opportunity and an obligation" for students may be a central feature of programs that could impact educational outcomes in a similar way (Scrivener et al., 2015, p. 2). Accordingly, the evaluators suggested that similarly designed programs might also tie fulfillment of requirements with receipt of financial or other benefits for students.

Nonetheless, a challenge in implementing a similar program or policy is that the evaluation methods do not isolate which element(s) of the ASAP or SAIL program are responsible for the educational outcomes of participants. Even though the MDRC evaluation of the original CUNY program found ASAP to be cost-effective relative to its outcomes, the costs of the program are nonetheless quite substantial. This has continued to be a challenge in the Ohio context, where at least two of the three colleges are currently trying to find ways to sustain SAIL or expand it to serve more students (Sommo et al., 2018). The preliminary results of the Ohio replication, while successful in improving outcomes for low-income students, also suggests that it could be difficult for many states or institutions to implement, sustain, or scale comprehensive support programs without creative or collaborative funding.

The Career Pathways Initiative (CPI) in Arkansas is an example of a state-level program that creatively funds comprehensive support services for low-income community college

students. The CPI invests federal Temporary Assistance for Needy Families (TANF) dollars into a program for the state's community colleges and university-based technical institutes that provides hands-on advising and career planning, family support, coursework support, and employment support services. The program aims to help low-income parents gain workplace skills and earn "stackable" academic or technical credentials. Similar to some guided pathways approaches, CPI includes career exploration, skills assessments, and tracking of student progress. Similar to ASAP, CPI includes funds for textbooks and transportation, as well as accountability measures for students to continue in the program. However, the CPI goes a bit further than both of some guided pathways and the ASAP initiatives, in that it also includes childcare, technology support, and significant employment support services embedded into the program. Students benefit from holistic case management that incorporates academic, family, financial, and career support.

Arkansas' CPI has had impressive results increasing educational attainment of participants. A 2015 external evaluation determined the educational and economic outcomes for the more than 30,000 CPI participants since 2005 (College Count\$, 2018). Researchers compared results on CPI participants to matched pools of similar TANF recipients who did not participate in CPI and the general community college population who did not receive the CPI treatment. Participants and comparison groups were matched for age, gender, income prior to entering the program, and locale. The evaluation found that low-income parents participating in CPI graduated from college with a degree or a certificate at greater than twice the average of their community college peers at Arkansas community colleges. CPI participants of color completed degrees or certificates at three and almost four times the rate of African-American and Hispanic students at Arkansas two-year colleges. The evaluation also examined the earnings of participants following the program and found that CPI graduates who enrolled in 2011 had earned \$31,000 more in their first year than other TANF participants in the same field. This result suggests that CPI may be having a significant impact on reducing intergenerational poverty (College Count\$, 2018). The researchers also evaluated the return on investment (ROI) to the state, comparing program costs with increases in state tax payments and decreases in state public assistance spending. For every dollar invested in CPI programming in 2009, taxpayers received a return of \$1.79 over the course of five years (College Count\$, 2018).

A survey and interviews of current and past participants shed light on the most successful elements of the CPI that supported positive results for low-income students. Participants pointed to the support and ongoing advisement from staff as the single most helpful aspect of CPI. Evaluators noted that non-economic resources provided by case managers (e.g., guidance, goal-setting, motivation, and emotional or academic support) were identified by students as critical to their success. It seemed significant to students that case managers "dr[ew] no boundaries around the kind of supports needed to help a student persist in his or her journey toward a better life" (College Count\$, 2018, p. 8). A large percentage of participants also identified the following program elements in response to this question: financial assistance; gas vouchers; assistance with

books; child care assistance, and job search assistance. Notable policy design features of the CPI that have supported its sustainability include the allocation of federal TANF funds to specifically support low-income student educational attainment, as well as cross-agency collaboration and data-sharing.

### **Pedagogy of Persistence**

Another set of interventions focus on the crucial role faculty interactions play in student learning and success in college, what we are calling “pedagogies of persistence.” These are generally more affective and/or metacognitive strategies, focusing on reflection and reinforcement to build students’ confidence and learning potential. Engaging the faculty as key touchpoints for student success is especially important for community colleges.

The Carnegie Math Pathways (CMP) is a comprehensive pedagogical solution aimed at improving success in developmental math courses. The curricular intervention incorporates productive persistence, grit, and study skills into a remedial, pre-algebra or pre-statistics course, which also focuses extensively on applied content knowledge rather than rote memorization. Strategies such as these utilized in the Carnegie Math Pathways initiatives have been shown to increase student engagement with course topics and promote a deeper understanding of course learning objectives. One analysis of CMP students and a comparison group of community college students found that the students who participated in the CMP were more likely to successfully transfer to four-year institutions as compared to students at large. This is significant because although a majority of incoming community college student indicate desire to eventually transfer, very few are able to complete the process. Further, even though CMP students earned an associate’s or other two-year credential at about the same rate as all students at the same schools, because the comparison group was actually more academically advantaged, there is evidence of small but favorable impacts. In particular, by weaving in universal, meta-cognitive academic skills and strategies, students appeared to be able to transfer those skills beyond the mathematics course and into success in other disciplines.

### **Discussion**

It is evident through our research that being a community college student poses unique and particular challenges—especially for academic and social integration of the student body into college life. These challenges occur across many points in the higher education pipeline, as illustrated from the comments made by interviewees who participated in our study. This study largely supports the literature regarding college student persistence and particularly, low-income college student persistence. However, there are several very important distinctions that warrant deeper analysis.

This study contributes to the extant literature by applying and analyzing traditional rationale of college student persistence to the particular experiences of low-income community college students. Through this work, it is evident that extended family networks are critically

important in the success of these students—from enrollment to progression. In addition to the support of extended family and social networks, it appears that access-focused policies have done their job in creating a strong college-going culture. However, as illustrated by many of the interviewees, many low-income students are feeling—or getting—lost once they are in college. Compounding these students' lack of direction is the struggle with covering costs beyond tuition while they're enrolled in college, as well as encountering ineffective teaching and learning practices. Due to the transient nature of attending a commuter college, low-income community college students simply aren't being integrated into college life in the same way as students attending a residential four-year institution. Conversely, it seems some community colleges are operating in such a way as to try and mimic the academic and social integration practices of four-year institutions. But perhaps most importantly from our research—integration of community college students cannot be defined, understood, or operationalized in the same way as four-year institutions. This study provides insight into the expected similarities of low-income community college student experiences based on existing literature as well as provides further explanation as to how and where these assumptions diverge.

### **Importance of Extended Family Networks**

The students in our sample leveraged their extended family networks to build some of the necessary cultural and social capital for success that may have been lacking as a result of their immediate family backgrounds (Bowen et al., 2005; Perna, 2006). They seemed to demonstrate resourcefulness through the development of “fictive kin”—networks in which students are united by a specific purpose that offers both real sources, like college information, and symbolic resources, like a college-going identity (Tierney et al., 2006). Tennessee Promise explicitly tries to help students build this capital through mentorship and community service. However, it is unclear if a causal relationship can be established regarding the increased outcomes measures for low-income Promise students, particularly because those students who are able to maintain Promise eligibility through their senior year of high school presumably have greater existing access to that very social and cultural capital than those who do not. Instead, one important strategy for success that was common among participants' experience was the heavy reliance on extended family networks for support. Researchers, practitioners, and policymakers should recognize the role of extended family support networks in providing the cultural and social capital that supports low-income students' persistence in college. How can we reconceive theories of cultural capital and student success to account for these extended family networks? How can institutions and policies engage with this aspect of student experience to better engage and support students?

