THE RELATIONSHIP BETWEEN STUDENT ENGAGEMENT AND STUDENT RETENTION OF ADULT LEARNERS AT COMMUNITY COLLEGES

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May 2021

A Dissertation Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Business Administration

Franklin University

Franklin University

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"The Relationship Between Student Engagement and Student Retention of Adult Learners at Community Colleges"

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ABSTRACT

Retaining students through degree completion is a challenge for community colleges, with nontraditional, adult students being retained at a lower rate than their traditional counterparts. Though student engagement is recognized as an effective strategy for retaining students, there is a gap in research on how effective these strategies are for retaining adult learners at community colleges. The purpose of this study was to examine the relationship between student engagement and student retention of adult learners at community colleges. This study used secondary data from the Community College Survey of Student Engagement (CCSSE). Was there a significant relationship between the five CCSSE student engagement benchmarks (active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners) and retention? The population for this study was 26,326 adult students (25 and older) from the 2019 CCSSE cohort who were credential seeking at a community college (participants from 588 colleges in 46 states). Binary logistic regression was used to determine if there was a statistically significant relationship between each student engagement benchmark and student retention. This study confirmed a positive relationship between student engagement of adult learners at community colleges and student retention. Individually, each of the CCSSE benchmarks increased the likelihood of student retention. As a combined model, academic challenge and support for learners were the only significant benchmarks. This research confirmed that student engagement strategies are beneficial for adult learners at community colleges.

Keywords: Adult Learners, Adult Students, Community College, Community College Survey of Student Engagement, CCSSE Benchmarks, Student Engagement, Student Retention

ACKNOWLEDGEMENTS

"Trust in the LORD with all your heart, and lean not on your own understanding; In all your ways acknowledge Him, and He shall direct your paths." Proverbs 3:5-6, NKJV

They say it takes a village, and truly, I could not have accomplished this goal without mine. My gratitude and appreciation go far beyond anything a few words on a page could express. I am incredibly thankful to everyone who has encouraged me on this journey.

To my family: My husband, Greg, for all his encouragement and support in helping me achieve this dream. ❤ Forever and always. My sons, Logan and Luke, who had to sacrifice their time with mom, so I could work toward achieving a dream of my own. I hope one day, you too will consider yourselves lifelong learners and will continuously pursue ways to develop and grow to accomplish your own dreams. And my parents, who raised me to believe that I could do anything I put my mind to with hard work. I love you.

To my chair: Dr. Blake Renner, for the countless conversations, guidance, and encouragement to keep pushing forward. I am forever grateful for your support.

To my committee: Dr. Matthew Barclay for pushing me to see things from a different perspective and Dr. Brock Schroeder for reminding me to look beyond the field of higher education. Your insights and advice made my work stronger.

To all of Franklin University's faculty and staff: Especially Dr. Lewis Chongwony for helping me make sense of the data and Dr. Marnie Shaffer for assisting me through the IRB process. I am grateful for the education Franklin University provided and am proud to be an alumna.

To the Center for Community College Student Engagement, for providing the data from the Community College Survey of Student Engagement to complete this research. I hope others find this research and findings as interesting as I did.

To Cuyahoga Community College and my supervisor, Heidi Nicholas, for your continued understanding and sponsorship of this opportunity. I could not have balanced work, school, and my family life without your support.

And finally, to the many friends, peers, colleagues, and faculty who encouraged me to pursue my doctorate.

From the bottom of my heart, thank you.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1

Introduction

Community colleges struggle with retaining students through to completion. Community colleges serve a large nontraditional population, including the ever-growing adult learner population, who have even lower retention and completion rates. Community colleges provide an opportunity for these adult students to further their education and earn a credential, which could lead to better career possibilities, securing gainful employment, and improving socioeconomic status. Understanding which types of student engagement practices are positively correlated with student retention of adult learners, can guide community colleges to utilize high impact practices to support their adult learners.

Student engagement is a well-known, research-based, practical strategy for retaining students. Students with higher levels of academic and social integration are more likely to be retained (Tinto, 1975). Historically, colleges have developed policies, procedures, and practices to support traditional students, including structure, to help students actively engage in their college experience. Higher education institutions need to be intentional in shaping the student experience to encourage a student's motivation to persist, which leads to retention and, in turn, completion (Owolabi, 2018). However, the research on retention - a student's continuous enrollment at a college or university - and student engagement - a student's academic and social integration - has been on traditional students at four-year higher education institutions. Though additional research confirms that student engagement at community colleges is beneficial (Center for Community College Student Engagement, 2012; Wyatt, 2011; Yu, 2015), more research is needed on the types of engagement that support the diverse populations at community colleges.

Nontraditional students are a significant part of the college population who may have different support and engagement needs than their traditional counterparts (Bean & Metzner, 1985; MacDonald, 2018; Rabourn et al., 2018; Wyatt, 2011, Yu, 2015). Nontraditional students are those who do not fit into the traditional student pattern of attending college full-time directly following high school graduation. Some of the subpopulations of nontraditional students include those who are 25 years and older, have delayed enrollment after high school, attend college part-time, work full-time, did not receive a traditional high school diploma, or are financially responsible for dependents (National Center for Education Statistics, n.d.). This study focused on the undergraduate subpopulation of nontraditional-aged students, or adult learners 25 years and older, who make up 32% of the community college population (U.S. Census Bureau, 2019b).

Community colleges struggle with low completion rates, and adult learners are retained at a lower rate than their traditionally-aged counterparts are -- as much as 12.7% lower (National Student Clearinghouse Research Center, 2019). Retention and completion rates are important to community colleges, as most states have performance-based outcome measures that affect funding (Ortagus et al, 2020). Student engagement is widely accepted as a critical component positively affecting student success, including academic achievement, retention, persistence, and completion. Kahu (2013) noted that student engagement is no longer just a theory, but is now an expectation in planning for student success. However, more research is needed on how that engagement transpires for the nontraditional adult students at community colleges. What student engagement strategies support student success of adult learners at community colleges? The purpose of this research study was to examine whether successful student engagement strategies help retain adult learners at community colleges. This research used existing national data from

the Community College Survey of Student Engagement (CCSSE) to determine whether the five CCSSE student engagement benchmarks were predictors of student retention of adult learners.

Background of the Problem

Community colleges not only offer affordable educational opportunities, but they are also committed to retaining students through graduation to help students secure gainful employment and provide a positive economic impact on the community. However, colleges have to operate like entrepreneurial businesses to address increased competition, economic changes, labor market trends, and declining state and national funding (Levin, 2005). Further emphasizing the need for student success, higher education institutions are shifting their focus toward success and completion by replacing enrollment-based funding models with completion, or performance-based funding measures (Kaikkonen, 2016), with 41 states having performance based-funding formulas for state-funding (Ortagus et al, 2020). With the shift to performance-based funding, retention and completion go beyond supporting college missions, as they are essential to colleges' financial stability.

Community colleges have missions related to "access, responsiveness to community need, and equity" (Troyer, 2015, p. 1). The responsibility of community colleges to positively impact the communities in which they reside requires an understanding of the community members who need their services. Community colleges not only offer educational opportunities, but they are also committed to retaining students through graduation to impact economic growth. "Scholars in the field have argued that the society as a whole has done a better job of opening up access to higher education but collectively, we have not paid enough attention to student success and retention" (Owolabi, 2018, pp. 58-59). Colleges are serving a more diverse student population, but still, they need to navigate how to support these students through to completion.

Caruth (2018) stated that higher education institutions need to change and adapt to meet the needs of society. One of the diverse populations that community colleges need to consider is the adult learner.

The national higher education agenda includes increasing degree attainment for adults (Cutler White, 2019; National Adult Learner Coalition, 2017; Scobey, 2020; Shapiro, Dundar, et al., 2019). Community colleges serve a large percentage of adult students, with the average age of students at 28 years old (American Association of Community Colleges, 2020). Nationally, 24.1% of the undergraduate population enrolled at any college, and 31.6% of those enrolled at two-year colleges, are 25 and older (U.S. Census Bureaus, 2019b). Adult learners who are balancing other obligations are more likely to take courses at a conveniently located community college. These adult students have to balance their school responsibilities with external work obligations and family commitments that create time and financial limitations (MacDonald, 2018).

Of adults 25 and over in the United States, over 85 million (38.7%) have no college completed, and over 35 million (16.1%) have some college, no degree (U.S. Census Bureau, 2019a). Approximately 89% of the people with some college, no degree are 24 and older (Shapiro, Ryu, et al., 2019). Dropout students - those who have not completed a degree or certificate and are no longer enrolled in college - account for 56.4% of adult learners (Shapiro, Dundar, et al., 2019). Tinto (1993) recognized that external commitments could influence a student's decision to drop out of school. Adults' external obligations, such as job and family responsibilities, create additional complexities for those wanting to earn a degree or credential (Shapiro et al., 2014). Additionally, many adult learners have anxiety and fear because of the academic gap in their learning, technological deficiencies, health concerns, and a lack of a

support system (MacDonald, 2018). Balancing school, work, and family and friend obligations, along with financial challenges, are frequently listed as barriers to continuing education at community colleges (Porter & Umbach, 2019). Some college, no degree students are most likely to re-enroll at a community college, with 57% of those who re-enrolled between 2013 and 2018 doing so at a public 2-year institution (Shapiro, Ryu, et al., 2019). Community colleges provide an opportunity for these adult students to begin and continue their educational journey to a college certificate or degree. However, more research is needed to understand what best practices of student engagement help retain adult students with unique external complexities through to completion.

Two-year postsecondary institutions only had 34.8% completion within the 3-year timeframe (150% of the normal time to completion) for the 2015 IPEDS cohort (U.S. Department of Education, 2018). Community colleges need to address low student retention rates to improve completion rates. Two-year postsecondary institutions only have a 61.6% first-year retention rate for full-time students and 43.7% for part-time students (U.S. Department of Education, 2018). Adult learners are retained at an even lower rate, leading to lower completion. For students entering college in Fall 2017, students 20 and younger had a retention rate of 63.3%, students 21-24 years old had a retention rate of 52.7%, and students 25 and older had a retention rate of 50.6% (National Student Clearinghouse Research Center, 2019).

Adult learners at community colleges have a lower completion rate than their traditionally-aged counterparts (Shapiro, Dundar, et al., 2019). Adult learners who started at two-year public institutions completed a credential at any institution at a 34.5% rate, 7.9% lower than students who started at 20 or younger (Shapiro, Dundar, et al., 2019). Interestingly, students who started between the ages of 21-24, entering the adult learner category while completing their

education, completed at even lower rates (Shapiro, Dundar, et al., 2019). Adult students who complete within six years are more likely (10.4-16.1%) to complete their degree or certificate at the two-year institution where they start their education compared to students who are 24 and younger (Shapiro, Dundar, et al., 2019). The majority of adult learners complete at their starting institution or dropout, with less than 6% earning their first degree at a different institution the where they started (Shapiro, Dundar, et al., 2019), emphasizing the importance of institutions student retention. The adult learner dropout rate is almost 15% higher than traditional students who start college at 20 years old or younger (Shapiro, Dundar, et al., 2019). The full breakdown of completion and dropout rates from the Completing College Signature Report No. 16a (Shapiro, Dundar, et al., 2019) are listed by age in the table below.

Table 1

Two-Year Public Institution Completion and Dropout

Two-Year Public Institutions	All Students	≤ 20	21-24	25 +
Completion any institution within 6 years	39.2%	42.4%	28.6%	34.5%
Of Completers – completed at the same institution	71.1%	68.1%	73.8%	84.2%
Dropout	46.2%	41.5%	57.8%	56.4%

Note. Data are from Shapiro, Dundar, et al. (2019)

There are distinct retention and completion gaps between adult learners and traditional-aged students. With adult learners making up approximately one-third of the community college population, institutions need to have a better understanding of what helps these students stay in school through to completion. It is critical for community colleges to embrace the needs of their diverse population and develop policies, practices, and services that support student engagement of all students. Much of the founding research on student engagement and retention, such as

Astin's (1999) student involvement theory and Tinto's (1975) dropout schema, focused on four-year institutions with traditional students. Additional research is needed to test if the theories are relevant and transferrable to the unique student populations at community colleges, specifically the adult learner. This study examined if the Community College Survey of Student Engagement (CCSSE) benchmarks were predictors for adult student retention.

The CCSSE has five student engagement benchmarks: active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners (Center for Community College Student Engagement, 2020c, 2020g). These engagement benchmarks were developed from empirical research on best practices of student engagement by experts in the field of student engagement and student retention (Center for Community College Student Engagement, 2020b). Each benchmark is described in the definition of terms and literature review, with the description of their measurement in the methodology. The CCSSE focuses on the theories of student involvement, Tinto's (1975) social and academic integration, and Chickering and Gamson's (1987) "Seven Principles for Good Practice in Undergraduate Education" (Center for Community College Student Engagement, 2020h). Are these foundational retention theories applicable to adult learners? This research addresses the gap in the literature on the student engagement needs of adult learners at community colleges.

Significance of Study

This research recognizes the value of community colleges and the role they fulfill for nontraditional adult learners. It also recognizes the magnitude of the adult student population and the need to increase their retention and completion rates. With the shift from enrollment-based funding to performance-based funding, retaining adult learners through to completion is essential for colleges to receive state funding. Further, supporting adult learners to complete their degree

or certificate to prepare them for gainful employment can provide a positive economic impact for the community. Adult learners who earn a credential have an opportunity for social mobility and to increase their overall quality of life. According to the American Psychological Association, "Socioeconomic status (SES) is a consistent and reliable predictor of a vast array of outcomes across the lifespan, including physical and psychological health…Social class has been shown to be a significant factor in influencing career aspirations, trajectory and achievement" (2017, para 1 & 7). Adult learners benefit from socioeconomic growth potential from education and credential completion.

The results are significant to community colleges that are working to fulfill their missions through increasing retention and completion of their growing adult student population. This research is significant because it can help community colleges update their student engagement practices geared toward traditional students and align their student engagement activities to support the completion of adult learners. There is an opportunity for community colleges to improve their student engagement activities to narrow the completion achievement gap between adult and traditional students and thus help more adult learners fulfil their educational, personal, and career goals.

Theoretical Framework

The importance of student engagement has been heavily studied with many researchers – Tyler (1949), Tinto (1975), Pace (1984), Astin (1984), Bean and Metzner (1985), Chickering and Gamson (1987), Pascarella and Terenzini (1991; 2005), and Kuh (2008) – contributing to the view of student engagement today. These authors stressed the importance of effort, involvement, integration, and best practices for colleges. McClenney and Greene (2005) recommended that institutions provide inescapable engagement to encourage integration. When colleges institute a

culture of engagement with connections throughout the school, students are more prepared to overcome obstacles (McClenney & Greene, 2005). Higher education institutions need to have policies, practices, and services that support academic and social integration to build commitment.

Though all of these researchers had a critical role in expanding the field of student engagement, this research study focused on the framework of Astin's Student Involvement Theory. Astin's (1984) framework accounts for the student's exertion and energy as a critical role in student engagement and recognizes that the student's effort functions on a continuum varying by activity type and timing. Additionally, Astin (1984) explained that institutions are responsible for offering engagement opportunities that can increase active student involvement. Astin's student involvement theory aligns with this research because it addresses the breadth of involvement for active student engagement.

In Astin's (1984) framework, student involvement refers to the extent that students are active in college, both academically and socially. Astin (1984) referred to this as the amount of energy a student puts forth, physically and mentally, and the behaviors derived from that energy. Student involvement theory has five postulates (Astin, 1984): (1) investment of physical and psychological energy, (2) a continuum of involvement, (3) quantitative and qualitative in nature, (4) learning and development are correlated to the quality and quantity of involvement, and (5) effectiveness of policies and practices are dependent on their capacity to increase involvement. Astin's (1984) student involvement theory supplements previously existing content, resource, and individualized pedagogical theories. The student involvement theory provided a renewed focus for faculty – student involvement and learning, and staff – increased involvement (Astin, 1984). The factors of student involvement correlate positively with student retention and

persistence (Astin, 1984). Community colleges can use student involvement theory to develop policies and practices to support students, but ownership of actively engaging and putting forth energy is the responsibility of the student.

The Community College Survey of Student Engagement (CCSSE) considers five areas of engagement: active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners (Center for Community College Student Engagement, 2020c, 2020g). Community colleges can use the information from the CCSSE and Community College Student Report (CCSR) to improve institutional practices and better support students to completion (Marti, 2008). As community colleges address their growing adult learner population, they need to understand what engagement factors are most beneficial in helping adult students remain at the institution, persist in their education, and complete their degree or certificate. The CCSSE survey and engagement benchmarks align with Astin's student involvement postulates (Table 2), supporting the framework for this research.

Table 2

Alignment of CCSSE Student Engagement Benchmarks and Astin's Student Involvement Postulates.

Astin's (1984) Student Involvement Postulates	CCSSE Student Engagement Benchmarks
Investment of physical and psychological energy	Measured by the degree to which a student is actively engaged, e.g., very often, often, sometimes, never.
Continuum degree of involvement differing for a given student, object, and time	Each benchmark is measured through multiple activities, acknowledging that a student may have varying degrees of involvement within and among benchmarks.
Involvement can be measured quantitatively and qualitatively	Some activities are measured quantitatively, while others are measure qualitatively. For example, the number of assignments completed, books read, or papers written; and the extent to which one participated or applied concepts.
Learning and development is proportional to the quality and quantity of involvement	The CCSSE includes questions on the college's contributions toward knowledge and personal development.
Effectiveness is dependent upon the capacity of the initiative to increase student involvement	The five benchmarks were developed based on empirical research in best practices of student engagement by experts in the field.

This research examined the degree to which Astin's student involvement theory and the CCSSE student engagement benchmarks were applicable to adult learners, by analyzing the correlation between student engagement and student retention from 588 community colleges in 46 states. Did the level of involvement in the researched best practices, as measured by the CCSSE student engagement benchmarks, correlate with an adult learner's decision to continue attending a community college?

Research Questions

This research explored if student engagement increased the likelihood of student retention of adult learners at community colleges. Was there a significant relationship between

the five CCSSE student engagement benchmarks (independent variables) and retention (dependent variable)? To address the research question, five hypotheses were tested by analyzing the five independent variables with the one dependent variable. It was hypothesized that each of the five CCSSE student engagement benchmarks would affect student retention. The alternative and null hypotheses are listed below.

- H_A1. There is a significant relationship between active and collaborative learning and student retention of adult learners at community colleges.
- $H_0 1$. There is no significant relationship between active and collaborative learning and student retention of adult learners at community colleges.
- H_A2. There is a significant relationship between student effort and student retention of adult learners at community colleges.
- $H_0 2$. There is no significant relationship between student effort and student retention of adult learners at community colleges.
- H_A3. There is a significant relationship between academic challenge and student retention of adult learners at community colleges.
- $H_0 3$. There is no significant relationship between academic challenge and student retention of adult learners at community colleges.
- H_A4. There is a significant relationship between student-faculty interaction and student retention of adult learners at community colleges.
- $H_0 4$. There is no significant relationship between student-faculty interaction and student retention of adult learners at community colleges.
- H_A5. There is a significant relationship between support for learners and student retention of adult learners at community college

- $H_0$5. There is no significant relationship between support for learners and student retention of adult learners at community colleges.

Definition of Terms

- *Academic Achievement* – A student's academic performance outcome, frequently measured by course grades, grade point average (GPA), and program completion or degree attainment.
- *Adult Learner* – For the purpose of this study, adult learners are classified as students who are 25 and older. This age aligns with the National Center of Education Statistics age ranges: under 25, 25-34, and 35 and older. The terms adult learners and adult students are used interchangeably throughout this paper.
- *Community College* – A two-year, public, postsecondary education institution in the United States. Primarily, community colleges grant associate degrees and certificates, offering transfer pathways to four-year colleges and credentials for the workforce.
- *Completion* – A student's achievement of their educational goal through the attainment of a certificate or degree. The National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS) calculates an institution's graduation rate as the percentage of students who complete their certificate or degree within 150% of the normal timeframe, which is three years for community colleges. The National Student Clearinghouse Research Center uses six-year outcomes to measure student completion.
- *Retention* – A student's continuous enrollment at the same higher education institution. Higher education institutions calculate retention by measuring the students retained through continuous enrollment in a given timeframe, term-to-term or year-to-year. This

study used the CCSSE measurement of retention, students who plan to re-enroll at the same college within 12 months.

- *Persistence* – A student's continuous enrollment at any higher education institution. For students who start at a community college, this includes re-enrolling at the same college, transferring to another two-year institution, or transferring to a four-year school.
- *Student Engagement* – Active involvement in academic studies and social interactions. The CCSSE measures student engagement by the extent to which a student is actively involved. The five student engagement benchmarks are highlighted below, with a significant discussion in the literature review and an explanation of their measurement on the CCSSE in the methodology.
    - *Academic Challenge* is the intellectual and creative aptitude required by the college.
    - *Active and Collaborative Learning* is the extent to which a student actively participates in the learning process and collaborates with other students or people outside of the college in learning activities.
    - *Student Effort* is the contribution put forth by a student to perform well in school.
    - *Student-Faculty Interaction* considers how a student engages with their faculty members.
    - *Support for Learners* is the student's perception of how the college supports and encourages success, as well as the frequency the student uses academic advising and career counseling.
- *Undergraduate Students* – Students attending a college or university to pursue an associate's degree or a bachelor's degree (EducationUSA, 2018). Throughout this paper,

references to undergraduate students may include those attending two- and four-year, public and private institutions.

- *Underserved Students* – Students from marginalized and underrepresented populations such as low-income, minorities, first-generation, adults, and underprepared students (Crisp & Mina, 2012).

Limitations and Delimitations

The study was delimited to a 30% sample of the 2019 CCSSE cohort, a three-year data set. Another delimitation was age, as this research only considered adult learners age 25 and older. There were no personal identifiers for the students in the study. The study had limitations as it used secondary data. The CCSSE used pre-established questions, so the researcher had no control over the questions being asked. Secondary data also have potential error limitations because the researcher did not control the sampling or data entry. Another limitation of the CCSSE instrument was that it was self-reported data, so there is an assumption of honesty and accuracy in the responses. Retention was measured as a student's plan to re-enroll, not their actual decision. Finally, adult learners may be underrepresented in the CCSSE survey because it was a random sample of in-person classes, and students who take online courses are not included. Adult learners may also be attending part-time, so may have been less likely to be selected to complete the CCSSE.

Organization of Study

This chapter provided an introduction to the research topic, background of the problem, research questions, theoretical framework, and definition of terms. Chapter two serves as a comprehensive review of the literature on community colleges, student engagement, the five CCSSE benchmarks, and adult learners. Chapter three further addresses the rationale for the

research methodology, population, and research design. The results of the research are shared in chapter four. Chapter five concludes the study with a discussion of the findings and recommendations for the field and future research.

Chapter 2

Literature Review

This literature review focused on the role of community colleges, the adult learner population, student retention, and student engagement. It examined the major theorists of student retention and engagement and how the two concepts are closely connected. Finally, it further explored the history of the Community College Survey of Student Engagement and the five student engagement benchmarks used in the survey.

Community Colleges

Community colleges offer open admission to provide access to higher education to all community members (McClenney & Greene, 2005). The first community college was established in 1901, growing to over 1,100 colleges in the early 2000s (Vaughan, 2006). Today there are 1,050 community colleges in the United States, 942 of which are public institutions, 35 are tribal (Native American operated), and 73 are independent (American Association of Community Colleges, 2020). Community colleges are primarily funded through tax dollars (Vaughan, 2006), with 65% of revenue coming from federal, state, and local sources (American Association of Community Colleges, 2020). Though community colleges may have different educational strategies for serving their community, most have similar missions of open-access, community-based education, and promoting lifelong learning (Vaughan, 2006).

Community colleges offer educational access to underserved populations, such as low-income, minorities, first-generation, and adults, as well as underprepared students (Crisp & Mina, 2012). Community college students are frequently "academically, economically, and socially disadvantaged" (Margarit & Kennedy, 2019, p. 98). The accessibility and affordability of community colleges have been invaluable to low-income and underserved community

members (McClenney & Greene, 2005; Rainey, 2010). Community college certificate and degree programs can bridge the gap from poverty to a living wage (Spilde, 2009). Spilde (2009) recognized that community college education not only serves the workforce, but also supports families and communities. Community colleges are open-door institutions that offer educational access to many diverse students, but low graduation rates confirm that more than access is needed for these students to successfully complete their degree or certificate (Margarit & Kennedy, 2019). Crisp and Mina (2012) stated:

> "Community colleges today face an interesting dilemma, namely, how to maintain the rigors of postsecondary education while providing access for those who want it and yet are academically unprepared to succeed, and having all of this occur in an era of decreased funding and increased governmental accountability" (p. 150).

Improving student performance outcomes have an increased priority as institutions need to demonstrate their success and accountability for funding.

Community colleges are challenged with the uncertainty of demographics, funding, industry demands, and ever-changing environments, while being held accountable for student success (Davis et al., 2015). The higher education industry is challenged with increased levels of accountability from student access to performance outcomes (Millea et al., 2018). "Federal and state governments and regional accrediting bodies are now holding higher-education institutions accountable for degree completion to increase America's competitive advantage" (Owolabi, 2018, p. 68). Community college leaders are facing the pressure of accountability for graduates to meet skilled labor demands, but dealing with tight resources and students who are coming in academically unprepared (Davis et al., 2015). According to Davis et al. (2015), there is an even more significant proficiency disparity among the underrepresented population.

Community colleges are attempting to improve outcomes, maintain accountability, and be more competitive and productive (Levin, 2005). Retaining students is vital to an institution's financial wellbeing, affecting revenue and government funds (O'Keeffe, 2013). Further, high attrition can negatively affect the local economy and workforce (O'Keeffe, 2013). Crisp and Mina (2012) also stated that community college retention rates are essential to economic and educational welfare. Colleges with high attrition will have decreased tuition revenue and increased recruiting costs, while dropout students also face lower income potential (Millea et al., 2018). Student retention rates have been a priority for higher education institutions, but need further attention at the community college level, which serves as an important access point to higher education (Crisp & Mina, 2012).

Community colleges should have a culture of inquiry and change to adapt to the ever-changing needs of the communities in which they reside (Cosgrove & McDoniel, 2009). McClenney and Greene (2005) agreed that the environment of students cannot be controlled, but the people, process, and culture at a community college can promote positive student interactions. Providing better and more adaptable student services for improved performance outcomes may include adjustments to curriculum, program offerings, teaching modality, technology, or other support services. When colleges continuously assess their programs and services, they can make improvements to support student success and institutional goals (Cosgrove & McDoniel, 2009). Community colleges need to consider their institution's subcultures and how various groups within the organization are aligned or misaligned with the college's culture and goals (Levin, 2005). This history, mission, and operational differences of faculty, staff, and administration (Kadlec & Rowlett, 2014) accentuate the subcultures within higher education organizations (Schein, 2015). Community colleges need to navigate

environmental complexities, internal culture, and limited resources (Kadlec & Rowlett, 2014) as they consider making changes to improve student outcomes.

The United States is struggling with decreasing retention and graduation rates (Owolabi, 2018). Colleges and universities across the United States are seeing more diversity in their student populations because of increased access opportunities (Woodard & Fatzinger, 2018). "Attempting to shift the blame to insufficient academic preparation belies the mission of communication colleges to educate all students, not to mention the policy mandate to provide students in need of remediation with appropriate academic support" (Margarit & Kennedy, 2019, p 112). Though access to higher education has increased for many diverse populations, retention and completion continue to be a challenge (Owolabi, 2018). Owolabi (2018) argued that access is only beneficial when students are successful in completion. Higher education institutions have more diverse populations, who tend to struggle with self-efficacy and a sense of belonging at college (Owolabi, 2018).

Over 50,000 students from ten community colleges responded to a survey by Percontor in 2017 and 2018 about their college experience and challenges (Porter & Umbach, 2019). These students noted the most significant challenges to continuing their education were (1) balancing school and work obligations; for example, work schedules conflicted with student services hours and course availability, and the courses needed were not available – either already filled or not offered in a given semester, (2) financial challenges, both personal and school-related, and (3) family and friend obligations, including balancing time, health issues, childcare, and lack of support (Porter & Umbach, 2019). Community college students generally appreciated and valued their education, with 97% saying the education was worth the cost and 95% likely to recommend the college (Porter & Umbach, 2019).

Research supports that student engagement, through institution commitment and involvement, is related to student retention (Owolabi, 2018). Academic and social engagement, such as faculty and peer interactions, active learning, and time and effort, can improve a student's sense of belonging as well as retention and completion rates (Owolabi, 2018). Students need to understand the value, receive clear communication, and sometimes be mandated to participate in essential activities, such as academic advising, to get the wrap-around student support services they need to succeed (Cosgrove & McDoniel, 2009). Student engagement should be intentionally designed to positively affect retention and completion (McClenney, 2007; Owolabi, 2018). Community colleges need to consider their unique populations as they make plans and decisions to improve student performance.

Adult Learners

Adult learners make up 40% of the undergraduate population (Glowacki-Dudka, 2019). Some are even referring to adult learners as "the new majority in the classroom" (MacDonald, 2018, p. 159). However, student services and curriculum are typically developed for traditional students, leaving adult learners struggling and needing additional support (Glowacki-Dudka, 2019). Knowles' theory of andragogy provided principles that instructors should consider when teaching adults (Glowacki-Dudka, 2019). Adults want to have a voice in their education with opportunities to share their knowledge, reflect on how the material relates to their life, and participate in application-based learning (MacDonald, 2018). Adult learners want their education to have practical, hands-on experiences, but are also more likely to take online courses due to time constraints (Rabourn et al., 2018). Educators recognize that their classrooms are diverse, with many nontraditional students who bring unique barriers, learning needs, and knowledge (Glowacki-Dudka, 2019). Faculty have the challenge of balancing the learning preferences of

traditionally-aged and nontraditionally-aged students (Hammons, Keogh, Hui, 2014). Andragogy addresses the needs of adult learners in the classroom, but how do their particular needs translate to student support services? As the adult learner population continues to grow, colleges need to review how they can better serve these students (Wyatt, 2011).

Many adult learners are returning to school after being gone for an extended period of time, creating a gap in their academic preparedness (MacDonald, 2018). Returning adults may be challenged with technology, writing and math, studying and notetaking, and navigating the college structure (MacDonald, 2018). Adult learners want respect and understanding of their external obligations and "to be treated like adults" (Wyatt, 2011). Adults are looking for flexibility, and are task-motivated with specific goals (Rabourn et al., 2018). With an understanding that adults have different needs than traditional students, some higher education institutions have implemented special services for these nontraditional adult learners. Columbia University offers supplemental resources and personalized support to fully immerse and integrate adult learners into their campus and academic programs (Enos, 2019). The support framework includes a jumpstart program to reintroduce academic material, early connection to an advisor, weekly general University Studies sessions, and tutoring access through the academic resource center (Enos, 2019). This purposeful immersion aligns with the CCSSE benchmarks for academic challenge, student-faculty interaction, and support for learners.

The Alabama Community College System prioritized a learning-center approach to connect adult students to the college through positive engagement, faculty relationships, and relevant and high-quality learning (Hope, 2018). Strategies for implementation included mandatory student-faculty meetings, with additional meetings for those who do poorly on an exam or are repeating a course, personalized e-mails to all students after an exam, frequent

assessments, and using a flipped classroom model (Hope, 2018). This learning-center approach aligns with the CCSSE benchmarks for academic challenge, active and collaborative learning, and student-faculty interaction.

Sutton (2018; 2020) highlighted some of the recent research and trends in the Recruiting and Retaining Adult Learners journal. A survey conducted by Hanover Research in 2019 found that most community colleges were concerned with declining enrollment and thought prospective adult learners needed to be an increased target (Sutton, 2020). In regards to retention, two-thirds of study respondents identified personalized approaches to learning and flexible programming as ways to increase student retention and completion (Sutton, 2020). The completion agenda remains prevalent at community colleges, with over half implementing initiatives to impact institutional and student success (Sutton, 2018). These colleges tended to have multiple initiatives working toward completion and an expectation for an increase in completion initiatives (Sutton, 2018). From the student perspective, advising and counseling are the most important for achieving academic goals; however, only "one-third of students reported completing an educational plan of study" (Sutton, 2018, p. 8). One of the perspectives of administrators at community college was that "an institutionwide culture of completion is key to success" (Sutton, 2018, p. 9).