### **College-going Culture**

It is clear from our qualitative results and the contextual quantitative data that recent policy changes in Tennessee have created a stronger college-going culture, first among recent high school graduates and now among independent and adult students. Indeed, enrollment

numbers at community and technical colleges have increased statewide (Tennessee Higher Education Commission, 2018) in the years since implementation of the Promise and Reconnect programs - although the degree of increased participation varies by locale. Overall, our results support the claim that these policies are meeting their intended goals of increased college access.

However, our results also indicate that once enrolled, low-income students may be progressing toward completion more slowly than their counterparts. Quantitative data on credit hour accumulation by term at the suburban community college shows a gap that begins in the first semester of enrollment and widens over time between Pell eligible and non-Pell eligible students. This could either indicate that Pell eligible students are enrolling in fewer credit hours at the beginning of the term, or that they are less successful in completing their attempted courses by the end of the term. It is interesting to note that participation in Tennessee Promise does increase the overall hours earned for all students, however there is still a slight gap with Pell eligible students lagging behind. Pell grant eligible students were also more likely to have accumulated 60 credit hours (the minimum to obtain an associate's degree) but not have a degree after six terms.

The interview data likewise reveals that, while the policies are inspiring students to enroll in college, there may be a need to more intentionally consider or shape students' expectations for college, which can be an important indicator of persistence and completion. The Promise participants' expectations for college and intentions for programs of study were uneven. Expectations may be clearer among the adults utilizing Reconnect. Overall, in the interviews, the returning adult students seemed to be more self-reflective and goal-driven, identifying a particular program of study and pathway forward. Traditional-age students seemed to be less certain about their intentions or even their purpose in attending college. It is interesting to consider the differences of policies aimed at increasing access for students straight out of high school versus returning adults. Drawing from the tenets of Tinto's theory of student departure, success of these policies—which indirectly target completion through granting access—must, at least in part, be related to matching students' expectations. As discovered through our interviews, community college students often struggle along the pathway from enrollment to completion. The literature points to two concepts that have been found to aid in directing community college students more successfully through and to the end—entry into programs and availability of required courses.

The declaration of a major has often been regarded as a milestone for academic success and is commonly used as a predictor of completion. While declaring a major is certainly an important step for all college students, less studied is the effect of entry into a program. Most community colleges offer an array of programs. However, many new students enroll in community colleges without clear goals for college and careers (Gardenhire-Crooks, Collado, & Ray, 2006). As predicted by Tinto's theory, students' unmet expectations, even those expectations that may be unclear and ill-defined, are a major contributor to early departure. With ever-expansive college program offerings, students—especially those that are first-generation or

have limited college knowledge and social/cultural capital—may find themselves further confused and burdened by the decision of direction in their academic studies. Helping students better understand and define their expectations by offering a set of tightly structured program options whose requirements and expected outcomes are clearly defined is one approach to combat the ambiguity in choice that many community college students face (Scott-Clayton, 2011).

Should a student enter into a program, it is imperative that the required coursework for completion of that program be provided to the student in a consistent or expected way. Depending on the chosen program, courses that students need to take in order to graduate may not be offered when or where students need to take them. For students attending rural community colleges—or more remotely located branch campuses—this may be an especially important concern.

While community college departments closely monitor enrollment in their courses, they often do not know which students are pursuing programs of study in their fields (Davis & Cho, 2011). In this way, it is impossible to track students in specific programs to ensure that they make steady progress toward completion. This is critically important for students that may need to travel to another campus, or enroll in online courses, to complete their desired program of study. If students are unaware that changing campus locations will be required to complete their degree, and especially if they do not receive any structured guidance to do so, it could result in a major barrier for persistence.

### **Costs Beyond Tuition**

Our interviews revealed that low-income students' financial responsibilities can create significant stress and force difficult choices that can impact their ability to get to class, complete assignments, or visit support services on campus. Many interview participants reported having trouble paying for basic costs of living such as housing, childcare, and transportation. Some also pointed to unexpected costs, such as car repairs, as potentially disruptive to their ability to attend college. Participants reported they did not have consistent additional financial support beyond financial aid. In fact, they were often financially supporting others or contributing to household expenses. Even with the existence of numerous federal and state aid options to Tennessee students, low-income students often struggle to balance their budgets and may not receive financial assistance outside of covering tuition and fees. The Pell grant has significantly less purchasing power to cover tuition and fees, rarely even touching other elements a student's total cost of attendance. In addition, since Tennessee Promise is a last-dollar scholarship and the state's need-based aid is not fully funded, state aid also unlikely to cover enough expenses beyond tuition for low-income students to be successful.

To cover such expenses, many low-income students take out loans. Seventy percent of Pell recipients take out loans (Carnevale & Smith, 2018). Taking out loans could have a

detrimental long-term impact for low-income students, given that many do not persist to complete a credential. One analysis found that 38% of low-income student loan borrowers drop out of college, compared to less than a quarter of their higher-income peers (Huelsman, 2015). Several of our interview participants were returning to college after stopping out, and a few of them mentioned taking out loans when they first enrolled in college. Those students did describe financial struggles related to the student loans they had taken out before leaving college and then returning.

Even if low-income students manage to persist to completion, more of them will graduate with debt as a result of covering expenses beyond tuition not covered by financial aid, potentially limiting the impacts of the economic returns of earning a credential (Belfield & Bailey, 2017; Huelsman, 2015). One study noted that a full 84% of graduates who received Pell Grants graduate with debt, compared to less than half (46%) of non-Pell recipients (Huelsman, 2015). Even with available financial aid or loans, many low-income students also finance expenses while in college with credit cards. A recent report on low-income working learners indicated that they are more likely to rely solely on credit cards to pay tuition and fees, with slightly less than a third doing so (Carnevale et al., 2018). We might assume that these students are also turning to credit cards as a way to cover expenses beyond tuition and fees. In the face of insufficient financial aid, low-income students may be forced to turn to more borrowing than other students to meet expenses. This could have long-term negative impacts on their financial security and social mobility, despite their remarkable efforts to enter, persist, and complete college.

The conditions of low-income students' work obligations likely also contributes to gaps in persistence and completion by income. Only 22% of low-income working learners complete a bachelor's degree within six years, compared to 37% of higher-income working learners (Carnevale et al., 2018). Most of our participants were working to cover costs of living for themselves and their families as well. These work obligations in turn often interfered with academics or involvement on campus. While many college students work, lower-income workers face more challenges to persistence (Carnevale et al., 2018). The type of work, number of hours worked, and reasons for working among lower-income working learners can also impact their ability to persist and complete. Many work in unreliable, low-wage jobs that are not related to their field of study and most are working to meet basic needs, like food, that their families cannot provide. Low-income students also tend to work slightly more hours per week than higher-income students, often exceeding the work hours threshold that is beneficial to college students (Carnevale et al., 2018). The majority of Pell recipients work, many of them full time: 40% of Pell Grant recipients work part time, and another 34% are employed full time (Carnevale et al., 2018). These conditions were certainly reflected among our interview participants. For example, one had come to straight his morning interview with us after working overnight as a parking valet, about 30 miles away from his college campus.

Even if participants did not specifically indicate that their work, financial, or familial responsibilities negatively impacted their college experience, it was only because of the



extraordinary—and likely unsustainable—efforts of students themselves to effectively manage their time and balance their many obligations. Aside from the burdensome cost of textbooks, which was a common topic in the interviews, none of the students seemed to believe that their other expenses beyond tuition were anyone’s responsibility but their own. Even if they recognized the significant challenge managing these expenses posed to their ability to attend and be successful in college, they were only focused on how they had, would, or, in some cases, did not successfully cobble together resources to persist. A few did describe the emotional and physical toll that the financial stress, and their efforts to manage it, was taking on them. Notably, however, while many spoke positively about the Pell grant, Tennessee Promise, and Tennessee Reconnect, not one pointed to a resource provided by the state or on campus that was helping them manage expenses beyond tuition and fees. Nor did they even expect such support to be provided. All of them were grateful for the financial aid they did receive, and they saw college as a system into which they must fit their complex lives, not the other way around. Given the significant challenge to persistence that these expenses present, what role can/do policies and practices play in reducing financial burdens on low-income students?