Community college students noted having challenges with their developmental and college coursework due to course difficulty, poor time management, poor study skills, and lack of motivation (Porter & Umbach, 2019). Many adult students take online classes, but are not always academically prepared, so they have high attrition rates (James, 2020). For online courses, poor time management skills and a lack of realistic course expectations can also lead to student attrition (James, 2020). Though adult students are more likely to take online courses,

only 13.8% of community college students are enrolled exclusively in online courses (U.S. Department of Education, 2019).

Adult students have more external obligations and therefore are less likely to actively engage on campus. Even though they have additional external obstacles, adult students have a higher motivation to complete their degree and are more likely to continue at the same institution than their traditionally-aged peers (Margarit & Kennedy, 2019). Adult learners have defined academic and career goals, and are more likely to seek help when needed (Parnes et al., 2020). Because of these differences, the considerations and strategies used for increasing traditional-aged student completion may not apply to adult students (Margarit & Kennedy, 2019).

Retention

Higher education institutions measure student retention as a student continuing with their education by re-enrolling at the same institution (National Student Clearinghouse Research Center, 2019). Retention rates are most commonly reported as fall-to-fall enrollment of first-year students (McFarland et al., 2019; National Student Clearinghouse Research Center, 2019). Cost-benefit analysis has shown that it is more cost-effective to retain a student than to recruit a new student (Margarit & Kennedy, 2019). Though student retention is a top agenda item for community college leadership, community colleges continue to struggle with retaining students. Not only do community colleges have lower retention rates than four-year colleges, but the underserved population is even lower (Crisp & Mina, 2012). Retention rates of adult learners are significantly lower than their traditional counterparts. Adult student retention is 12.7% lower than traditional students starting college by 20 years old (Shapiro, Dundar et al., 2019). This lower retention rate affects future completion rates. Only 34.5% of adult learners who start at two-year institutions complete a credential at any institution within six years, and over 94% of

adult learners earn their first degree at the institution they start at (Shapiro, Dundar et al., 2019). The low retention, transfer, and completion rates further emphasize the importance of institutions retaining adult students through to completion.

Over 30% of students who drop out after the first year have grade point averages of 3.0 or higher (Wells et al., 2014). These students are not struggling academically; other factors are influencing their decision to suspend their education. Wells et al. (2014) stated that internal and external factors affect student success, such as finances, personal obligations, motivation, and hopefulness. Adult learners have to balance their school responsibilities with external work obligations, family commitments, and financial demands (MacDonald, 2018). Community colleges that encourage a culture of innovation and look at student problems holistically can support student success through college-wide interventions (Wells et al., 2014). "It is imperative that as populations shift, so do pedagogical and supportive approaches within postsecondary institutions in order to retain these students and ensure their academic success" (MacDonald, 2018, p. 159). Faculty and staff can commit to student success by believing and expecting students to be successful, communicating to students in supportive and hopeful language, and shifting curriculum and student service areas to support the cultural goals (Wells et al., 2014).

Astin and Tinto's research covered many of the factors frequently associated with student retention, including academic preparation, academic engagement, social engagement, financial, and demographics (Demetriou & Schmitz-Sciborski, 2011). Today, higher education institutions use cross-functional and holistic approaches to student retention (Demetriou & Schmitz-Sciborski, 2011). "A university that holds high expectations and actively involves students in their learning creates an environment where students are more likely to succeed" (Demetriou & Schmitz-Sciborski, 2011, p. 303). A student's sense of belonging at a college is critical to their

retention (O'Keeffe, 2013). This sense of belonging, or "person-environment fit," can increase through adaptation by the student or institution (Schuetz, 2008). Institutions can positively affect belonging through supportive environments, personal counseling, promoting diversity, and student-faculty relationships (O'Keeffe, 2013). O'Keeffe (2013) stated that when a student builds a connection with even one person at a college, that relationship can support the student's decision to continue their education at the school. When students have positive interactions and perceive a supportive environment, they have increased engagement and retention (Rabourn et al, 2018). To fully integrate into a college, students must adapt to the campus culture and social norms (O'Keeffe, 2013). Many undeserved students struggle not only academically, but also with the social and cultural capital that help students succeed (Crisp & Mina, 2012). Karp (2016) identified these nonacademic skills as creating social relationships, clarifying aspirations and enhancing commitment, developing college know-how, and making college life feasible. Human capital (knowledge gained), social capital (relationships), and cultural capital (social "know-how") are all vital in a student's educational journey (Lee, 2015). Woodard and Fatzinger (2018) noted that there is an additional holistic learning of twenty-first century life skills when students actively engage in college.

Though many retention studies use Tinto's integration theory as a framework, one study of nontraditional students at four-year institutions used a human capital theory framework to consider the nontraditional student investment and future return, or perceived return (Kamer & Ishitani, 2019). As noted frequently in the research, adult students have more barriers to education than their younger peers (Enos, 2019; Glowacki-Dudka, 2019; Hope, 2018; MacDonald, 2018; Margarit & Kennedy, 2019; Rabourn et al., 2018; Wyatt, 2011) and have less time to earn a return on their educational investment (Kamer & Ishitani, 2019). Kamer and

Ishitani (2019) identified 114 adult students who dropped out of their initial four-year institution without transferring or program completion to explore the leading reasons for departure each year of enrollment. For all years, receiving federal student aid reduced the risk of departure (Kamer & Ishitani, 2019). In the first year, first-generation, black and Hispanic, and full-time students were the most likely to drop out (Kamer & Ishitani, 2019). In the third year, students who were enrolled full-time were less likely to drop out (Kamer & Ishitani, 2019). Kamer and Ishitani (2019) recommended focusing on financial support for nontraditionally-aged students to aid in their persistence.

Gaining enrollment, or access, into a higher education institution is only the first barrier that students face to completing college, and many students who start college do not complete because of additional barriers (Michalski et al., 2017). Colleges should be using the best practices of student success to guide their policies and student experience opportunities to increase student retention (Michalski et al., 2017). A holistic approach considers all aspects of the student, including "academic, social, emotional, and financial," which recognizes the importance of early intervention and integration, bridge programs, financial aid, counseling services, and connections with peers, faculty, and staff (Michalski et al., 2017, p 77). Michalski et al. (2017) stressed that colleges need to go beyond increased access opportunities to higher education by committing to additional student services to support retention and success for diverse and traditionally underserved populations.

Colleges are trying to identify and implement the best high-impact practices to narrow the completion gap, but unfortunately, degree attainment is lower among underserved populations because students need to adjust academically, institutionally, personal-emotionally, and socially (Dao & Velazquez, 2013). Crisp and Mina (2012) noted that when students lack

social and cultural capital at college, they are more likely to withdraw. Many community college students are academically unprepared for college (Crisp & Mania, 2012). Community colleges that are better at adapting to their students' needs have greater retention rates (Schuetz, 2018). Academic and social integration at community colleges differs from four-year schools, as engaging experiences are more likely to happen in the classroom (Crisp & Mania, 2012).

Colleges and universities can increase retention and graduation rates by investing funds in high-impact areas, such as academic instruction, faculty, financial aid, libraries, student life, and student support areas (Millea et al., 2018). Millea et al. (2018) found that smaller class sizes and financial support positively impacted student retention and graduation. Student integration through participation on campus, recognized through student involvement and student engagement, is critical to achieving student success outcomes (Millea et al., 2018). Student integration framework is often used to address attrition rates at community colleges, with the belief that academic and social belonging affect student retention (Margarit & Kennedy, 2019).

Student Departure Model

The reasons people drop out of college are complex, ranging from personal to academic reasons with intentions of temporary and permanent dropout (Tinto, 1975). Tinto's (1975) dropout schema provides a framework for a student's dropout decisions based on their personal experience, commitment, and engagement within the academic and social system. Tinto's model accounts for attributes of the individual, individual's interactions, and the institution to explain dropout for a given higher education institution (Tinto, 1975). Tinto's (1975) model considers social psychology and economic theories to display the student dropout behavior based on the interactions between the student and the institution. The framework suggests that academic integration and social integration lead to new levels of goal and institutional commitment, and

therefore retention or dropout decisions (Tinto, 1975). “An asymmetrical relationship is suggested that implies that academic integration, and therefore goal commitment, is somewhat more important to persistence in college than is social integration and/or institutional commitment” (Tinto, 1975, p. 115).

Understanding student behavior for voluntary withdrawal, or dropout, is essential for higher education institutions to plan and develop policies (Tinto, 1975). Academic and social integration are part of different systems, and a student may have different levels of integration with each (Tinto, 1975). Tinto (1975) noted that a student who is integrated within only one area may still dropout due to having poor performance in academic or social integration. A student’s interactions within the academic system and social system affect the integration, and therefore goal commitment and intuitional commitment, which lead to decisions to dropout or persist (Tinto, 1975). Similar to Pace’s findings that what a student does once they are at college matters more than where they come from, Tinto’s “model argues that it is the individual’s integration into the academic and social systems of the college that most directly relates to his continuance in that college” (Tinto, 1975, p. 96).

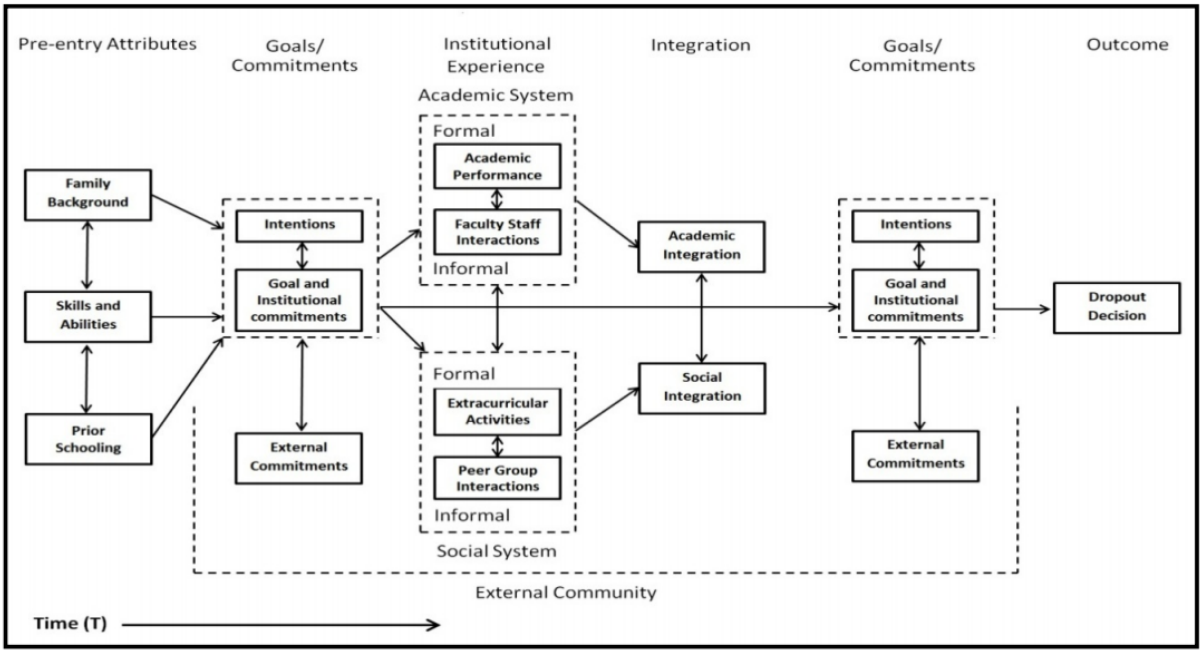
Controlling for background variables, increased academic and social integration lead to greater goal and institutional commitment; and low goal or institutional commitment lead to a student’s dropout decision, potentially leaving higher education or leaving for a different institution (Tinto, 1975). Though students may persist at another institution, colleges need higher levels of institutional commitment to retain students. Persistence rates measure students who continue at any institution, while retention rates measure students who continue at the same institution (National Student Clearinghouse Research Center, 2019). Drawing from economic cost-benefit analysis, external impacts are part of the student’s dropout decision when

considering if their “time, energy, and resources” would be better used elsewhere (Tinto, 1975). Tinto’s (1975) dropout model uses the student’s perception, as it is the individual’s perceived integration, commitment, and cost-benefit analysis that lead to the dropout decision.

“It is the characteristics of the institution—its resources, facilities, structural arrangements, and composition of its members—that place limits upon the development and integration of individuals within the institution and that lead to the development of academic and social climates, or "presses," with which the individual must come to grips” (Tinto, 1975, p. 111). When a student voluntarily withdraws from an institution, as opposed to being academically dismissed, it is because of an incompatibility between the individual student and in the institution (Tinto, 1975). Tinto (1975) also noted that dropout rates are highest among two-year schools, followed by four-year institutions, and lowest among private schools. In 1993, Tinto updated his 1975 conceptual schema for dropout of college model to the model of voluntary student departure, which included external commitments (Figure 1).

Figure 1

Tinto's (1993) Model of Voluntary Student Departure



In 2017, Tinto further explored this concept "Through the Eyes of Students." Higher education institutions are concerned with the actions they can take to encourage students to stay - and complete- at their institution, retention (Tinto, 2017). However, a student's goal is persistence, completing at any institution (Tinto, 2017). Students acquire a sense of belonging and commitment to the institution through their interactions with peers and employees and their perception of engagement at the institution (Tinto, 2017). Colleges need to foster the formal and informal intuitional experiences to promote academic and social integration.

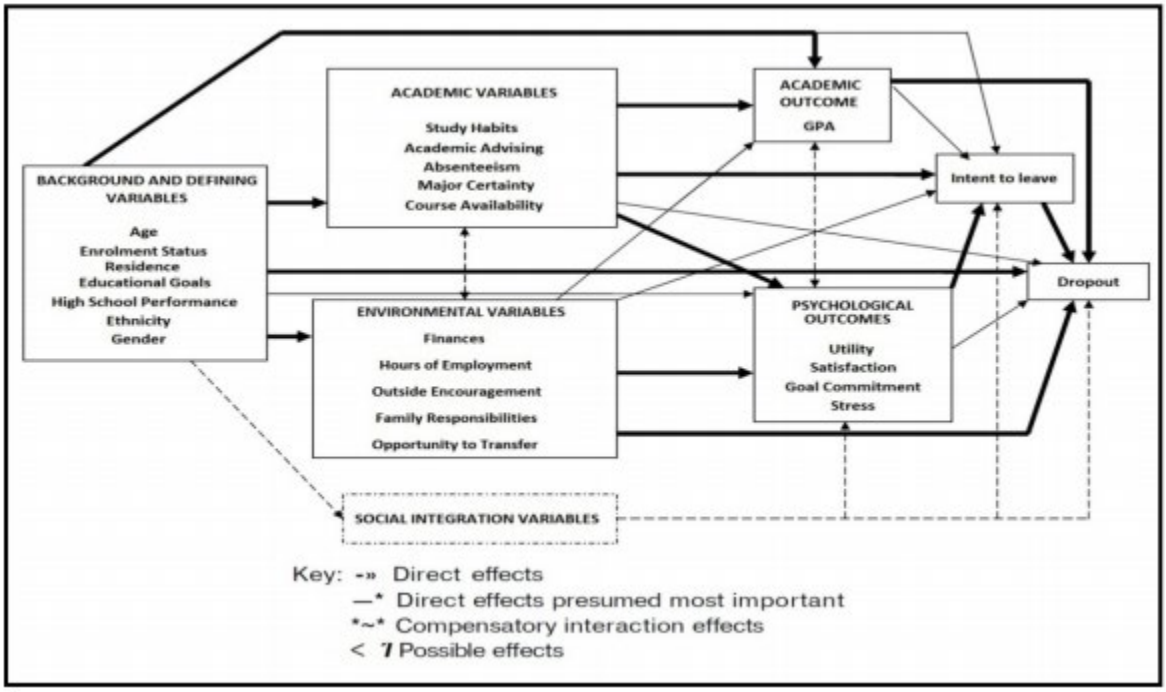
Student Attrition Model

Bean and Metzner (1985) explored the growing nontraditional student population who are commonly affected by the external environment with less social integration. Nontraditional students have higher attrition rates, also referred to as dropout rates, than their traditional counterparts (Bean & Metzner, 1985). Through this research on adult, part-time, and commuter

students, Bean and Metzner (1985) developed a conceptual model of nontraditional undergraduate student attrition. Similar to Tinto's (1975, 1993) conceptual models for student dropout and institutional departure, Bean and Metzner's (1985) model identified variables predicting a student's decision to dropout (Figure 2). Environmental variables, such as employment, external encouragement, family responsibilities, finances, and transfer opportunities, are emphasized in the model (Bean & Metzner, 1985). For this study, nontraditional students had one of three factors, 25 or older, attending part-time, or commuting to school (Bean & Metzner, 1985). Each of these factors affects the student's ability and interest in the social integration of the college (Bean & Metzner, 1985). Nontraditional students attend college for academic purposes with "utilitarian" or practical goals, not social purposes (Bean & Metzner, 1985).