### **Effective Teaching and Learning**

Both qualitative and quantitative results suggest that another potential influence on the persistence and completion of low-income students could be their learning experiences in the classroom, as well as support from faculty outside the classroom. In fact, the interviews revealed that interactions (or lack thereof) with faculty may have a significant influence—positively or negatively—on students’ experiences in college. The prevalence of students’ experiences with faculty throughout the qualitative data indicates that this could be a high leverage area to impact academic integration. The quantitative results indicate a significant relationship between a student’s likelihood to pass the first-year English composition course and their first college-level mathematics course. That is to say, that contrary to popularly held notions of students being “math-brained” or otherwise innately gifted in a particular subject, there is an underlying pedagogical factor that influences academic success and is independent of the particular course discipline.

It may be that effective teaching and more positive learning experiences could have a beneficial influence on students’ academic progress and thereby, persistence. As community colleges are primarily teaching institutions, the faculty serves perhaps the most vital role in promoting the persistence and completion of community college students. Although regional accreditation bodies have minimum degree requirements that govern faculty eligibility, there is high variation in the amount of teaching-specific preparation of new hires – both full-time and part-time – in community colleges. Some community college faculty are recent M.A./Ph.D. graduates with limited classroom experience, some are former K-12 teachers with much experience but in a different context, and some are from outside of academia altogether, and have only their desire to engage in teaching. Graduate students across all disciplines are frequently ill-prepared, if at all, for the duties of being a faculty member, outside of research

(Austin, 2002). Community colleges are also frequently comprised of a plurality of contingent faculty – both part-time and non-tenure track full-time (Kezar & Sam, 2010; Townsend & Twombly, 2007). This wide variation in the makeup of faculty demographics can lead to difficulty in controlling the quality of student experience and achievement of learning outcomes.

For commuter colleges, and community colleges in particular, the classroom often becomes the sole point of academic and social interaction for students with their institution for large parts of their academic career (Tinto, Goodsell, & Russo, 1993). Braxton (2000) offers various constructs to Tinto's theory that are derived from a consideration of the role of the college classroom in student persistence and identifies elements central to this concept— primarily academic-based practices such as active and cooperative learning strategies— that influence social integration in general. As such, it is important that quality of instruction be uniform across the faculty. Unfortunately, professional development among community college faculty can be haphazard and disorganized (Townsend et al., 2007). How could/do policymakers invest in high quality teaching and learning experiences for community college students? What institutional practices support effective community college faculty teaching practices and engagement with students outside the classroom? How could/do innovative teaching and learning practices help students better manage their time?

### **Lack of Personal Involvement in (Community) College Life**

Participation in clubs or other student organizations in college was largely viewed by our participants as a worthwhile effort primarily in relation to future enrollment in a university. There was a divide among students about when extracurricular participation at a community college was beneficial—whether one should become involved at a community college and use it as a factor in their university admissions or just wait until enrollment in a university—but one point was evident: a student's involvement in community college clubs or organizations is apparently related to a student's intention to transfer to a university. In juxtaposition, students who mentioned their intention for enrollment in community college was to obtain a certificate or associate's degree did not seem as interested in involvement in student organizations or campus activities. The commuter characteristic of community colleges makes students less likely to interact socially outside of school hours, with a substantial proportion of community college students attending part time—and regarding what time they do spend on campus as transitory (Alfonso, 2004).

Beyond the assigned meaning community college students give to participation in college life, the logistics of how these students even learn about potential opportunities for personal involvement can be problematic. Several of our interviewees were currently enrolled in first year experience (FYE) courses and mentioned that while they had not actually participated in extracurricular activities, their FYE professors were either the primary, or only, source of information and communication regarding opportunities for involvement in the community college beyond direct class participation.

Because community college students enter with diverse expectations for college, it is unclear whether or not lack of involvement in the community college life is due to issues with the actual pathway of information about what extracurricular activities exist or if these students simply do not have the desire or ability to participate. Considering the utilitarian outlook that some of our interviewees maintained regarding a community college education, it is hard to imagine that all community college students are able to sacrifice additional time toward involvement in non-classroom based activities.

### **Redefining Social Integration**

Traditional theories of social integration do not easily retrofit to the community college context. Existing studies have used residential, university-specific metrics—like interaction with faculty, interaction with peers, and extracurricular involvement—to measure student social integration into campus. However, it has been long contended that these metrics and models do not work as well for commuter colleges as residential colleges (Pascarella & Terenzini, 1991). Those theories may also not be useful in considering low-income students at many institutions, particularly where students commute to campus. In this study, students' continued connections to their home communities and their work and family responsibilities limit their involvement in campus activities outside of the classroom. Furthermore, those few students who were involved did not necessarily note that those experiences were particularly important to their persistence in college.

What limited research exists on academic and social integration of community college students shows inconsistent results. Some research has found small positive effects (Bers & Smith, 1991; Napoli & Wortman, 1998), other studies found no effect, and, in at least one case, social integration was found to have a negative effect (Nora, Attinasi, & Matonak, 1990). The evidence provided on integration of community college students make clear that various traditional measures of social integration show little if any positive relationship with persistence at commuter institutions (Pascarella et al., 1991). Since by definition community colleges largely enroll students living within the local community, Tinto's notion of severing ties from one's community of origin is impossible. It follows that the factors contributing to persistence in a community college are not the same as those that contribute to persistence at a residential, four-year university. The differences between community college and university students may explain why research on community colleges is much less likely to show a positive relationship between measures of integration and student persistence and degree completion (Bailey et al., 2004).

Metrics that appear to be of greater importance to the community college student population include: flexible scheduling, convenient transportation, guaranteeing that required courses are offered on campus, quality online education for courses unavailable on campus, and more engaging or applied pedagogy to capture student participation and mingling within the classroom instead of relying on integration to occur around the campus. These factors are apparently more important to the community college students' integration than the nature of their

relationships with professors or their personal involvement in student organizations. What does social integration mean for low-income/community college students? How relevant is social integration to students' persistence and completion? How might institutions reconfigure policies and practices to support students' sense of belonging on campus?

### **Recommendations**

The forgoing discussion informed three overarching recommendations to support persistence and completion for low-income students in Tennessee. For each overarching recommendation, we identify action items at the state level and at the institutional level. Given that Complete Tennessee aims to partner with a diverse set of leaders across the state, we believe these recommendations could provide an opportunity to collaborate with various stakeholders to further equity in higher education in Tennessee. Given the role that Complete Tennessee has in advising governmental agencies, institutions and community leaders, we have identified state- and institution-level recommendations for each of our three overarching areas of recommendation.

Our recommendations are based on needed supports and actions identified from our research that low-income community college students need to persist. It is clear to us that these proposals likely cannot be accomplished through the efforts of one party alone. Likely, collective actions will need to be taken by the state, the individual institutions and their governing board, and private actors—in other words, a patchwork of partnerships is needed. The key is that it's not the student's responsibility. Access policies and initiatives must now be equally paralleled by policies, practices and initiatives that specifically target persistence.

#### **Address Expenses Beyond Tuition**

Our first overarching recommendation to support persistence of low-income students is to address expenses beyond tuition. This recommendation is influenced by our qualitative findings and relevant literature around the role of ongoing and unexpected expenses in student's academic performance, wellbeing, engagement on campus, need to work, and time management. Unfortunately, while supporting access and enrollment in college, the strong narrative of promise programs and “free” college can detract from the role expenses beyond tuition play in the ability of low-income college students to be successful. Depending on the way it is structured and individual student circumstances, state financial aid may not always translate into on-hand cash to cover living and unexpected expenses, as well as any family financial obligations (Goldrick-Rab, 2018). Since Tennessee Promise is a last-dollar scholarship, it does not translate into cash-on-hand that can students can use to cover ongoing and unexpected expenses.