Figure 2

Bean and Metzner's (1985) Student Attrition Model



Bean and Metzner (1985) recognized that a dropout from the institutional perspective might not match the student goals; therefore, a student might not consider themselves a dropout. This model considers the institutional perspective of a dropout as a student who has not completed the "formally declared program of study" (Bean & Metzner, 1985, p 489). Bean and Metzner's (1985) model includes four sets of variables: (1) academic performance, (2) intent to leave (psychological outcomes and academic variables), (3) student background, and (4) environmental variables. Nontraditional students are greatly impacted by these environmental variables: finances, hours of employment, outside encouragement, family responsibilities, and transfer opportunities (Bean & Metzner, 1985).

A lack of finances, or the student's perception of inadequate finances, is frequently reported as one of the main reasons a student decides to dropout (Bean & Metzner, 1985). Built off the research of many, including Astin (1975), that the number of hours employed is negatively correlated with student persistence (Bean & Metzner, 1985). Having the support of friends, family, and others in the student's life outside of school encourages nontraditional students to continue with college (Bean & Metzner, 1985). Fewer benchmarks of family responsibilities have been established in previous research, but it is consistently given as a reason why nontraditional students drop out of college (Bean & Metzner, 1985. Focusing on the student perspective, many students who start at two-year schools always have the intent to transfer (Bean and Metzner, 1985). These students may persist in the educational endeavors, but they are not retained by the starting institution.

Bean and Metzner (1985) stated that though previous research has found that social integration is less important for nontraditional students, further research would be beneficial to understand the relationship between social integration and persistence. Some of the

recommendations are for future research rooted in theory, separate analysis for older students, inclusion of only those with an intent of completion at the institution, using multivariate analysis, and a deeper analysis for the subsets of the nontraditional population to identify the variance (Bean & Metzner, 1985).

Student Engagement

Community colleges have a high student attrition rate – measured as the percentage of students leaving before completion – affirming the need to prioritize student retention efforts (Yu, 2015). The foundation of student retention models emphasized "student integration and involvement," but were based on traditional students at four-year schools (Yu, 2015). As has been noted, community colleges serve a large population of nontraditional students, including adult learners, who have higher attrition rates (Yu, 2015). Yu (2015) found that a student's academic integration and social integration at community colleges have a positive correlation with student retention. These findings support the importance of student engagement at community colleges, but more information is needed on what type of integration improves retention of adult learners.

Though research shows that student engagement improves student retention, nontraditional students are less likely to be engaged (Wyatt, 2011). Increasing student engagement of adult learners is a priority for student affairs professionals in higher education (Wyatt, 2011). Higher education institutions need to create opportunities that allow nontraditional students to be embedded in the campus community (Wyatt, 2011). Adult learners are less likely to be involved in extracurricular activities than their traditionally-aged counterparts are, but are more likely to have strong academic engagement (Wyatt, 2011). Rabourn et al. (2018) also found that adult learners have significant academic engagement, but

low engagement in areas requiring interactions. Due to external obligations, many adults do not have time to engage with peers and faculty, and as a result, feel disconnected (Rabourn et al., 2018). Wyatt (2011) found that adult learners who were disengaged felt dissatisfied with the college they were attending.

Flynn's (2014) research findings further support the existing literature that student engagement has a strong positive correlation with degree attainment at four-year institutions. "Earning a college diploma is tied to students' commitment to their college and the level of commitment to their college is tied to students' level of campus social and academic integration (Caruth, 2018, p. 18). For four-year institutions, academic integration and social integration are unique and independent interactions that both individually influence degree attainment (Flynn, 2014). Student engagement occurs naturally if institutions create experiences that support belonging, competence, and autonomy (Schuetz, 2008). Students must feel valued within their relationships, social and academic interactions, and learning opportunities (Schuetz, 2008). Students must step into the role of being an engaged college student, but colleges need to create the environment that empowers students to thrive (O'Keeffe, 2013).

Community colleges need to integrate high-impact practices and work collaboratively across the college to reach completion goals (Crisp, 2016). Colleges are challenged with balancing targeted student initiatives and large-scale student experience initiatives (Crisp, 2016). Faculty, staff, and administrators are being charged to look at students holistically and scale up their high-impact and effective practices, with an understanding that student outcomes are greatest when multiple programs and practices are implemented (Crisp, 2016). Community colleges can create inescapable social and academic engagement to strengthen the student experience (McClenney & Greene, 2005). Community colleges can adapt policies and services to

reflect the mission and values of the institution and "a culture of engagement—a shared, institutionwide commitment to establishing strong ties to connect students with their peers, with faculty and staff, and with the subject matter of the learning experience" (McClenney & Greene, 2005, p 5). Due to time on campus limitations, community colleges benefit from combining the social integration with academic integration. (Margarit & Kennedy, 2019).

Both students and colleges have a role in student engagement. However, while students have a goal to persist and complete their education, institutions have a goal of retaining students to complete at their institution (Owolabi, 2018). This dual partnership must consider why students are failing and what colleges can do to help students (Schuetz, 2008). Institutions are responsible for providing resources and engagement opportunities (Rabourn et al., 2018). Students are responsible for the time and effort they put into engagement opportunities (Rabourn et al., 2018). Owolabi (2018) stated that there is dual responsibility for institutions providing meaningful activities to promote student engagement and students to meaningfully participate in those activities. Institutions provide the expectations and opportunities, while students must invest their time and energy (Chickering & Gamson, 1987; Pace, 1984). Adult learners have time constraints limiting their investment (MacDonald, 2018), so community colleges need to intentionally design engagement opportunities to promote maximum participation (McClenney & Greene, 2005).

Rabourn et al. (2018) found that more research is needed to identify what creates a "supportive environment" for adult learners, as these students feel less supported by their higher education institutions than their traditionally-aged counterparts do. "Institutions cannot change who students are when they start college. But with the right assessment tools, colleges can identify areas where improvements in teaching and learning will increase the chances that their

students attain their educational and personal goals" (Kuh, 2009, p. 14). Institutions must focus on how they can improve their campus offerings to increase a student's effort and actions (Schuetz, 2008). Colleges need to adapt to societal needs to offer a positive experience that meets the students' needs (Caruth, 2018). With adult learners comprising 32% of the community college population (U.S. Census Bureau, 2019b), more research is needed to understand the unique needs of adult learners to increase student completion (Margarit & Kennedy, 2019)

Basic Principles of Curriculum and Instruction

Tyler (1949) developed four basic principles of curriculum and instruction rooted in the planning and objectives: (1) purposes of school, (2) educational experiences related to the purposes, (3) organization of the experiences, and (4) evaluation of the experiences. Educational institutions need clearly defined goals and outcomes to focus on the development of student behaviors (Tyler, 1949). Further, these behaviors should promote a well-rounded education encouraging critical thinking and problem-solving skills. Humans are "dynamic organisms" whose needs must be met, which includes a balance of physical, social, and integrative needs (Tyler, 1949). How can educational institutions support the development of behavior patterns to acquire and satisfy these needs (Tyler, 1949)?

Tyler's (1949) recommendations for curriculum and instruction begin to lay the foundation for the concept of active and engaged learning. "Because contemporary life is so complex and because the life is continually changing, it is very necessary to focus educational efforts upon the critical aspects of this complex life" (Tyler, 1949, p. 54). This focus on complexity emphasizes the importance of the transferability of learning and understanding how to learn. When students learn through practical application and with hands-on, real-life problems, they can recognize situations with similarities for problem-solving (Tyler, 1949).

When education is experiential, it keeps students interested and challenges them to learn (Tyler, 1949). “Learning takes place through the active behavior of the student; it is what he does that he learns, not what the teacher does” (Tyler, 1949, p. 63). Though some view Tyler’s basic principles as a practical approach to education, others argue it serves as a production model (Wraga, 2017). However, by focusing on where thinking and action take place, Tyler was able to engage students in the learning process (Wraga, 2017). Through active participation, students are involved and engaged with their learning.

College Student Experience

Pace (1984) explored measuring the content and quality of college student experiences for prediction achievement and satisfaction. The findings verify the concept of time on task; the more effort given, the larger potential for learning (Pace, 1984). A student’s learning and development are dependent upon the quality of effort given and the amount of time invested. The effort affects the experience (Pace, 1984). Students are responsible for their quality of effort, but colleges are responsible for providing the opportunity for a high-quality experience. According to Pace (1984):

> “They [colleges] are accountable for the resources and facilities, the programs and procedures, the stimuli and standards they provide for student learning and development. But surely the students are also account-able for the amount, scope, and quality of effort they invest in their own learning and development, and specifically in using the facilities and opportunities that are available in the college setting.” (p. 6)

Pace (1984) recognized both the student perspective and institution perspective in student learning and retention. For positive outcomes, the institution needs to provide high-quality offerings, and the student needs to invest in those offerings (Pace, 1984). If students have effort

and utilize the institutional offerings, then student learning and development will occur (Pace, 1984). Institutions should be using theoretical and conceptual knowledge to develop appropriate services (Pace, 1984). When developing high-quality opportunities, colleges need to consider their physical space and facilities, social interactions and relationships, and classroom learning (Pace, 1984).

Pace's (1984) research focused on the facilities and opportunities that students had at college, and how students engaged and actively used the college resources. The research included 11 four-year colleges and universities, and did not consider a student's background, such as high school performance, or external variables, such as a student's activities outside of school (Pace, 1984). Rather, the research considered the student activities in college, their behavior, and level of engagement (Pace, 1984). As a predictor for achievement, quality of effort increased understanding by 10-15%, with the total criteria accounting for 39-47% of the performance (Pace, 1984). "Granted the importance of all the elements that influence who goes where to college, once the students get there what counts most is not who they are or where are they are but what they do" (Pace, 1984, pp. 43-44). Similarly, Pace (1984) found that college satisfaction is correlated with student effort and their actions and behaviors while at college. Students who had a greater quality of effort were less likely to dropout than those with lower quality of effort (Pace, 1984). The quality of effort is the student's voluntary initiative and capitalization of using college resources (Pace, 1984). Higher quality input (student effort) predicts higher quality output (student development and learning), as demonstrated in achievement, satisfaction, and retention. "Breadth of involvement and breadth of attainments go hand in hand" (Pace, 1984, p 72). The best outcomes happen when there are better resources from the college and more effort from the student.

Student Involvement Theory

Astin (1984) stated that the effectiveness of a school's engagement program is dependent upon the program's ability to increase the amount of time and level of commitment of students. Astin (1984) focused on student involvement as a lead factor in student development. Astin (1984) incorporated decades of student development research and findings from various disciplines, while attempting to keep the practicalities of student involvement easy to identify for researchers and practitioners. The core of the theory is student involvement, the "physical and psychological energy that the student devotes to the academic experience" (Astin, 1984, p. 518). The concepts of cathexis, mental energy, effort, concentrated attention, and time-on-task are all connected to Astin's (1984) theory of student involvement.

Rooted in the action, or behavior, of being involved, Astin's (1984) theory has five postulates: (1) investment of physical and psychological energy, (2) a continuum of involvement, (3) quantitative and qualitative in nature, (4) learning and development are correlated to the quality and quantity of involvement, and (5) effectiveness of policies and practices are dependent on their capacity to increase involvement. The involvement is measured at both the macro and micro level, considering a student's general involvement as well as the involvement for each course, assignment, faculty, etc., and an individual can have various levels of involvement with each area at different times (Astin, 1984). The fourth and fifth postulates provide a guide for higher education institutions to develop programming and policies to encourage student involvement and development (Astin, 1984).

The subject-matter theory concedes that scholarly experts and course content determine student learning, but Astin (1984) argued this leaves the student in a passive role likely to leave underprepared students behind, increasing the achievement gap. The resource theory uses the

acquisition of resources, physical, human, and fiscal, to improve pedagogy, but Astin (1984) counters that there is an imbalance of quality and quantity and that the focus on acquisition overshadows the equally important area of usage. The individualized theory requires flexibility to shift approaches based on what works best for each student, but is stronger in theory than in practice because of the complexity and expense (Astin, 1984). Subject-matter, resource, and individualized theory are only effective to the extent in which students put forth energy and effort (Astin, 1984). Astin (1984) considered student motivation beyond the psychological state, noting that the physical actions, or involvement, are the essence of a student's development. Higher education practitioners can work to influence the behavior of students to increase involvement; therefore, increasing student development and learning (Astin, 1984).

Institutions are competing for a student's time, which can be viewed as the most critical resource (Astin, 1984). External entities, such as family, friends, and work, all require allocation of a student's finite resource of time and energy (Astin, 1984). Even within the education environment, students must navigate how and where to spend their time, whether it be attending class, studying, completing assignments, working with peers or faculty, using student services, or participating in extracurricular activities (Astin, 1984).

A longitudinal study of college dropouts identified positive factors increased involvement and consequently student retention, whereas negative factors decreased involvement and, as a result, increased dropout (Astin, 1984). "For certain student outcomes involvement is more strongly associated with change than either entering freshman characteristics or institutional characteristics" (Astin, 1984, p. 524). Significant factors positively affecting retention include living on campus, which makes all activities embedded at the college, having an on-campus job, and participating in extracurricular activities such as sports, student organizations, honors

programs, and faculty projects (Astin, 1984). Student dropout is higher at 2-year colleges because of the limited involvement of faculty and students (Astin, 1984). Community colleges rely heavily on part-time faculty, who have decreased involvement, and students are often commuting, attending part-time, and working off-campus, and are, therefore, minimally involved (Astin, 1984).

Developed through over 20 years of research, Astin's (1984) student involvement theory uses empirical knowledge on student development and principles from other fields. Astin's (1984) student involvement theory is a guide for academic researchers and practitioners. It is the foundation for many additional works -- including Chickering & Gamson (1987) and Kuh (2008), continues to be used as a principal theory used in research today (Goltra, 2018; Price and Baker, 2012; Wyatt, 2011), and is one of the theories used to develop the Community College Survey of Student Engagement (Marti, 2008; McClenney, 2007).

Seven Principles for Good Practice

Chickering and Gamson's (1987) identified seven principles for good practice in undergraduate education:

1. Encourage contacts between students and faculty.
2. Develop reciprocity and cooperation among students.
3. Uses active learning techniques.
4. Gives prompt feedback.
5. Emphasized time on task.
6. Communicates high expectations.
7. Respects diverse talents and ways of learning. (p 2)

The best practices were derived from research and are frequently used in higher education institutions (Chickering & Gamson, 1987), co-sponsored by the American Association for Higher Education with input from Astin, Bowen, Boyer, Gross, Eble, Edgerton, Gaff, Katz, Pace, Marvin, Peterson, and Richardson. Though each recommended practice is individually beneficial, successfully executing all the practices multiplies the positive outcomes (Chickering & Gamson, 1987). Faculty interaction is a critical component of student motivation, involvement, and commitment (Chickering & Gamson, 1987). Engagement with peers enhances student learning (Chickering & Gamson, 1987). Students should be actively involved in their learning with opportunities for practical application (Chickering & Gamson, 1987). Timely feedback helps students reflect on their learning and recognize areas for improvement (Chickering & Gamson, 1987). The more time and energy a student invests in their learning, the stronger the learning outcomes (Chickering & Gamson, 1987). Institutions should provide clear and high expectations to increase student effort (Chickering & Gamson, 1987). Finally, institutions need to recognize that their students bring valuable diversity, and as such, should have diverse learning opportunities (Chickering & Gamson, 1987). There is not an individual entity responsible for improving undergraduate education, as student, faculty, staff, administration, and government and accrediting officials all affect the education environment (Chickering & Gamson, 1987). Chickering and Gamson's (1987) seven principles for good practice were one of the theories used to develop the Community College Survey of Student Engagement (Center for Community College Student Engagement, 2020h; McClenney, 2007), and are still considered when considering the current student environment, such as online learning (Crews et al., 2015; Dreon, 2013).