The long-term and compounding effects of poverty mean that students may have complex financial needs beyond what state aid covers, even if they do receive a refund from Pell or state need-based aid funding. While student loans can and do help low-income students address expenses beyond tuition, asking these students to rely on student loans alone, without intentional

and additional supports, is not an equitable or successful long-term strategy to support persistence and completion. Indeed, addressing costs beyond tuition means not only providing financial support, but also social, emotional, and logistical support that low-income students may need to manage their financial and other responsibilities, while also engaging in their academic pursuits. To support equity in higher education, states and postsecondary institutions, particularly public community colleges, should design financial and other supports to fit the needs of students, rather than expecting low-income students to fit their complex lives into a system that has not been designed to fully support their success.

*Fully fund need-based aid.* To address expenses beyond tuition, we first recommend that Tennessee fully fund the Tennessee Student Assistance Award (TSAA). The TSAA provides grants to low-income students with an adjusted gross income less than \$36,000. However, because the TSAA is not fully funded, not all eligible students can receive the award. If more low-income students could receive TSAA in addition to the Pell grant, then more students could possibly receive a refund to cover expenses that are not strictly tuition and fees but are included in the cost of attendance (e.g., textbooks or transportation). There is evidence that need-based aid can have a positive impact on persistence and completion. However, the literature also suggests that need-based aid alone is not enough to close gaps in persistence and completion for low-income students. In Tennessee, the \$1,300 TSAA provides to community college students would certainly help cover more expenses, but is unlikely to help students address the full spectrum of actual and opportunity costs they must manage to successfully complete college. Accordingly, additional strategies are necessary to close equity gaps, but fully funding need-based aid would be a strong start for Tennessee.

*Creatively and collaboratively fund comprehensive support programs that address expenses beyond tuition.* To complement financial aid policies such as Promise or TSAA, we recommend that the state or individual institutions look for opportunities to collaborate and/or creatively fund comprehensive support programs to address financial needs of their students not fully addressed by state aid. Successful policy interventions that have been creatively designed, funded and implemented to address student expenses in conjunction with other supports, such as the Arkansas Career Pathways Initiative and the ASAP program, have been shown to be effective in increasing persistence and completion for low-income students. Sometimes these programs tie financial benefits (e.g. transportation or textbooks) to required academic engagement behaviors, such as advising, tutoring, and full-time enrollment. Other successful programs pair wraparound supports such as childcare, peer support communities, and social services with academic and career development pathways to fully engage low-income students in a structured pathway to the economic returns of education. Comprehensive support programs that include support for expenses can be costly, though evidence of returns on investment are strong. Nonetheless, creative and collaborative funding of these programs across public and private sectors is likely necessary for sustainability of such programs. We encourage localized partnerships to develop targeted programs that can be mutually beneficial to states, institutions,

employers and community organizations.

*Identify and normalize ongoing and unexpected expenses for students.* Finally, we call on institutions to identify student living expenses most relevant to students in their local contexts—for instance, students may commute to campus differently or some campuses may serve more parents than others – and then also to normalize these expenses as “real” costs of attending college – in financial aid communications, in campus programming, and in classroom interactions. Even though we know that covering these expenses present significant challenges to persistence, they are still primarily seen as the responsibility of the student or “someone else,” even by the students themselves. In some ways, a first step to increasing success of low-income students is for institutional leaders, faculty, and staff recognize these as college costs and significant challenges to persistence that students cannot address on their own and that are not the responsibility of someone else. Identification and recognition of these expenses can also help institutions connect with appropriate partners to develop support programs that can most effectively help their lower-income students persist and complete a credential.

### **Strengthen the Academic Core of the College Experience**

Due to the increased likelihood of low-income community college students beginning their postsecondary education less prepared and with less procedural knowledge, it is of crucial importance that institutions and policymakers alike work together to provide students with a cohesive, structured, and dynamic academic experience while in college. As evident in the quantitative findings, students who are able to maintain steady credit hour accumulation are much more likely to complete a degree program. And in the qualitative data, we found that poor grades and lack of academic progress were reported among the top reasons students would consider leaving school. While there are certainly external, student-intrinsic factors that influence students’ abilities to focus on schoolwork, to fulfill a completion agenda, colleges and faculties must relinquish the mentality of being postsecondary gatekeepers.

*Engage the faculty in student success.* Ernest Boyer suggested that the missions of community colleges particularly lend themselves to a focus on the scholarships of application and teaching (Braxton, Luckey & Helland, 2002). The scholarship of application is defined broadly as utilizing discipline-specific knowledge to solve problems in the community and society at large (Braxton & Del Favero, 2002), and the scholarship of teaching involves the development and improvement of pedagogical practices (Braxton et al., 2002). It makes sense, as teaching is the primary role of community college faculty (Braxton & Lyken-Segosebe, 2015), that the scholarship of teaching should be an emphasis for faculty work. However, the connection between scholarship and effective teaching is often conflated and misunderstood (Braxton et al., 2002). Community college administrators should work with faculty to align faculty development, new hire socialization, and faculty reward structures to focus on these types of scholarship that encourage scholarly expertise in the discipline of effective teaching and

learning. This would ensure that all students are getting the optimal academic experience in the classroom, and reduce unnecessary barriers to completion.

*Invest in meaningful pre-college academic experiences.* With expanding college access many institutions are seeing increased variability in the college readiness of their incoming students. In order to level this playing field—particularly for low-income students, institutions and policymakers should seek out ways to deliver meaningful, pre-college experiences more broadly as well. The dual enrollment grant program currently in place in Tennessee allows high school juniors and seniors who meet certain criteria to enroll in up to three college courses at a reduced rate, per semester. Unfortunately, many of the students who now take advantage of these grants are higher achieving students with the existing social capital needed to navigate the application process. Expanding dual enrollment opportunities to traditionally underserved students—including low-income, rurally located, and less academically prepared—will mean more students are able to jump start their academic careers, and accelerate towards graduation. For example, offering co-requisite remediation courses to high school students can shorten their time to degree by two courses.

### **Integrate Community College Students into College Life**

Community college students do not all enter with the same expectations as traditional four-year students attending a university. In addition, some have different time and resource constraints than university students—especially compared to those students living on campus. Many of these constraints revolve around limited availability for substantial time commitments to college life outside of attending regular classes. Because community college students commute to campus, they often are unable to make multiple trips back to campus simply to participate in extracurricular activities. In fact, many community college students find themselves “killing time” between classes if their scheduled coursework does not occur in sequence. Once community college students are off campus, they typically have more pressing responsibilities to tend to like caring for family or work obligations.

*Develop a state-level work-study program.* Resources should be focused in ways to support low-income commuter students in staying on campus for longer periods of time as well as making the time they spend on campus between scheduled classes more meaningful and impactful. Particularly for low-income students, work-study opportunities appear to be an effective means for integrating these students into the institution, the student body, and college life at the community college campus. A student’s level of commitment to the institution is a highly important driver behind whether or not they become integrated in the college—and a student’s level of integration is an indicator of persistence (Tinto, 1987, 1993).

Not only does work-study allow students to be supported financially, it engages and invests them into the college and the student body in general. Work-study positions facilitate student and faculty/staff interactions, and many positions provide direct student-to-student

interaction such as tutoring or peer advising. Institutional commitment is one of the most important tenets of student persistence theories—if students have a commitment to the institution, they develop a stronger sense of belonging and form relationships with faculty and staff who value their membership in the college community (Tinto, 1987, 1993). In effect, this commitment serves to bind the student to the college even when challenges arise. However, not all students can manage staying on campus for longer periods of time—even if it is for work.