High-Impact Practices

Kuh (2008) shared high-impact educational practices for colleges and universities. These practices build upon the Greater Expectations and Liberal Education and America's Promise initiatives to support student success among America's diverse populations. Data from the National Survey of Student Engagements (NSSE) demonstrates how the high-impact practices benefit students, though some marginalized populations are still underserved (Kuh, 2008).

Kuh (2008) considered success through traditional learning outcomes, such as retention and completion, as well as involvement in high-impact practices that foster long-term success for the future. Referred to as *essential learning outcomes*, this higher-level learning prepares the student for a multitude of future environments: personal, career, economy, and society (Kuh, 2008). Some examples of the high-impact practices for teaching and learning are first-year seminars/experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments/projects, undergraduate research, diversity/global learning, service-learning, community-based learning, internships, and capstones (Kuh, 2008). Kuh's explanation for the reason why these practices work well relates back to Pace (1984) and Astin (1984); students must be actively involved with extensive time, energy, and effort. Additionally, these practices require active involvement, interaction, and collaboration with faculty, staff, and peers (Kuh, 2008), also supporting Tinto's (1993) academic and social integration. These high-impact practices promote diverse experiences and cultures, frequent feedback, and practical application of learning (Kuh, 2008). Even though these high-impact practices are beneficial for all learners, adult learners are less likely to engage in the activities than their traditionally aged counterparts (Kuh, 2008). Kuh (2008) recommended that each student participates in at least two

of the high-impact practices to raise student achievement, but reminds institutions that the practices must be implemented well, and available to all student populations, to be successful.

Recent Research and Trends

Tyler (1949), Tinto (1975), Pace (1984), Astin (1984), Bean and Metzner (1985), Chickering and Gamson (1987), and Kuh (2008) continue to be the foundational theories used in student engagement and student retention research today. More recent researchers are accounting for diverse populations and the current higher education environment. The traditional student is not the majority, with over a third of undergraduate students working full-time, almost half attending school part-time, and one-quarter being parents (Scobey, 2020). Nontraditional students bring social and emotional complexities that education institutions often overlook when designing the academic environment for traditional students (Scobey, 2020). The external time commitments and responsibilities, stress and lack of sense of belonging, and collegiate barriers make it difficult for adult learners to complete their educational goals (Scobey, 2020).

Scobey (2020) described the high-impact practices as creative and innovative experiences that "combine liberal, experiential and sometimes pre-professional learning" and are "holistic, integrative, engaged model of learning, a design for educating the whole student" (p. 90). The higher education industry has needed to continue with innovation as it considers technological advances, the completion agenda, and alignment with career opportunities (Scobey, 2020). There is also the recognition that these new trends in higher education conflict with the high-impact practices, as long-term educational excellence is minimized to allow for digital learning, earning credentials, and learning specific skills (Scobey, 2020). Colleges need to approach the trends in higher education with high-impact practices to offer adults the best educational opportunity (Scobey, 2020).

Budd (2017) considered Kuh's high-impact practice of learning communities when researching if there was a difference in retention for traditionally and nontraditionally-aged students at a mid-Atlantic community college. Institutional enrollment data was used to compare semester and year retention rates, student age, and learning community participation (Budd, 2017). Budd (2017) found no statistical difference in retention based on student age. Though there was a statistical difference in retention based on participation in learning communities, there was no interaction effect between age and learning community (Budd, 2017).

Chen (2017) studied how academic interventions (academic advising and student-faculty interactions) at community colleges affected student success (completion or transfer) by age and ethnicity using secondary data from the Integrated Postsecondary Education Data System (IPEDS) and Beginning Postsecondary Students Longitudinal Study (BPS:04/09). Academic advising and student-faculty interactions positively affected students regardless of the student's age (Chen, 2017). Cardenas (2018) researched the completion of nontraditionally-aged, part-time students at Central Arizona College using a mixed-methods design. Using an academic advisor and having a structured academic program were statistically significant to student completion (Cardenas, 2018).

Rosier (2016) tested a predictive regression model using the National Survey of Student Engagement, New Student Survey, and institutional data to predict student departure of nontraditional students (any nontraditional student characteristic) at a commuter college, focusing on student entry characteristics and academic integration. Age (older nontraditional students), best work (exams did not challenge them), and writing clearly (institution experience did not develop writing skills) were found to predict student departure, or dropout (Rosier, 2016). Though the study found that older students are more likely to depart, all student

characteristics of nontraditional students were included in the population at a four-year college (Rosier, 2016). Goltra (2018) researched how first-year retention was affected by the CCSSE benchmarks and institutional peer mentoring data at a Midwest community college. Student retention was positively affected by participation in the peer mentoring program, student effort, and support for learners (Goltra, 2018). However, nontraditionally-aged students only accounted for 13% of the CCSSE participants and 1.6% of the peer mentoring participants (Goltra, 2018).

Arias Miller (2017) conducted a qualitative study to explore nontraditional (any nontraditional student characteristic) students' academic and social integration at a Southern California community college. Students expressed frustration with limited student service and facility hours, and poor communication, as well as a lack of sense of belonging, and rather feeling excluded due to the lack of access (Arias Miller, 2017). The nontraditional students valued their faculty and academic advising/counseling, but were disconnected from the social support and activities on campus (Arias Miller, 2017).

Cataudella (2018) researched how adult student characteristics impacted student engagement and if there was a relationship between engagement and grade point average (GPA) using data from the CCSSE. The five benchmarks were analyzed with a student's enrollment status, work hours, and commuting time, with these characteristics affecting the engagement of nontraditional students more than traditional students do (Cataudella, 2018). Attending full-time increases the engagement of nontraditional students across all five benchmarks (Cataudella, 2018). Working for pay is a positive predictor for active and collaborate learning and student-faculty interaction, but was a negative predictor for student effort and support for learners for nontraditional students (Cataudella, 2018). The only negative effect for commute time for nontraditional students was the support for learners benchmark (Cataudella, 2018). GPA for

nontraditional students had a statistically significant positive correlation with active and collaborative learning, student effort, academic challenge, and student-faculty interaction, but a statistically significant negative correlation with support for learners (Cataudella, 2018). Though GPA was considered as an academic success outcome, student retention was not included in this study (Cataudella, 2018).

Community College Survey of Student Engagement

Student engagement has been at the forefront of higher education since the early 2000s, building on the research of the previous 70 years (Kuh, 2009). Student engagement can be defined as the "quality of effort and involvement in productive learning activities" (p. 6) that promotes student learning and development (Kuh, 2009). Today, college leadership decision-making is rooted in student engagement theory (Kuh, 2009). The National Survey of Student Engagement (NSSE), the Community College Survey of Student Engagement's (CCSSE) four-year higher education institution counterpart, was developed to measure student involvement in the high-impact practices and the benefits (Kuh, 2009). The NSSE was designed using Chickering and Gamson's (1987) seven principles for good practice (Price & Baker, 2012). The purpose of the survey was to evaluate the extent of involvement in the institutionally designed high-impact practices that improve student experience and outcomes, providing actionable data for higher education institutions (Kuh, 2009; Price & Baker, 2012). The benefit of the student engagement is only as good at the implementation of the practice itself (Kuh, 2009). Colleges are responsible for developing and implementing the high-impact practices that can benefit student learning and success (Pace, 1984; Rabourn et al, 2018). It is important to note, that different types of engagement will have stronger impacts for different types of students (Kuh, 2009). Adult learners may differ in behavioral engagement and psychological integration, as their

interactions are limited by external commitments (Price & Baker, 2012). On the NSSE, adult students have had lower engagement scores than their traditionally-aged counterparts (Price & Baker, 2012). Crisp and Mania (2012) noted that student engagement is more likely to happen in the classroom at community colleges, and similarly, Price and Baker (2012) stated that adult learners' academic and social integration was more likely to happen within the classroom. The CCSSE survey findings reiterate that community college students are more engaged in the classroom than outside of the classroom (McClenney, 2007).

Funded by the Lumina Foundation for Education and The Pew Charitable Trusts, and adapted from the National Survey of Student Engagement (NSSE), the Community College Survey of Student Engagement (CCSSE) was developed in 2001 through the University of Texas at Austin's Community College Leadership Program (McClenney, 2007). Strategic, policy, and technical guidance was provided by experts in the field on the National Advisory Board and Technical Advisory Panel (McClenney, 2007). "CCSSE's central mission is to provide information about effective educational practice in community colleges and assist institutions and policy-makers in using that information to promote improvements in student learning and retention" (McClenney, 2007, p. 138). All five of the CCSSE benchmarks are consistent predictors of the outcome measures, with academic challenge being the strongest predictor for academic outcomes and support for learners being the strongest predictor for persistence outcomes (McClenney, 2007).

Colleges that have not adapted to the 21st century can be discouraging to the students. For example, classrooms with outdated, routine lectures, minimal student engagement, and faculty who are impatient and inflexible, create feelings of frustration, self-doubt, devalued worth, and low self-esteem in students (McClenney & Greene, 2005). When colleges focus on the value of

students, provide a personal connection, and demonstrate genuine care, the culture promotes a positive, engaged student experience (McClenney & Greene, 2005).

Active and Collaborative Learning

The active and collaborating learning benchmark on the CCSSE focuses on how students collaborate with others in their learning, measuring working with other students, service-learning, teaching others, and discussing course materials (Center for Community College Student Engagement, 2020c). Academic involvement has a significant relationship to college satisfaction (Astin, 1984). To be most effective, faculty should emphasize active student involvement to foster learning and positive outcomes (Astin, 1984). "Academic integration variables surpassed background variables in their influence" of college satisfaction and timely graduation, emphasizing the importance of the college experience (Margarit & Kennedy, 2019, p 112), which supports Pace's (1984) findings that what a student does at college matters more than their background characteristics.

Collaborative learning, where students are social and work in teams, increases student involvement and knowledge (Chickering & Gamson, 1987). This can be done on a small scale with learning groups in an individual classroom, or on a larger scale with learning communities of students taking multiple courses together (Chickering & Gamson, 1987). Learning communities promote peer relationships and course completion (Bettinger et al., 2013). Learning communities have been an effective strategy for community colleges to improve student engagement and retention by clustering similar students, which increases academic and social integration (Margarit & Kennedy, 2019). Having students take the same courses and work with tutors help them get fully immersed in their academics (Enos, 2019). Kuh (2008) noted that first-year seminars and experiences, learning communities, service-learning, collaborative projects,

and internships are high-impact educational practices. These practices require students to interact and build relationships with faculty, staff, peers, and coworkers or community members (Kuh, 2008).

With many students entering college academically unprepared, colleges offer several programs to support learning (Bettinger et al., 2013). Some interventions offered to encourage academic growth and student retention include tutoring, learning communities, and bridge programs (Bettinger et al., 2013). When students actively engage with tutoring services, it positively affects student retention and completion rates (Jaafar et al., 2015). "Engaging students in purposeful learning activities will improve retention and lead to higher graduation rates" (Owolabi, 2018, p. 64). Instruction should be learning-centered promoting maximum engagement (Hope, 2018). Adult learners should draw from their life experiences as they consider the application of course material, and learn best when actively involved with the learning (MacDonald, 2018). Students should not be spectators to the learning, but actively participating in and outside of the classroom to apply the classroom concepts (Chickering & Gamson, 1987).

Student Effort

The student effort benchmark on the CCSSE focuses on student behavior and their time on task, measured by the frequency and time spent reading, writing, studying, doing homework, and using tutoring and lab services (Center for Community College Student Engagement, 2020c). Pace (1984) emphasizes the importance of quality effort and investment of time in an individual's education. Students have better academic achievement with increased time on task, measured as quality time spent toward studying, homework, writing, etc. (Pace, 1984). "Quality of effort is the best predictor of students' progress toward the attainment of important

educational goals" (Pace, 1984, p 96). Astin (1984) argued that student involvement can affect outcomes more than student background. However, the student's role in actively putting forth effort, does not undermine the importance of institutions providing high-quality opportunities (Pace, 1984).

Students who are engaged in their studies are more committed to their learning institution (Owolabi, 2018). The engagement and commitment are shown through the student's behavioral investment of attending class, completing homework, studying, and other need class preparation (Owolabi, 2018). Astin (1999) describes the highly involved student as one who is putting forth effort and energy toward studying, being on campus, participating in student activities, and interacting with faculty. Institutions should be providing clear time expectations for student success (Chickering & Gamson, 1987). Putting energy into learning by devoting to time on task, students increase their learning outcomes (Chickering & Gamson, 1987). Writing-intensive courses that span across the curriculum are a high-impact practice (Kuh, 2008). High-impact practices are effective because they "typically demand that students devote considerable time and effort to purposeful tasks; most require daily decisions that deepen students' investment in the activity as well as their commitment to their academic program and the college" (Kuh, 2008). Though institutions provide engagement opportunities, student must devote the time and effort to those opportunities (Rabourn et al., 2018)

Academic Challenge

The academic challenge benchmark on the CCSSE focuses on intellectually and creatively challenging students, measured by working hard, analyzing and applying course materials, and faculty and institution expectations (Center for Community College Student Engagement, 2020c). High expectations motivate students to work hard and challenge them to

devote effort to their learning (Chickering & Gamson, 1987). Owolabi (2018) noted that the perceived value and quality of a college's academics served as a predictor of retention. "A positive learning experience for the student and a strong rapport with the instructor which can foster a lifelong love of learning, which results in retention, persistence, and completion" (MacDonald, 2018, p. 162). Adult learners benefit from clear expectations and frequent feedback on instruction (MacDonald, 2018).

With course objectives that empower students and promote higher-quality learning, and flipped classrooms furthering active learning, students increase their learning outcomes (Hope, 2018). Students need to analyze what they are learning through reflection, writing, talking, and application (Chickering & Gamson). Being challenged is required for growth and personal development (Pace, 1984). As students are introduced to new concepts and experience diversity that challenges their thinking, they have the opportunity for personal and intellectual growth (Kuh, 2008). "Opportunities to integrate, synthesize, and apply knowledge are essential to deep, meaningful learning experiences" (Kuh, 2008, p. 17). Final capstone experiences allow students to be creative, analyze, and apply the knowledge gained to a project (Kuh, 2008). When students are challenged academically, they must put forth more effort to be successful (Kuh, 2008).

Support for Learners

The support for learners benchmark on the CCSSE focuses on the student's perception of available services and support provided at the college, measured by academic and nonacademic support, including social, financial, and career (Center for Community College Student Engagement, 2020c). There is a common view that students determine their own success through self-motivation, goal orientation, and personal commitment and engagement (McGrath & Tobia, 2008). The belief that students control their own success does not recognize the social,

contextual, and institutional experiences of students (McGrath & Tobia, 2008). Students bring their unique backgrounds, experiences, talents, and learning preferences with them that need to be considered by colleges (Chickering & Gamson, 1987). Community colleges can use their organizational culture to support academic hope through realistic and attainable *goals*, *pathways* providing plans to achieve those goals, and *agency* of internal motivation, and drive (Wells et al., 2014). The institution's culture can promote hope, validation, and confidence, which in turn promote student success. (McGrath & Tobia, 2008). Owolabi (2018) states:

> "Sense of belonging, students' feeling of mattering, and their being able to count on the support of faculty and staff to meet their academic needs, social interests, and desires are all critical elements for fostering student success and student retention (p. 69).

Though students perceive academic advising as one of the most important factors to being successful in college, the majority do not have an academic plan or pathway (Sutton, 2018). Adult learners also value academic advising (MacDonald, 2018). Adult learners benefit from flexible course schedules, modalities, and program options (Bettinger et al., 2013). In a study about a college support program for former child welfare and homeless youth, a holistic approach of supporting academics and financial needs, and serving as a coach or mentor helped students transition to college and succeed (Huang et al., 2019). Nontraditional, adult students benefit from additional financial aid resources (Bettinger et al., 2013). Huang et al. (2019) found that when students had early engagement with student support services, the connection to resources helped prevent dropout. Creating an intensive support system before students even start classes is also beneficial to adult learners (Enos, 2019).

All employees should be trained to best assist students, which means front-line staff are prepared to deal with obstacles, such as mental illness, and faculty are using the best pedagogy

for underserved students (Prystowsky et al., 2017). Using Astin's (1984) "theory of student involvement provides a unifying construct that can help to focus the energies of all institutional personnel on a common objective" (p. 527). Prystowsky et al. (2017) challenge that colleges need to strive to be the ideal college, rather than only serving the ideal student. Challenging the colleges' role in serving all students, and not just the best students, shifts the focus from students being college-ready to colleges being student-ready (Prystowsky et al., 2017). Colleges should take action to become student-ready by confronting implicit bias at all levels of the organization to provide an inclusive environment, allocating resources to overcome poverty barriers, and emphasizing effective pedagogical practices (Prystowsky et al., 2017).

Influential teachers are recognized by their human qualities and personal investment, not their content expertise (Prystowsky et al., 2017). However, faculty credentials are primarily based on content expertise without a requirement for pedagogy expertise or knowledge (Higher Learning Commission, 2015). Community college faculty are hired based on degree completion in their content area, not considering pedagogical aptitude to provide quality instruction (Flynn et al., 2017). Flynn et al. (2017) stated the faculty should empower and engage students through the environment and curriculum. Community college faculty teach to students with diverse backgrounds who often have achievement gaps, further stressing the importance of high-quality instruction (Flynn et al., 2017). The juxtaposition of scholarly teachers failing to hold themselves to scholarly standards is sometimes attributed to academic freedom, as well as to the less prestigious opinion of educational theory (Elton, 2010). As faculty are being asked to recognize their role in student success and completion, and the overall institution is facing higher accountability, faculty may feel their academic freedom and autonomy are at risk (Schmidt &

Langberg, 2008). Faculty autonomy is often prioritized over high-quality teaching and pedagogical strategies for diverse populations (Prystowsky et al., 2017).

Student-Faculty Interaction

The student-faculty interaction benchmark on the CCSSE focuses on a student's interaction with faculty beyond the classroom, measured by feedback, discussions, e-mails, and work and conversations outside of coursework (Center for Community College Student Engagement, 2020c). Faculty have regular direct interaction with students emphasizing the faculty role in student engagement, retention, and success. Research has supported that student-faculty relationships can have better outcomes than effective teaching skills, and the outcomes go beyond the classroom learning, also positively affecting student engagement, self-efficacy and academic achievement (Parnes et al., 2020). Faculty interaction outside of the classroom encourages a student to stay motivated and committed toward their goals (Chickering & Gamson, 1987).

Student-faculty interaction is the involvement leading to the greatest institutional satisfaction (Astin, 1984). Astin (1984) recommended that colleges encourage student-faculty interactions for higher student satisfaction and better student outcomes. "Faculty interest in student achievement, teaching effectiveness, faculty encouragement, and faculty ongoing feedback were also predictors of students' timely graduation" (Margarit & Kennedy, 2019, p. 112). The faculty role is critical in student completion (Margarit & Kennedy, 2019). Faculty connections providing students support lead to higher academic integration, persistence, and retention, even among diverse students (Parnes et al., 2020). As adult students are more likely to ask for help, Parnes et al. (2020) found older students and full-time students are more likely to have better relationships with their faculty than younger and part-time students are. It is essential

to recognize that the significance of the faculty goes beyond the classroom, as faculty relationships positively affect student engagement, grade point average, and retention (Parnes et al., 2020).

Community colleges can face challenges with developing student-faculty relationships, as almost two-thirds of the faculty are adjunct, or part-time employees, who do not have office hours or commitment to engage with students outside of class (Crisp & Mina, 2012). Many community college students perceive that faculty only put the forth minimum effort, and as the students have their own personal demands, they have less time on campus to develop faculty relationships (Parnes et al., 2020). Community college faculty teach to students with diverse backgrounds who often have achievement gaps, further stressing the importance of high-quality instruction (Flynn et al., 2017). Flynn et al. (2017) stated that the faculty should empower and engage students through the environment and curriculum. Positive faculty involvement that demonstrates actively caring for a student's success, develops a personal connection that positively influences retention (MacDonald, 2018).

With many external commitments, the college connection for nontraditional students is mainly in the classroom and with faculty (Zerquera et al., 2018). Through focus groups with 33 faculty, Zerquera et al. (2018) aimed to discover the faculty perception of nontraditional students and the faculty role in nontraditional students' academic success. The study found that faculty were aware of the many demands and complexities of their students' lives, and understood that school is not often the priority of their nontraditional students' many obligations (Zerquera et al., 2018). The faculty also shared that individual interactions, genuinely caring about students, and being flexible helped develop student connections (Zerquera et al., 2018). However, the faculty also noted that students were responsible for managing their time, balancing their obligations,

and being academically prepared (Zerquera et al., 2018). Zerquera et al. (2018) recommended that institutions should use data to inform faculty of the reality of their student population and that faculty receive training to address their own bias and to be better prepared to serve nontraditional students. Parnes et al. (2020) recommended that community colleges offer smaller class sizes, encourage on-campus work-study, schedule student-faculty meetings, and create welcoming student space to encourage student-faculty connection opportunities.

Summary

Community colleges have a mission to provide educational opportunities to the diverse populations in which they serve. Adult learners are a large portion of the community college population with different needs than their traditionally-aged counterparts. However, traditional students have driven services and policies that create the student experience. Community colleges continue to struggle with low retention rates, with adult students dropping out at higher rates, and therefore completing at lower rates. Student engagement is a widely accepted and heavily researched strategy for student retention. However, the founding models and principles were developed based on traditionally-aged students. Years of student engagement research was used in the development of the Community College Survey of Student Engagement's five student engagement benchmarks. The founding student retention and engagement theories, as well as the CCSSE, continue to be used in research and practice today.

Astin (1984) recommended that future research explores the various types of student involvement, while also measuring the student's effort through time and energy for those activities. Though there have been many studies on student retention and student engagement, more research is needed on the subpopulation of adult learners at community colleges. In exploring student engagement and student retention, the research affirms the need for community

colleges to consider the important role of adult students. This study addressed the gap in the literature on student engagement of nontraditional, adult learners at community colleges. The next chapter discusses the research methodology for researching the relationship between student engagement and student retention of adult learners at community colleges.

Chapter 3

Research Methodology

This chapter details the research methodology for exploring if student engagement affects the student retention of adult learners at community colleges. It provides the research method and design, research questions and hypotheses, population and sample data source, data collection, instrumentation, reliability and validity, and data analysis. The chapter also covers how the methods and analysis are supported by similar studies in the field of higher education.

Research Method and Design

To research the impact of student engagement on adult learners at community colleges, this study examined the relationship between the five Community College Survey of Student Engagement (CCSSE) benchmarks and a student's intent to re-enroll (retention). By considering how the actions and behaviors of adult students align with existing student engagement and retention theory, this study embraced a postpositivism worldview. Postpositivism focuses on theory verification, reduced to specific variables to analyze how the independent variables, or causes, determine probable outcomes of the dependent variable in the objective reality (Creswell, 2012). This research examined Astin's Involvement Theory (1984), reduced to the CCSSE student engagement benchmarks and the adult learner population at community colleges to determine probability of student retention. Additionally, this research addressed the issue of dropout students and the need to retain adult learners, which aligns with the pragmatism worldview because it is problem-centered and real-world practice-oriented. This chapter describes the research design, research questions and hypotheses, population and sample source, instrumentation, and analysis.

This quantitative, correlational study used secondary data from an existing national survey. This research explored if there was a significant relationship between the five CCSSE student engagement benchmarks (independent variables) and retention (dependent variables) using existing CCSSE data. There are potential limitations of using secondary data from instrument-based questions. The CCSSE used pre-established questions, so the variables were examined using the data from existing response data. Secondary data also have potential error limitations because the researcher did not control the sampling or data entry. The participants may not represent all varieties of community colleges, such as different locations and student population sizes. Finally, another limitation of the CCSSE was that it uses self-reported data.

Research Question and Hypotheses

This research explored if student engagement increased the likelihood of student retention of adult learners. Specifically, was there a significant relationship between the five CCSSE student engagement benchmarks (independent variables) and retention (dependent variable) of adult learners at community colleges? The five independent variables and one dependent variable, lead to five research questions in regards to adult learners at community colleges.

- R1. Is there a relationship between active and collaborative learning and student retention?
- R2. Is there a relationship between student effort and student retention?
- R3. Is there a relationship between academic challenge and student retention?
- R4. Is there a relationship between student-faculty interaction and student retention?
- R5. Is there a relationship between support for learners and student retention?

To answer these five research questions, five hypotheses were tested by analyzing the five independent variables with one dependent variables. It was hypothesized that each of the five CCSSE student engagement benchmarks affect student retention. The alternative and null hypotheses are listed below.

- H_A1. There is a significant relationship between active and collaborative learning and student retention of adult learners at community colleges.
- $H_0 1$. There is no significant relationship between active and collaborative learning and student retention of adult learners at community colleges.
- H_A2. There is a significant relationship between student effort and student retention of adult learners at community colleges.
- $H_0 2$. There is no significant relationship between student effort and student retention of adult learners at community colleges.
- H_A3. There is a significant relationship between academic challenge and student retention of adult learners at community colleges.
- $H_0 3$. There is no significant relationship between academic challenge and student retention of adult learners at community colleges.
- H_A4. There is a significant relationship between student-faculty interaction and student retention of adult learners at community colleges.
- $H_0 4$. There is no significant relationship between student-faculty interaction and student retention of adult learners at community colleges.
- H_A5. There is a significant relationship between support for learners and student retention of adult learners at community college

- $H_0$5. There is no significant relationship between support for learners and student retention of adult learners at community colleges.

Population and Sample Data Source

The study used secondary data, so the Center for Community College Student Engagement (2020f) determined the number of participants and the sampling method. The participants were classified into four institution sizes based on the number of credit students: small (<4,500), medium (4500-7,999), large (8,000-14,999), and extra-large (15,000+). The Center for Community College Student Engagement (2020f) considers the participating institutions size and sampling error when planning for sampling and administration of the survey:

> CCSSE is administered to students in randomly selected classes (credit courses only) at each participating college. The required number of course sections to be surveyed is determined by the total sample size needed to reduce sampling error and to ensure valid results. Sample sizes range from approximately 600 to approximately 1,200 students, depending on institutional size (para. 1).

The administration of the survey was coordinated through a CCSSE liaison, institution campus coordinator, and survey administrator(s). The CCSSE responses were gathered through in-class administration of a random selection of credit courses, so could have been completed by students in their first term through their final term (Center for Community College Student Engagement, 2020f).

For this research, only participants of the 2019 CCSSE cohort who were 25 and older were included to meet the parameters of the study. The 2019 CCSSE cohort was comprised of three-years of responses from 2017, 2018, and 2019 (Center for Community College Student Engagement, 2020e). CCSSE categorized students who select age ranges of 25 or older as

nontraditional-age. Approximately one-third of the respondents in the 2019 CCSSE cohort were nontraditional-age (CCSSE 2019 Cohort Frequency Distribution). The sample was further limited to only include students who were seeking a credential at the institution. Students needed to select "yes" for (a) complete a certificate program or (b) obtain an associate degree on Question 26 (reason/goal for attending) for inclusion. Students who only selected "yes" for (c) transfer to a 4-year college or university, (d) obtain or update job-related skills, (e) change careers, or (f) self-improvement/personal enjoyment were omitted.

Data Collection

Permission for this research was received from Franklin University's Institutional Review Board, the institution of study for completion toward a degree (Appendix A). After receiving IRB approval from Franklin University, permission to use the CCSSE data was requested from the Center for Community College Student Engagement at the University of Texas at Austin. All data is used with permission from the Center for Community College Student Engagement, The Community College Survey of Student Engagement [2019 Cohort], The University of Texas at Austin (Appendix B). The data requested was the survey results of the 2019 cohort, without student identifiers. The data provided was a 30% random sample of the cohort: 103,537 respondents from 588 colleges in 46 states. The Center for Community College Student Engagement determined the required sample size and randomly selected the credit courses for survey distribution at each institution. The CCSSE data was self-reported and collected through closed-ended questions.

Instrumentation

The data collection instrument was the Community College Survey of Student Engagement (CCSSE), which was distributed annually to over 200 community colleges

nationally (Appendix C). The CCSSE focuses on five areas of engagement; (1) active and collaborative learning, (2) student effort, (3) academic challenge, (4) student-faculty interaction, and (5) support for learners; with additional information on academic advising and planning, academic mindset, assessment and placement, information literacy, race and ethnicity, and student financial health (Center for Community College Student Engagement, 2020b). The CCSSE is an adaption of the National Survey of Student Engagement used at four-year postsecondary schools, providing valuable information on the relationship between student engagement and educational outcomes (Marti, 2008).

The primary construct of this study was the concept of student engagement, defined as the active involvement in academic studies and social interactions. Research has shown that students who are actively engaged in their academic studies, as well as and additional activities provided to enhance their education, are more likely to learn and retain the information (Owolabi, 2018). The integration and active involvement in academic studies and social interactions are the foundation for student engagement. The CCSSE measures student engagement by the extent to which a student is actively involved in five areas, serving as the five independent variables. The five CCSSE benchmarks have been validated as predictors of the CCSSE outcome measurements (McClenney et al., 2012). “Results from three studies validate CCSSE’s use of student engagement as a proxy for student academic achievement and persistence” (McClenney et al., 2012, p. 6). The CCSSE was developed so each of the benchmarks aligns with a specific set of survey questions (Center for Community College Student Engagement, 2020c). Table 3 shows the alignment between the study variables, study hypotheses, and the survey questions on the CCSSE.

Table 3

Study Variables, Hypotheses, and Community College Survey of Student Engagement Questions

Variable Name	Hypothesis	Questions on CCSSE
Active and Collaborative Learning	$H_0$1. There is no significant relationship between active and collaborative learning and student retention of adult learners at community colleges.	4a, 4b, 4f, 4g, 4h, 4i, 4q
Student Effort	$H_0$2. There is no significant relationship between student effort and student retention of adult learners at community colleges.	4c, 4d, 4e, 6b, 10a, 12d1, 12e1, 12h1
Academic Challenge	$H_0$3. There is no significant relationship between academic challenge and student retention of adult learners at community colleges.	4o, 5b, 5c, 5d, 5e, 5f, 6a, 6c, 7, 9a
Student-Faculty Interaction	$H_0$4. There is no significant relationship between student-faculty interaction and student retention of adult learners at community colleges.	4j, 4k, 4l, 4m, 4n, 4p
Support for Learners	$H_0$5. There is no significant relationship between support for learners and student retention of adult learners at community colleges.	9b, 9c, 9d, 9e, 9f, 12a1, 12b1
Student Retention	Dependent variable of all hypothesis: $H_0$1, $H_0$2, $H_0$3, $H_0$4, $H_0$5	28

This research used the CCSSE questions related to the five student engagement benchmarks and student retention. CCSSE provided raw student engagement benchmark scores, a range of 0-1, which were calculated from the survey questions related to each specific student engagement area. The questions pertaining to student engagement used Likert scales. Each of these survey questions are detailed further below.

1. Academic Challenge is the intellectual and creative aptitude required by the college; measured through ten survey questions (4o, 5b, 5c, 5d, 5e, 5f, 6a, 6c, 7, 9a).

4o	Frequency: Worked harder than you thought you could to meet an instructor's standards and expectations
5b	Amount of emphasis in coursework: Analyzing the basic elements of an idea, experience, or theory
5c	Amount of emphasis in coursework: Forming a new idea or understanding from various pieces of information
5d	Amount of emphasis in coursework: Making judgments about the value or soundness of information
5e	Amount of emphasis in coursework: Applying theories or concepts to practical problems in new situations
5f	Amount of emphasis in coursework: Using information you have read or heard to perform a new skill
6a	Number of assigned textbooks, manuals, books, or book-length packs of course readings
6c	Number of written papers or reports of any length
7	Rate the extent to which your examinations have challenged you to do your best work
9a	Amount of emphasis by college: Encouraging you to spend significant amounts of time studying

2. Active and Collaborative is the extent to which a student actively participates in the learning process and collaborates on learning activities with others in and outside of class; measured through seven survey questions (4a, 4b, 4f, 4g, 4h, 4i, 4q).