Effectively removing common barriers would allow for many more low-income students to participate in work-study. For example, enabling students who are caring for young children to participate in work-study positions may also require offering corresponding childcare services. The number of community college students that are not only able, but have the self-motivation to participate in traditional extracurricular activities on campus are limited. Often, the students who are not able or lack the self-efficacy to engage in extracurriculars are left with a sense of not belonging, or being out of place—which further leads to withdrawal and can undermine motivation to persist. Intentionally involving these students with institutional affairs can combat this withdrawal—and, ultimately, early departure. Implementing a work-study program that is funded at the state-level could be one way to increase the number of available work-study positions at community college campuses by supplementing currently existing federally funded work-study positions.

*Leverage TRiO programs on more community college campuses.* An incidental finding in our research was the effectiveness of TRiO programs in connecting students at the participating community colleges. It is interesting to note that of the two institutions that participated, the one that had a TRiO program was able to connect to low-income students much more directly than the institution that did not have a TRiO program. Not only was the institution able to directly connect to these students, but the students themselves seemed much more connected to each other as a group. One federal TRiO program in particular—Student Support Services—specifically targets low-income students’ academic and social integration into the college through offering one-on-one tutoring, academic planning, financial literacy, and other support services. These services help low-income students persist and complete their college career by effectively integrating them into the institution while providing the additional and particular supports most important (and most needed) by community college students. Establishing TRiO programs is an effective way to provide an appropriate integration pathway for low-income students attending community college.

### **Conclusion**

State-level promise programs have been an increasingly attractive and accessible policy solution to increase college access by reducing college costs. However, our research suggests that these policies may play a limited role in helping low-income students persist in college and complete a college credential. One key limitation of these policies is that they do not address the additional expenses beyond tuition that low-income students struggle to cover. These other



ongoing and unexpected expenses often lead to substantial work obligations, time management challenges, and significant stressors that can strain students' engagement in their academic work and their integration into college life. In addition, because low-income students face a complex mix of challenges in completing college, interventions beyond promise programs are necessary to reduce gaps in outcomes among college students and promote social mobility of lower-income individuals. As evidenced by emerging interventions and identified in our findings, these additional interventions often require creative collaborations among states, institutions and the private sector. Our study also suggests that effective interventions may require a re-envisioning of the community college experience as more uniquely distinct from the four-year university student experience.

It must be noted that, even though gaps remain in Tennessee between lower-income and higher-income students, it is a state that has invested heavily in higher education and research-based reforms to support college completion for all students. Our recommendations would likely be somewhat challenging to implement in any policy environment, but could be particularly difficult in states that have not yet made the commitments and progress toward college completion already implemented in Tennessee.

Additional research on the persistence of low-income college students should be focused on the particular population in question—those who did not persist. Retrospectively identifying actual reasons why low-income students departed early would allow researchers to categorize and analyze the commonalities between these reasons and study any correlations they have with institutional, geographical, policy, and/or student characteristics. Another area for future qualitative research includes qualitative tracking of currently enrolled students over time. Talking to students as they enter, and then checking in again periodically throughout their college career would allow for tracking changes in mood, intention, and purpose in college. In essence, this type of data collection could offer a “real-time” look into when and why low-income students depart early. Lastly, studying both low-income community college students as well as low-income university students—especially those living on campus—would allow for comparison between commuter and non-commuter groups.

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**Appendix A**

**Tennessee State Aid Award Amounts**

Award	Amount (per full-time enrollment semester)	Eligibility
HOPE Scholarship*	\$1,500	Merit-based; renewable for up to five years if student maintains academic progress
HOPE Aspire*	HOPE + \$250	Need-based supplement to HOPE
General Assembly Merit Scholarship*	HOPE + \$1,500	Higher merit-based supplement to HOPE
HOPE Access*	\$875	Lower merit + need-based. Not renewable, converts to traditional HOPE if student maintains academic progress
Tennessee Promise and Reconnect*	Varies	Last-dollar scholarship for mandatory tuition and fees
Tennessee Student Assistance Award	\$1,300	Need-based, not lottery funded and extremely limited

*\*Funded by the Tennessee State Lottery*

**Appendix B**

**Institution-Level Aid Breakdown**

Academic Year 2016-17

	Percent of full-time first-time undergraduates awarded any financial aid	Percent of full-time first-time undergraduates awarded federal state local or institutional grant aid	Percent of full-time first-time undergraduates awarded federal grant aid	Percent of full-time first-time undergraduates awarded Pell grants	Average amount of Pell grant aid awarded to full-time first-time undergraduates	Percent of full-time first-time undergraduates awarded other federal grant aid	Average amount of other federal grant aid awarded to full-time first-time undergraduates	Percent of full-time first-time undergraduates awarded state/local grant aid	Average amount of state/local grant aid awarded to full-time first-time undergraduates	Percent of full-time first-time undergraduates awarded student loans	Percent of full-time first-time undergraduates awarded federal student loans	Average amount of federal student loans awarded to full-time first-time undergraduates
Chattanooga State CC	95	92	59	59	\$4,047	10	\$846	75	\$2,959	18	18	\$4,307
Cleveland State CC	97	95	56	55	\$3,969	18	\$717	80	\$3,181	17	17	\$4,279
Columbia State CC	94	93	43	43	\$3,942	9	\$508	86	\$3,337	7	7	\$3,823
Dyersburg State CC	98	97	61	60	\$4,384	16	\$538	84	\$3,213	14	14	\$2,541
Jackson State CC	97	96	68	67	\$4,265	14	\$745	84	\$3,040	1	0	
Motlow State CC	94	93	48	47	\$4,006	4	\$1,067	86	\$3,438	0	0	
Nashville State CC	95	94	67	66	\$4,246	11	\$2,830	74	\$2,675	18	15	\$4,214
Northeast State CC	96	96	57	57	\$4,089	6	\$750	87	\$3,176	6	0	
Pellissippi State CC	94	93	48	48	\$4,241	4	\$715	84	\$3,248	10	9	\$4,198
Roane State CC	98	97	55	55	\$4,018	6	\$532	89	\$3,297	8	8	\$4,434
Southwest Tennessee CC	92	92	70	70	\$4,499	12	\$648	68	\$2,532	0	0	
Volunteer State CC	94	92	53	53	\$4,165	7	\$496	80	\$3,078	9	9	\$3,412
Walters State CC	97	97	61	61	\$4,036	7	\$682	88	\$3,127	0	0	

Academic Year 2015-16

	Percent of full-time first-time undergraduates awarded any financial aid	Percent of full-time first-time undergraduates awarded federal state local or institutional grant aid	Percent of full-time first-time undergraduates awarded federal grant aid	Percent of full-time first-time undergraduates awarded Pell grants	Average amount of Pell grant aid awarded to full-time first-time undergraduates	Percent of full-time first-time undergraduates awarded other federal grant aid	Average amount of other federal grant aid awarded to full-time first-time undergraduates	Percent of full-time first-time undergraduates awarded state/local grant aid	Average amount of state/local grant aid awarded to full-time first-time undergraduates	Percent of full-time first-time undergraduates awarded student loans	Percent of full-time first-time undergraduates awarded federal student loans	Average amount of federal student loans awarded to full-time first-time undergraduates
Chattanooga State CC	95	91	58	58	\$3,964	10	\$803	71	\$2,932	20	20	\$4,369
Cleveland State CC	98	96	59	58	\$4,144	15	\$484	78	\$3,197	18	18	\$4,374
Columbia State CC	95	94	50	50	\$3,903	5	\$340	67	\$2,754	7	7	\$4,712
Dyersburg State CC	98	96	62	62	\$4,139	15	\$498	79	\$3,151	10	10	\$2,711
Jackson State CC	96	95	64	63	\$4,340	13	\$516	84	\$3,184	1	0	
Motlow State CC	94	93	49	49	\$4,118	5	\$900	85	\$3,414	0	0	
Nashville State CC	96	95	67	66	\$4,422	9	\$2,609	74	\$2,741	16	15	\$4,592
Northeast State CC	97	97	60	60	\$3,973	7	\$830	85	\$3,134	0	0	
Pellissippi State CC	94	93	48	48	\$4,013	13	\$456	83	\$3,188	10	10	\$4,008
Roane State CC	98	97	57	57	\$4,650	2	\$548	86	\$3,467	8	8	\$4,475
Southwest Tennessee CC	90	90	68	68	\$4,373	5	\$711	64	\$2,495	0	0	
Volunteer State CC	84	80	51	51	\$4,044	5	\$573	66	\$2,791	9	9	\$3,350
Walters State CC	96	96	61	60	\$4,057	6	\$919	84	\$3,143	0	0	