4a	Frequency: Asked questions in class or contributed to class discussions
4b	Frequency: Made a class presentation
4f	Frequency: Worked with other students on projects during class
4g	Frequency: Worked with other classmates outside of class to prepare class assignments
4h	Frequency: Tutored or taught other students (paid or voluntary)
4i	Frequency: Participated in a community-based project (service-learning activity) as part of a regular course

4q	Frequency: Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)

3. Student Effort is the contribution put forth by a student to perform well in school; measured through eight survey questions (4c, 4d, 4e, 6b, 10a, 12d1, 12e1, 12h1).

4c	Frequency: Prepared two or more drafts of a paper or assignment before turning it in
4d	Frequency: Worked on a paper or project that required integrating ideas or information from various sources
4e	Frequency: Come to class without completing readings or assignments
6b	Number of books read on your own (not assigned) for personal enjoyment or academic enrichment
10a	Hours spent per week: Preparing for class (studying, reading, writing, rehearsing, doing homework, etc.)
12d1	Frequency of use: Peer or other tutoring
12e1	Frequency of use: Skill labs (writing, math, etc.)
12h1	Frequency of use: Computer lab)

4. Student-Faculty Interaction considers how a student engages with their faculty members; measured through six survey questions (4j, 4k, 4l, 4m, 4n, 4p).

4j	Frequency: Used e-mail to communicate with an instructor
4k	Frequency: Discussed grades or assignments with an instructor
4l	Frequency: Talked about career plans with an instructor or advisor
4m	Frequency: Discussed ideas from your readings or classes with instructors outside of class
4n	Frequency: Received prompt feedback (written or oral) from instructors on your performance
4p	Frequency: Worked with instructors on activities other than coursework

5. Support for Learners is the student's perception of how the college supports and encourages success, as well as the frequency the student uses academic advising and career counseling; measured through seven survey questions (9b, 9c, 9d, 9e, 9f, 12a1, 12b1).

9b	Amount of emphasis by college: Providing the support you need to help you succeed at this college
9c	Amount of emphasis by college: Encouraging contact among students from different economic, social, and racial or ethnic backgrounds
9d	Amount of emphasis by college: Helping you cope with your non-academic responsibilities (work, family, etc.)
9e	Amount of emphasis by college: Providing the support you need to thrive socially
9f	Amount of emphasis by college: Providing the financial support you need to afford your education
12a1	Frequency of use: Academic advising/planning
12b1	Frequency of use: Career counseling

6. Student Retention, the dependent variable of the study, is retaining a student through continuous enrollment at the same institution in a given timeframe. CCSSE measures retention as a student who plans to re-enroll within twelve-months. Previous studies have used the CCSSE intent to re-enroll question for the dependent outcome of persistence, retention, and re-enrollment (Garza et al, 2020; Pruett, 2015; Washington, 2016). There was possible response bias, as the intent to re-enroll was self-reported. This study used the CCSSEE measure of retention, as planning to re-enroll at the same college within 12 months (question 28). The four-answer question was coded into a dichotomous outcome, yes or no. Selection of "Within the next 12 months" and "I will accomplish my goal(s) during this academic term and will not be returning" were considered as a yes for being retained. Selection of "I have no current plan to return" or "Uncertain" were

considered no for being retained. Inclusion of the student who responded that they accomplished their goal as being retained, aligns with previous research using the CCSSE response as the dependent variable for retention (Pruett, 2015; Washington, 2016). These students were retained through completion.

28. When do you plan to take classes at <u>this college</u> again?

- ⬭ I will accomplish my goal(s) during this academic term and will not be returning
- ⬭ I have no current plan to return
- ⬭ Within the next 12 months
- ⬭ Uncertain

Reliability and Validity

As this study relied on the use of existing, secondary data, there must be assurance that the data collected was accurate. It is important to evaluate secondary data for accuracy, currency, objectiveness, nature, and dependability (Malhotra & Birks, 2005). The CCSSE survey instrument underwent a validation study in 2006, and a "three-pronged collection of studies validates the relationships between student engagement and a variety of student outcomes in community colleges— including academic performance, persistence, and attainment" (Center for Community College Student Engagement, 2020b, Research behind section, para.1). Though there has been some research questioning the reliability and validity of the CCSSE benchmarks (Angell, 2009; Nora et al., 2011), the survey also has additional research supporting the reliability and validity, and continues to be the flagship survey for community colleges to evaluate the construct of student engagement in practice and research (Lancaster & Lundberg, 2019; McCarrell & Selzncik, 2020; Washington, 2017). McCormick and McClenney (2012) state:

> "Large-scale validation research conducted on the CCSSE instrument, encompassing three independent studies undertaken by researchers external to CCSSE, demonstrate that the broad measures of student engagement provided through the CCSSE survey are predictive of outcomes measuring academic persistence and success in community colleges." (p. 317).

The results from the CCSSE are available in the Community College Student Report, which research supports is a reliable and valid way to measure student engagement effectively (Marti, 2008). Validation research verified the positive relationship between the CCSSE benchmarks and student outcomes (McClenney et al., 2012). Other studies have used the secondary CCSSE data to research niche populations within community colleges, such as women with children (Brooks, 2018), part-time students (Leingang, 2017), developmental education students (Pruett, 2015), and first-generation students (Ragle, 2016). Though the researcher works at a community college that participates in the CCSSE, there is no concern for bias validity. The researcher does not work in the department that administers or coordinates the survey, and the data received for analysis did not include institution identification.

Data Analysis

The data was analyzed with descriptive statistics, chi-square tests, and binary logistic regressions. The descriptive statistics provided a general summary of the participants' characteristics: gender, enrollment type, age, and ethnicity. The inferential statistics tested if there wass statistical significance to make inferences for the adult learner population at community colleges. Chi-square test and logistic regression can determine if there is a statistically significant correlation between student engagement and student retention. Chi-square analysis is appropriate in this study because it examines the relationship between discrete

variables (Tabachnick & Fidell, 2019), such as the student engagement benchmarks and student retention. The chi-square critical value, found using a chi-square distribution table for alpha 1 degree of freedom, tested if the predication variable (retention) is related to the five independent variables (the student engagement benchmarks). Logistic regression is appropriate when the outcome variable is binary (Pituch & Stevens, 2016). The prediction of the binary outcome is presented as an odds of the outcome, or ratio. To test each hypothesis, separate logistic regressions were done for each of five the student engagement benchmarks, active and collaborative learning, student effort, academic challenge, student-faculty interaction, and student support, to determine which are predictors for student retention. Similarly, Pruett (2015) used the existing CCSSE data to test hypotheses of retention for developmental education students with binary logistic regression for retained or not retained, the dependent variable. This research used the same dichotomous dependent variable, retention.

Pituch and Stevens (2016) note four assumptions for logistic regressions: (1) correct specification, meaning the probability of the outcome is a logistic function of the independent variable(s), (2) the cases, or observations, are independent of each other, (3) the prediction variables are measured without error, and (4) a large sample size is used so there is a high enough ratio of cases to variables. Tabachnick and Fidell (2019) recognize that logistic regression has no assumption of a linear relationship between the prediction variables and has an absence of multicollinearity and outliers. SAS® was used for all statistical analyses. The SAS analytics software has the capability to run descriptive statistics, chi-square tests, and binary logistic regressions. The hypotheses were tested at a .05 alpha level using two-tailed testing. The purpose of the statistical analysis was to examine the relationship between the five CCSSE benchmarks (independent variables) and student retention (dependent variable). In Chapter 4, the

results are shared descriptively through charts and graphs, and the hypotheses were rejected or accepted. The frequency of each variable and the likelihood ratio test, mean, standard deviation, confidence intervals, and odds ratio are provided for the relationship of the variables. The logit, or natural log of odd, and the odds ratio are a major focal point in the discussion of the results, as the probabilities of student retention are shared for each student engagement benchmark.

Though persistence, continuous enrollment at any institution (NSC Research Center, 2019), is also an important measure of success for adult learners, this research focused on retention, continuous enrollment at the same institution, as the success measure. A student's reasons for attending the college were addressed in question 26 on the CCSSE, and only students who had a goal of completing a certificate or obtaining a degree were included in the study. The analysis also needs to consider confounding variables, as adult learners have additional obligations outside of their educational experience that can affect their decision to re-enroll than traditional students. Tinto (1993) updated his Model of Institutional Departure to include the role of external commitments, along with the original pre-entry factors of family background, skills and abilities, and prior schooling. The CCSSE included questions on external issues that could influence a student's decision to withdraw, such as support of family and friends, high school grade point average, and prior academic credentials.

Summary

This quantitative, correlational study used secondary data from the 2019 cohort, a three-year cohort, of the Community College Survey of Student Engagement. The relationship between the five CCSSE benchmarks (independent variables) and retention (dichotomous dependent variables) were analyzed using descriptive statistics, chi-square tests, and binary logistic regressions. In chapter 4, the results of the analysis, as shared in the figures and tables,

are used to discuss the findings and to make inferences about the general population. The logit, or natural log of odd, and the odds ratio are a major focal point in the discussion of the results. This research is significant to community colleges because it considers the best student engagement strategies to retain adult learners. Chapter 5 discusses how this research builds upon the existing retention and engagement theory to explore opportunities for community colleges to improve adult student retention, and ultimately adult student completion.

Chapter 4

Analysis and Results

The purpose of this study was to examine the relationship between student engagement and student retention of adult learners at community colleges. This chapter explains the analysis process, describes the sample characteristics, shares the descriptive statistics of the variables, and analyzes the five hypotheses. SAS® OnDemand for Academics was used for the statistical analysis. The binary logistic regressions consider each hypothesis individually, as well as the model using all the independent variables together.

Research Questions

This chapter answers the five research questions by analyzing if there is a significant relationship between the five Community College Survey of Student Engagement (CCSSE) student engagement benchmarks – active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners – and student retention through the intent to re-enroll for adult learners at community colleges. The five independent variables (CCSSE student engagement benchmarks) and one dependent variable (retention) lead to five research questions regarding adult learners at community colleges.

- R1. Is there a relationship between active and collaborative learning and student retention?
- R2. Is there a relationship between student effort and student retention?
- R3. Is there a relationship between academic challenge and student retention?
- R4. Is there a relationship between student-faculty interaction and student retention?
- R5. Is there a relationship between support for learners and student retention?

Data Collection

This study used secondary data from the 2019 three-year CCSSE cohort, which was provided and used with permission from the Center for Community College Student Engagement at the University of Texas at Austin. A 30% random sample was provided that consisted of 103,537 respondents. The sample was then narrowed to the target population of nontraditional adult learners (25 and older) who were seeking a degree or certificate credential. Finally, any respondents missing values for the independent or dependent variable were removed. The final targeted sample was 26,326 respondents (approximately 7.6% of the entire three-year cohort).

Sample Demographics and Characteristics

Descriptive statistics of the target sample of 26,326 respondents are available in Table 4. The participants were primarily under 40 (25-29, 41.6% and 30-39, 35.7%), identified as women (60.9%), and white (51.5%). Over half (51.2%) lived with dependent children, with most participants being unmarried (60.1%). The participants were primarily enrolled full-time (61.7%), and most had completed less than 30 credits (55%). The top three sources for paying for college tuition were out-of-pocket (65.9%), grants (53.4%), and student loans (35.9%). Most students spent at least 1 hour per week working for pay (73.2%), with many (36.2%) working 30 or more hours per week. Similarly, most students spent at least 1 hour per week providing care for dependents (69.7%), with many (39%) providing care 30 or more hours per week. The majority of students planned to re-enroll (64.4%) or accomplished their goal (17.9%). Only 3.7% of the students had no plan to return, and 14% were uncertain.

Table 4

CCSSE 2019 Cohort Descriptive Characteristics of Target Sample

Characteristic	Percentage
Age	
25-29	41.6%
30-39	35.7%
40-49	14.8%
50-64	7.2%
65+	0.7%
Gender Identity	
Man	38.4%
Woman	60.9%
Other	0.5%
Prefer Not to Answer	0.2%
Race/Ethnicity	
American Indian or Alaska Native	2.0%
Asian	4.7%
Black or African American	13.7%
Hispanic or Latino	13.5%
Native Hawaiian	0.1%
Pacific Islander (non-Native Hawaiian)	0.3%
White	51.5%
Other	1.9%
2 or More	6.7%
Prefer Not to Answer	4.9%
Married	
No	60.1%
Yes	39.5%
Living with Dependent Children	
No	48.5%
Yes	51.2%

First College	
Yes	58.4%
No	41.2%
Enrollment Status	
Part-Time	38.3%
Full-Time	61.7%
Credit Hours Completed	
0-29 credits	55.0%
30+ credits	44.1%

Top 3 Sources for Paying Tuition	Major Source	Minor Source
Own Income/Savings	35.6%	30.3%
Grants	42.5%	10.9%
Student Loans	28.0%	7.9%

Hours Spent Per Week Working for Pay	
None	25.9%
1-5 hours	5.9%
6-10 hours	6.7%
11-20 hours	10.8%
21-30 hours	13.6%
More than 30 hours	36.2%
Hours Spent Per Week Providing Care for Dependents Living with You	
None	29.1%
1-5 hours	10.7%
6-10 hours	7.4%
11-20 hours	6.7%
21-30 hours	5.9%
More than 30 hours	39.0%
Plan to Take Classes Again	
Accomplishing Goal this Term	17.9%
No Current Plan to Return	3.7%
Within the Next 12 Months	64.4%
Uncertain	14.0%

Note: Some percentages total < 100% due to nonresponses

Data Analysis

As previously explained in Chapter 3, for the purpose of this study, planning to take classes again and accomplishing the goal were considered YES for being retained (82.3%), whereas being uncertain and having no plan to return were considered NO for being retained (17.7%). The student engagement score was a raw benchmark score calculated and provided by the Center for Community College Student Engagement. Each benchmark score was calculated on a scale from 0-1 using multiple survey questions related to the student engagement area. Table 5 lists the study variables, labels used, and data description.

Table 5

Variables and Descriptions

Type	Name	Label Used	Data Description
Dependent	Retention	whentkagn	Retained = YES Not Retained = NO
Independent	Active & Collaborative Learning	actcoll	Raw score, 0-1
Independent	Student Effort	stueff	Raw score, 0-1
Independent	Academic Challenge	acchall	Raw score, 0-1
Independent	Student-Faculty Interaction	stufac	Raw score, 0-1
Independent	Support for Learners	support	Raw score, 0-1

First, the data was checked for assumptions of logistic regression to confirm independence between variables and an absence of multicollinearity. The descriptive statistics are for the CCSSE student engagement benchmarks are listed in Table 6. The benchmark scores for all variables had a minimum of 0 and a maximum of 1.