Academic Year 2014-15

	Percent of full-time first-time undergraduates awarded any financial aid	Percent of full-time first-time undergraduates awarded federal state local or institutional grant aid	Percent of full-time first-time undergraduates awarded federal grant aid	Percent of full-time first-time undergraduates awarded Pell grants	Average amount of Pell grant aid awarded to full-time first-time undergraduates	Percent of full-time first-time undergraduates awarded other federal grant aid	Average amount of other federal grant aid awarded to full-time first-time undergraduates	Percent of full-time first-time undergraduates awarded state/local grant aid	Average amount of state/local grant aid awarded to full-time first-time undergraduates	Percent of full-time first-time undergraduates awarded student loans	Percent of full-time first-time undergraduates awarded federal student loans	Average amount of federal student loans awarded to full-time first-time undergraduates
Chattanooga State CC	91	84	63	62	4203	9	2500	47	2181	35	35	4786
Cleveland State CC	96	93	61	61	3925	13	1358	65	2653	22	22	4385
Columbia State CC	89	86	52	52	4177	1	1131	67	2435	16	16	4672
Dyersburg State CC	97	94	74	73	4321	7	1095	59	2498	18	18	2681
Jackson State CC	95	93	70	69	4123	16	961	66	2494	3	0	3700
Motlow State CC	86	81	49	47	4199	5	1644	62	2529	10	10	2957
Nashville State CC	98	93	79	77	4451	14	3423	43	2238	33	32	4988
Northeast State CC	91	90	64	64	4105	4	810	59	2499	0	0	
Pellissippi State CC	93	88	53	52	4123	7	1327	67	2761	16	15	4672
Roane State CC	96	87	55	55	4134	2	991	67	2465	13	13	4257
Southwest Tennessee CC	93	84	73	73	4407	11	742	40	2047	0	0	
Volunteer State CC	92	84	54	54	3910	6	568	57	2347	22	22	3623
Walters State CC	97	92	61	60	3950	6	927	72	2455	0	0	

## Appendix C

### Recruitment Flyer



## Seeking college students for research study

Doctoral students from Vanderbilt University's Higher Education Leadership and Policy program will be conducting small, in-person focus groups on your college campus for a research study.

The purpose of this study is to learn more about the experiences of low-income college students in Tennessee. Eligible participants will be asked to participate in focus groups during which they will be asked about their experiences with college. Participation in the study is voluntary.

To participate in this study you must be:

- 18 years or older
- Eligible for the Pell Grant or other need-based financial aid
- Enrolled in college within the last 2 years

Participation in the study involves:

- A time commitment of 1.5 to 2 hours
- Compensation up to \$20 at the conclusion of the focus group

Names of study participants will be kept confidential.

To volunteer for the study or for more information contact:

Amanda Wornhoff, Principal Investigator

[amanda.c.wornhoff@vanderbilt.edu](mailto:amanda.c.wornhoff@vanderbilt.edu)

Date of IRB Approval: 09/27/2018

Institutional Review Board



## Appendix D

### Consent Form

**Institutional Review Board  
Informed Consent Document for Research**

**Principal Investigator:** Amanda Wormhoff **Revision Date:** 9/23/18  
**Study Title:** EdD Capstone Project: Complete TN  
**Institution/Hospital:** Vanderbilt University, Peabody College

This informed consent document applies to adults 18 years and older.


Name of participant: \_\_\_\_\_ Age: \_\_\_\_\_

The following information is provided to inform you about the research project and your participation in it. Please read this form carefully and feel free to ask any questions you may have about this study and the information given below. You will be given an opportunity to ask questions, and your questions will be answered. Also, you will be given a copy of this consent form.

Your participation in this research study is voluntary. You are also free to withdraw from this study at any time. In the event new information becomes available that may affect the risks or benefits associated with this research study or your willingness to participate in it, you will be notified so that you can make an informed decision whether or not to continue your participation in this study.

1. **Purpose of the study:**  
 The purpose of the study is to better understand the experiences of low-income college students in Tennessee. You are being asked to participate in a research study because we are interested in learning about your specific experiences with college.
2. **Procedures to be followed and approximate duration of the study:**  
 Focus Group Interviews: Small group interviews will be led by at least 1 Vanderbilt doctoral student researcher with no more than 5 student participants per session. The researcher(s) will ask you and other participants a series of questions related to your experiences with college. The focus group sessions are scheduled for approximately 1 ½ to 2 hours. The sessions will be voice recorded with your permission. All responses will remain anonymous and your name and the name of your college will not be included in any reports.
3. **Expected costs:**  
 None
4. **Description of the discomforts, inconveniences, and/or risks that can be reasonably expected as a result of participation in this study:**  
 Participants will be asked about their academic, social and financial experiences related to college. You may be uncomfortable answering some questions during the focus group, and you may be uncomfortable hearing some of the responses from other participants. Participation in the focus group is voluntary, you can decline to answer any of the questions at any time, and you can leave the focus group at any time. The researcher(s) leading the focus group are responsible for maintaining open and respectful dialogue during the focus group. There are no right or wrong answers to the interview questions. The researchers want to hear many different viewpoints and would like to hear from everyone.
5. **Unforeseeable risks:**  
 Unforeseeable risks associated with participation in this study have not been identified.
6. **Compensation in case of study-related injury:**  
 None; possible study-related injuries associated with participation in this study have not been identified.
7. **Good effects that might result from this study:**
  - a) The benefits to science and humankind that might result from this study.

**Institutional Review Board**

 **VANDERBILT**

Date of IRB Approval: 09/27/2018  
 Date of Expiration: 09/26/2019 <sup>1 of 3</sup>

**Institutional Review Board  
Informed Consent Document for Research**

**Principal Investigator:** Amanda Wornhoff  
**Study Title:** EdD Capstone Project: Complete TN  
**Institution/Hospital:** Vanderbilt University, Peabody College

**Revision Date:** 9/23/18

Researchers intend for study findings to contribute to knowledge and policies aimed at increasing success in college for more students.

- b) **The benefits you might get from being in this study.**  
 Personal contribution to research aimed at benefiting other college students in similar situations.

- 8. **Alternative treatments available:**  
 Not applicable.

- 9. **Compensation for participation:**  
 \$20 gift card.

- 10. **Circumstances under which the Principal Investigator may withdraw you from study participation:**  
 If participants do not meet the study eligibility criteria (18 years or older, eligible for the Pell Grant or other need-based financial aid, and enrolled in college within the last two years), they will be withdrawn from the study.

- 11. **What happens if you choose to withdraw from study participation?**  
 Any responses provided will be removed from the study data and will not be used in the final report. Participants who have been withdrawn will not receive compensation.

- 12. **Contact Information.** If you should have any questions about this research study or possibly injury, please feel free to contact **Amanda Wornhoff** at 312-341-6776 or my Faculty Advisor, **Angela Boatman** at 615-343-6974.

For additional information about giving consent or your rights as a participant in this study, to discuss problems, concerns, and questions, or to offer input, please feel free to contact the Institutional Review Board Office at (615) 322-2918 or toll free at (866) 224-8273.

- 13. **Confidentiality:**  
 All efforts, within reason, will be made to keep your personal information in your research record confidential but total confidentiality cannot be guaranteed. Focus groups will be voice recorded using the personal computer or cell phone of the researcher(s) leading the focus group. At the conclusion of the focus group, the audio file will be immediately uploaded to Vanderbilt University's cloud-based file storage, Box. The audio file will then be deleted from the researcher(s)' device(s) within 24 hours after the file has uploaded to Vanderbilt University's Box storage. Names, email addresses, and hometowns of participants will also be stored in a file on Vanderbilt's Box storage. Participants will be assigned pseudonyms to protect their identities. The audio recordings stored on Box will then be transcribed into an electronic file using only pseudonyms, with no personal identifying information used.

- 14. **Privacy:**  
 Your information may be shared with the Vanderbilt University Institutional Review Board or Federal Government Office for Human Research Protections, if you or someone else is in danger, or if we are required to do so by law.

**Date of IRB Approval:** 09/27/2018  
**Date of Expiration:** 09/26/2019

**Institutional Review Board**



Institutional Review Board  
Informed Consent Document for Research

Principal Investigator: Amanda Wormhoff  
Study Title: EdD Capstone Project: Complete TN  
Institution/Hospital: Vanderbilt University, Peabody College

Revision Date: 9/23/18

**STATEMENT BY PERSON AGREEING TO PARTICIPATE IN THIS STUDY**

I have read this informed consent document and the material contained in it has been explained to me verbally. All my questions have been answered, and I freely and voluntarily choose to participate.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of patient/volunteer

Do you agree to being audio recorded during the focus group as part of your participation in this study? Yes \_\_\_\_\_ No \_\_\_\_\_

Consent obtained by:

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name and Title

Date of IRB Approval: 09/27/2018  
Date of Expiration: 09/26/2019

Institutional Review Board





## Appendix E

### Interview Protocol

#### Student Focus Group Protocol

Time: 90 - 120 min

Targeted Student Population: 5 – 6 individuals per group

#### Preamble:

- Thank you for your time today.
- I'm a Vanderbilt graduate student researcher.
- We're working on a project in partnership with Complete Tennessee, a nonprofit organization that advocates for college access and completion.
  - We're here to capture your voices and understand college persistence. We don't think we can understand this without talking to you.
- Guarantee anonymity -- we're using pseudonyms.
- We're recording, and are happy to turn off the recorder at any time.
- Review consent form and have participants sign.
- Any questions before we begin?

#### Cultural & Social Capital

- Why did you choose this college?
- Were you encouraged to attend college? By whom? In what ways?
- Do you have any family members that have attended college?
- What do your parents/guardians do for a living?
- Who was in your household growing up? (Who were you raised by?)
- What are your interactions/contact like with your family now? (i.e., Supportive? Drifting away? Tied down?)
- What are your family obligations like now that you're in college?
  - Do you provide care for any family members?
- Are any of your friends from home attending college? (Do you know people from your hometown attending college?)
- Were your friends supportive of you attending college?

#### College Knowledge:

- How did you learn about this college?
- How did you choose this college?
- Did anyone help you apply for college?
  - What are the steps you took to apply to this college?
- How did cost factor into your decision to attend college?
- How do costs outside of college affect you academically?
- How are you paying for college? Receiving financial aid?
  - IF YES: How did you learn about your financial aid?
- Have you had any difficulties with the financial aid process?

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**Academic Prep/College Readiness:**

- What was your high school like?
- How did your high school prepare you for college?
- Students at community colleges come from all different high schools/academic backgrounds. How prepared do/did you feel for college classes?
- Did your high school have specific classes or programs for college preparation?
- Did your high school have honors/AP classes? (Dual enrollment?)
- What's the highest math class you took?
- Did your high school teachers talk about going to college?
- Did you have guidance counselors? What role did they have in your applying for college?
- Have you taken the ACT or SAT? How did you prepare for that exam?
- Are you taking any learning support classes at college? (i.e., developmental)
- What's been your most challenging class so far in college?
- How do your classes in college compare to your classes in high school?

**Student Persistence (Social & Academic Integration):**

- What expectations, if any, did you have when entering college for:
  - Academic development?
  - Career development?
- What opportunities have you had for personal involvement in college?
- Besides your classes, are there activities you're involved in at this college?
- Do you spend time on campus outside of your classes?
- Do you participate in any student groups or college-sponsored events?
- What are your classes like?
  - How do you participate?
  - How engaged are your classmates in class?
- Describe faculty interactions with students *inside* the classroom.
- Describe student interactions with faculty *outside* of the classroom.
- Do you feel connected to other students here?
  - Do you feel like you have things in common with students at this college or in your program of study?
- Have you developed any friendships from a classroom experience?
- Do you commute to school?
  - How does that affect your involvement on campus?
  - How does commuting affect your academics?
- Do you think it's easier to commute to school because you live in an urban area?
- Have you considered leaving college?
  - For what reasons would you leave?
- Do you know any students/friends who have left college?
  - Why?

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**Conclusion**

- What do you think the biggest challenges are for low-income students to complete their degree/certificate?
- What advice would you give to high school students looking to go to college?
- If you could tell administrators one thing about your college experiences, what would it be?

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Appendix F

Codebook

Theme	Code	Description	Example(s)
<b>College Knowledge</b>	Choosing college	Reasons they chose to attend college.	Well, it was closer to home. And, you know, it was a little more accessible that way because like my parents, you know, need me at home for my siblings and also my job's here, and it's cheaper. So that's the biggest reasons.
	Choosing community college	Reasons they chose to attend community college, specifically.	***
	Awareness of college	How they came to learn about the community college in which they are currently enrolled.	I was working like 75/ 80 hours a week in factories . . . I kept being laid off . . . I got in a car wreck and had to have a bunch of knee surgeries, my options was limited. I was getting really depressed and my wife's like, "You need to do somethin'" I was like, well I can't go to McDonalds, I need to get some education and get a job so I can have all the things that I want without having to break my back. She's like, "Well you should go to [suburban community college] or whatever."
<b>Cultural Capital</b>	Family educational motivation and encouragement	Role of family members or guardians in their pursuit of a college education.	My mom was actually scared when I told her . . . She's very like, "Where are you getting this from?" Like, "You are not my daughter" . . . I watch my parents struggling living paycheck to paycheck and mama coming home being like, "Okay [Kara], do you want cable or do you wanna electric?" You know, like we would have to choose which one we would want to keep on that month. And I promised myself, since I was a little girl, that I would never find myself in that situation.
	Family education background	Educational attainment of their family members or guardians.	
	Family occupation	Occupations of family members or guardians.	
	Family presence in childhood	Individuals who they lived with during childhood or adolescence, including individuals who may not have physically lived	

		with them, but were involved in raising them.	
	Family interactions	Nature of their interactions with family members/guardians in the present day, supportive or non-supportive in various ways—such as emotional, financial, etc.	
	Obligations to family members	Obligations to family/guardians, e.g. 1) caregiving, 2) sitting for children, elderly adults, or incapacitated individuals, 3) providing financial assistance.	
<b>Social Capital</b>	Friends attending college	Friends or peers that are currently enrolled in college or have already completed college.	Almost every friend I meet has some kind of ambition when it comes to school. Or, they're already done . . . my best friend, who I met here, we both started at [restaurant] at the same time. I was bartending, and she was serving. And we both decided to start school at the same time. And when we both started, we were both going for nursing. And somehow along the way we've switched completely different paths, but we've still managed to have at least one or two classes together every semester. We sit down and do our homework together.
	Supportive friends	How friends have been supportive of them attending college.	
<b>Access to College</b>	Applying to college	Experience with the college application process; may include specific	Well, I got some advice. And I talked to the staff at Tennessee vocational rehab, and they told me so. But basically, I went online on my home computer and filled

		steps or actions they took to apply.	out the application for the grant. And then I sent off and got a transcript of my GED and had it sent directly here. And then I just came in and started talking to the gentleman right over there in the [] building and everything, like I say, just fell in place.
	Help with applying to college	Aid received (if any) with the college application process, individual or through other mechanisms, e.g. online research.	
<b>College Costs</b>	Costs of college	How college costs have factored into their decision to attend college.	Well, budgeting is the most important thing, because I'm not working right now. I did get an allotment from scholarships and stuff. I'm just trying to make that stretch, for anything, whether it's a tire to get to where you gotta go, and then you didn't plan for it. Or if it's school pictures, or something related with caring for her [my daughter]. *** They [somebody else that has money] can just keep going and get to class. For us that's not going to work. We can't come to class, or she can't come to class, or something as simple as we ran out of gas . . . The question with the dependents is like our kids--we have to make sure that they're set before we can do anything.
	Costs of living	If or how costs outside of college have affected them academically—or in any way that has affected their college experience.	
	Paying for college	How they are paying for college, including financial aid—i.e., grants, scholarships, loans, etc.	
<b>Financial Aid</b>	Financial aid understanding	How they learned about their financial aid, including their current understanding of their financial aid.	I feel like I've never really thought about it. But I mean, I just wanted to go to college because I had this opportunity-- whether it was through Tennessee Promise or financial aid (Pell). I didn't just want to waste it because it is still college.
	Financial aid challenges	Difficulties experienced with the financial aid process, if any.	
	Financial aid assistance	Assistance with the financial aid process, if any.	
	Pell	Participant mentions Pell.	
	TN Promise	Participant mentions TN Promise.	

	TN Reconnect	Participant mentions TN Reconnect.	
<b>College Readiness</b>	High school type	Type and/or nature of the high school they attended.	<p>If you didn't take AP, you really just napped. People would just nap through school. Out of those AP classes, I have like at least two people I know that have doctorates now. A lot of people went to Duke or NCU or MTSU or ETSU. It is only those people.</p> <p>***</p> <p>I had no idea what I was getting in to. I knew it was going to be harder. I knew that I was probably going have to write bigger papers, even if I didn't know exactly how to do that. I didn't realize all the expectations they did have on me, though, and it was a bit harder for the transition.</p>
	High school preparation	If and/or how their high school prepared them for college, inclyding experiences they had in high school or mention of specific college preparation methods the high school offered— i.e., prep programs, honors or AP classes, dual enrollment.	
	Preparation for college	Whether or not they did/do feel prepared for college classes.	
	Highest math class	Highest level of math class they took in high school.	
	High school teacher motivation/encouragement	If and/or how their high school teachers encouraged or motivated them to attend college.	
	High school support services	Whether or not their high school had a guidance or career counselor and the role the counselor had in them applying for college.	
	College entrance exams	Whether or not they have taken a college entrance exam. This includes ACT/SAT or	

		college placement exams.	
	Preparation for college entrance exams	Whether and how they prepared to take a college entrance exam.	
	Learning support classes	Any learning support (i.e., developmental) college classes in which they're enrolled.	
	Challenging college course	The most challenging college course they have taken..	
	College/High school comparison	How their college classes compare to their high school classes.	
<b>Integration</b>	Expectations when entering college	Expectations they may have had when entering college— i.e., academic, career, etc.	<p>Honestly, I don't see the purpose as much because I want to be a writer or an editor. And I feel I don't really need all these college classes to do that. Because I also want to be a work-at-home mom when I get married. So I was thinking, if I'm a writer or an editor, I can do that from home. But going through college, all this stuff, I'm thinking about why I'm even here.</p> <p>***</p> <p>I wouldn't have gone to them [the club booths] if not for the fact that I could get extra credit--or that I was even told about them. Because otherwise, I would not have known. They're (the college) is not big on sending out stuff to students. Either you have to be watching the website all the time to see something pop up or depend on a teacher to tell you it's important.</p> <p>***</p> <p>My teacher, they went over the stuff and it was so fast and everything. You kind of had to learn it on your own because</p>
	Opportunities for involvement in college	Opportunities they have been given or are aware of for personal involvement in college. Personal involvement is defined here as any interaction beyond class attendance.	
	Involvement in college	Ways they have become personally involved in college outside of class attendance.	
	Time spent on campus	Whether they spend time on campus outside of their scheduled classes and, if so, how they	



		spend their on the campus.	you didn't get anything from the lecture. My teacher I have now, she's going over steps like, "Y'all understand that, right? Yes, no? Any questions? Y'all better have questions if you're in my class." ***
Participation in college events		If and how they have been involved in college-sponsored events.	But basically, he would have assigned readings, we would come in, have already read them. And then he would talk about them and then ask for opinions. And it was basically the whole class him standing there and just talking. And then, of course, you do have classes where it's just like PowerPoints. ***
Nature of college classes		What their college classes are like, if/how they participate in the class, and if/how their classmates participate in class.	I've had to pick up extra hours at work just to be able to do it, and luckily I have a job where I can just study and do homework on. But its one of those where it's just like, okay I'm gonna have to step back for just a day or two and work an eight hour shift to make enough money to pay my electric bill, so I'm not freaking out about how I'm going to pay that electric bill. ***
Entry into academic programs		Their chosen or desired programs of academic study.	I had an amazing [statistics] professor . . . she was amazing and if you talk to everybody around everybody wants her and I just luckily got her. It was difficult but she cared. She had open office hours and things like that to help you understand it. If it wasn't for that probably wouldn't have gotten it. ***
Faculty interactions in class		How faculty interact with the students during classes.	I'm only here Monday and Wednesday, and my first class starts at 8am. And my last class ends at 8:30. So like, I have a three hour break--two, three hour breaks. So like, I just stay here and do homework. And sometimes I watch Netflix. Just to like de-stress. ***
Faculty interactions outside class		How faculty interact with students outside of classes.	I've had many thoughts of quitting or dropping out, but it's stress away from
Connections to other students		If and/or how they feel connected to other students on the campus, including whether or not participants feel they share similarities with other students on campus or in their program of study.	
Developing friends through class		If and/or how they have made any friends directly through a college class experience. This does not include friends that have been made in other ways outside of a class.	

	Developing friends in college	If and/or how they have made any friends at college, outside of the classroom.	college, it's financial stuff. Like the financial burdens. It's when you have so much financial problems, it's so stressful that college is hard because you brain doesn't wanna—it doesn't want to think because, you're so much stressed, your brain just doesn't work properly and it makes college really, really hard
	Transportation	If and/or how they commute to the campus, i.e. mode of transport, time commuting, etc.	
	Commuting effects on involvement in college life	If and/or how commuting affects their involvement on the campus or in college life.	
	Work obligations	Their work obligations, such as place of employment, work hours, work duties or expectations, etc.	
	Work effects on academics	How work obligations interact with their academic pursuits.	
	Work effects on college life	How work obligations interact with their involvement in college life.	
	Time management	How they manage their time across academic, social, family, work, and other obligations.	
	Leaving college intention	If they have considered leaving college.	
	Leaving college reasons	Any reason(s) that would cause them to leave college early.	
	Peers leaving college	If/why any of their peers have ever left college.	

	Challenges for low-income student completion	Any challenges that exist for low-income students to successfully complete college.	
	Advice for high school students	Any advice they would give to high school students looking to go to college.	
	Advice for administrators	Any information they would like to give to administrators regarding the experience of low-income college students.	