Table 6

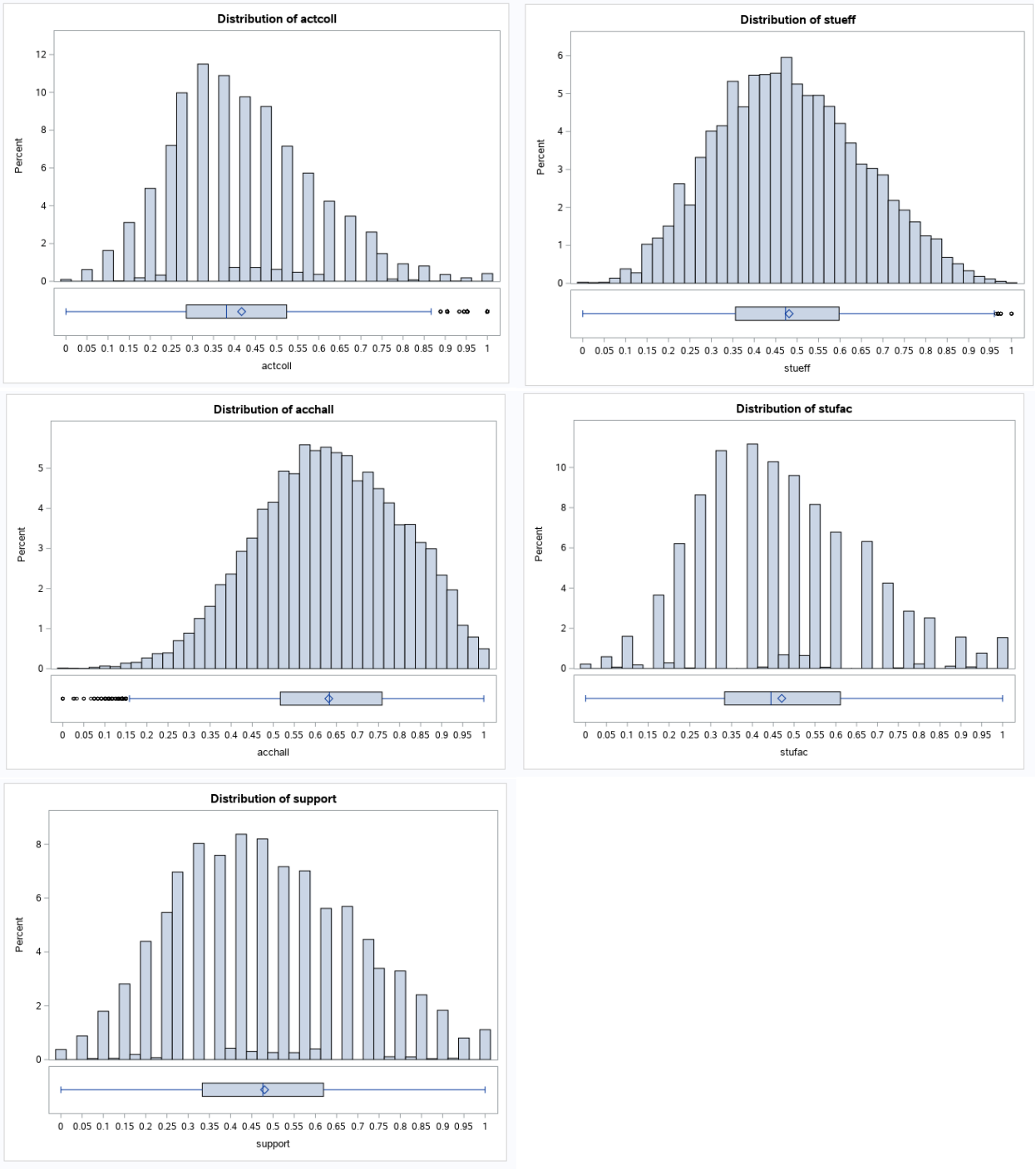
Descriptive Statistics for CCSSE Student Engagement Benchmarks

Variable	N	Min	Max	Mean	Std Dev	Variance	Skewness	Kurtosis
Active & Collaborative Learning	26326	0	1	0.417	0.172	0.030	0.499	0.211
Student Effort	26326	0	1	0.481	0.169	0.029	0.189	-0.430
Academic Challenge	26326	0	1	0.632	0.170	0.029	-0.167	-0.393
Student-Faculty Interaction	26326	0	1	0.470	0.200	0.040	0.428	-0.195
Support for Learners	26326	0	1	0.480	0.213	0.045	0.236	-0.525

Figure 3, on the next page, shows the distribution graphs for each of the CCSSE Student Engagement Benchmarks. The distribution of the independent variables has some slight skewness, with active and collaborative learning (.499) and student-faculty interaction (.428) having the most moderate skewness. However, there is no assumption of a normal distribution of independent variables in the binary logistic regression model (Fox, 2015).

Figure 3

CCSSE Student Engagement Benchmark Distribution



The student engagement benchmarks were analyzed for correlations between the variables using Pearson's Chi-Square (Table 7). The correlations were relatively low. Active and collaborative learning and student-faculty interaction had the highest correlation (.585). The correlations are also shown in a scatter plot matrix in Figure 4 on the next page. None of the correlations were above .70, so there is no evidence of multicollinearity. The data meets the assumptions for logistic regression.

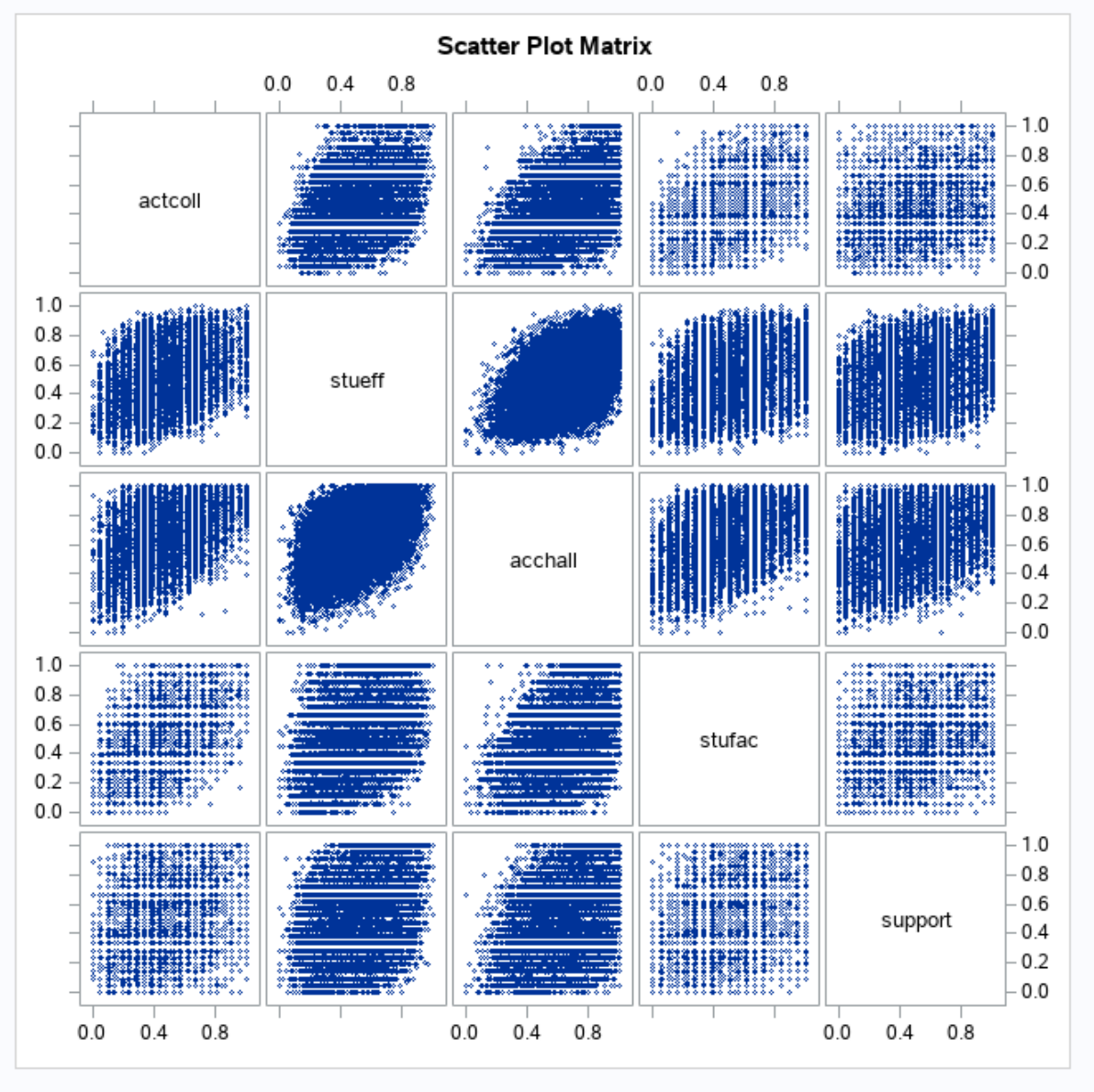
Table 7

Pearson's Chi-Square Correlations of Independent Variables

	actcoll	stueff	acchall	stufac	support
Active & Collaborative Learning	1	0.42833 <.0001	0.49166 <.0001	0.58484 <.0001	0.32074 <.0001
Student Effort	0.42833 <.0001	1	0.45532 <.0001	0.40838 <.0001	0.36352 <.0001
Academic Challenge	0.49166 <.0001	0.45532 <.0001	1	0.49348 <.0001	0.37526 <.0001
Student-Faculty Interaction	0.58484 <.0001	0.40838 <.0001	0.49348 <.0001	1	0.4303 <.0001
Support for Learners	0.32074	0.36352	0.37526	0.4303	1

Figure 4

Scatter Plot Matrix of CCSSE Student Engagement Benchmarks



Results

Chi-square tests and logistic regressions were used to determine if there was a statistically significant relationship between student engagement and student retention. The binary logistic regression default, Fisher's scoring, was used for all analysis. First, a regression model with all five Community College Survey of Student Engagement (CCSSE) benchmarks

was analyzed to consider the significance of the student engagement benchmarks together. When testing the global null hypothesis (Table 8), the p-values for testing the fit of the model (Likelihood Ratio, Score, and Wald) were all less than .05, confirming there is a statistically significant improvement to the model when adding the student engagement benchmarks. The overall model was significant. However, the percent concordant (54.0) and c-statistic (.54) were low, demonstrating a weak model with low prediction probability.

Table 8

Testing Global Null Hypothesis for All Five CCSSE Student Engagement Benchmarks

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	82.8265	5	<.0001
Score	82.7224	5	<.0001
Wald	82.4391	5	<.0001

Binary logistic regression was used for the analysis of maximum likelihood estimation (Table 9). Though the overall model was significant, when analyzing each benchmark as part of the model, only the p-values for academic challenge (<.0001) and support for learners (<.0001) were less than .05 (alpha). Therefore, the null hypothesis was only rejected for academic challenge and support for learners; there was a significant relationship with retention. The logit was .6357 for academic challenge and .4743 for support for learners. The null hypothesis, no significant relationship, was accepted for active and collaborative learning, student effort, and student-faculty interaction.

Table 9

Binary Regression Analysis of Maximum Likelihood Estimates for All Five CCSSE Student Engagement Benchmarks

	DF	Estimate (β)	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	1.0869	0.0655	275.7106	<.0001
Active & Collaborative Learning	1	-0.1334	0.1235	1.1669	0.28
Student Effort	1	-0.2048	0.1144	3.2019	0.0736
Academic Challenge	1	0.6357	0.1193	28.3734	<.0001
Student-Faculty Interaction	1	-0.0348	0.1092	0.1013	0.7503
Support for Learners	1	0.4743	0.088	29.0557	<.0001

The odds ratio estimates from the binary logistic regression for the significant variables, academic challenge and support for learners, are shown in Table 10. The odds of success in being retained was 88.8% higher for a unit increase in academic challenge and 60.7% higher for a unit increase in support for learners. One unit increased in academic challenge increased retention 1.89 times. One unit increased in support for learners increased retention 1.61 times.

Table 10

Odds Ratio Estimates for Academic Challenge and Support for Learners

		95% Wald	
Effect	Point Estimate	Confidence Limits	
Academic Challenge	1.888	1.494	2.386
Support for Learners	1.607	1.352	1.909

Characteristics

The student characteristics were also considered using Pearson's correlation coefficients and linear regressions. There were no correlations between working for pay and caring for dependents and the individual student engagement benchmark scores. The linear regressions failed the normality assumption and had r-squared of less than 1%. When looking at the student engagement benchmark means by groups, there were some noticeable differences (Table 11).

Full-time students scored higher than part-time students across all benchmarks. Students who worked more than 30 hours per week had lower student engagement scores across all benchmarks compared to those working 30 hours or less. Student who did not spend anytime caring for dependents had lower student engagement scores across all benchmarks compared to those who cared for dependents. Woman had higher student engagement scores across all benchmarks compared to men. Among ethnicities, Native Hawaiian, only 38 students, scored highest for all student engagement benchmarks, except having the second highest score for academic challenge. Black/African American had the highest score for the academic challenge benchmark.

Table 11

Student Engagement Benchmark Means by Student Characteristics

	actcoll	stueff	acchall	stufac	support	N
Enrollment Status						
Part-Time	0.375	0.443	0.593	0.430	0.452	10086
Full-Time	0.443	0.505	0.656	0.495	0.497	16240
Working for Pay						
None	0.414	0.499	0.635	0.465	0.488	6811
1-5 Hours	0.447	0.502	0.635	0.494	0.516	1547
6-10 Hours	0.437	0.496	0.635	0.492	0.511	1777
11-20 Hours	0.450	0.507	0.651	0.497	0.493	2832
21-30 Hours	0.431	0.489	0.644	0.485	0.487	3589
More than 30 hours	0.395	0.451	0.618	0.452	0.455	9524
Care for Dependents						
None	0.397	0.458	0.605	0.447	0.462	7667
1-5 Hours	0.418	0.482	0.619	0.464	0.486	2814
6-10 Hours	0.435	0.491	0.629	0.482	0.489	1957
11-20 Hours	0.431	0.496	0.632	0.476	0.490	1775
21-30 Hours	0.420	0.497	0.639	0.474	0.481	1551
More than 30 hours	0.426	0.491	0.655	0.486	0.488	10271
Gender Identity						
Man	0.405	0.457	0.601	0.451	0.469	9937
Woman	0.424	0.497	0.653	0.483	0.489	15777
Other	0.446	0.427	0.563	0.471	0.445	123
Prefer not to answer	0.428	0.478	0.601	0.464	0.413	435
Race/Ethnicity						
American Indian or Alaska Native	0.445	0.523	0.640	0.507	0.494	529
Asian	0.405	0.510	0.625	0.459	0.506	1244
Black or African American	0.434	0.523	0.660	0.502	0.536	3598
Hispanic or Latino	0.415	0.499	0.641	0.462	0.511	3564
Native Hawaiian	0.475	0.537	0.657	0.590	0.598	38
Pacific Islander (non-Native Hawaiian)	0.454	0.503	0.645	0.497	0.538	87
White	0.410	0.459	0.623	0.463	0.459	13571
Other	0.438	0.515	0.636	0.486	0.477	510
2 or more	0.427	0.481	0.641	0.475	0.478	1762
I prefer not to respond	0.416	0.490	0.615	0.458	0.426	1302

Note: Omitted Nonresponses

After considering the entire model for statistical significance, each individual benchmark was further analyzed on its own to test the research hypotheses**.** To test each hypothesis, separate binary logistic regressions were done for each of the five student engagement benchmarks, active and collaborative learning, student effort, academic challenge, student-faculty interaction, and student support. The maximum likelihood estimates and odds ratio estimates were reviewed for each hypothesis.

Hypothesis$_A$1: There is a significant relationship between active and collaborative learning and student retention of adult learners at community colleges.

The p-values for testing the fit of the model (Likelihood Ratio, Score, and Wald) were all less than .05, confirming there was a statistically significant improvement to the model when adding active and collaborative learning (Table 12). However, the percent concordant (47.7) and c-statistic (.513) were low, demonstrating a weak model with low prediction probability.

Table 12

Testing Global Null Hypothesis for Active and Collaborative Learning

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	7.3201	1	0.0068
Score	7.2845	1	0.007
Wald	7.2822	1	0.007

Table 13 shows the results of the binary logistic regression model for active and collaborative learning. The p-value for active and collaborative learning was .007, which is less than .05 (alpha). Therefore, the null hypothesis was rejected. There was a significant relationship between active and collaborative learning and retention. The active and collaborative learning logit (.2551) demonstrated that an increase from an active and collaborative learning score of 0 to 1 increased the likelihood of being retained by .255. The predicted retention for the regression model was $\hat{y}$ =1.43 + 0.255(actcoll).

Table 13

Binary Regression Analysis of Maximum Likelihood Estimates for Active and Collaborative Learning

Parameter	DF	Estimate (β)	Standard Error	Wald Chi-Square	Pr > ChiSq	Standardized Estimate
Intercept	1	1.4331	0.0422	1155.4315	<.0001	1
actcoll	1	0.2551	0.0945	7.2822	0.007	1

The odds ratio estimate from the binary logistic regression for active and collaborative learning is shown in Table 14. The odds of success in being retained was 29.1% higher for a unit increase in active and collaborative learning. One unit increased in active and collaborative learning increased retention 1.29 times.

Table 14

Odds Ratio Estimates for Active and Collaborative Learning

Effect	Point Estimate	95% Wald Confidence Limit	
actcoll	1.291	1.072	1.55

Hypothesis$_A$2: There is a significant relationship between student effort and student retention of adult learners at community colleges.

The p-values for testing the fit of the model (Likelihood Ratio, Score, and Wald) were all less than .05, confirming there was a statistically significant improvement to the model when adding student effort (Table 15). However, the percent concordant (50.7) and c-statistic (.509) were low, demonstrating a weak model with low prediction probability.

Table 15

Testing Global Null Hypothesis for Student Effort

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	5.6986	1	0.017
Score	5.689	1	0.0171
Wald	5.6876	1	0.0171

Table 16 shows the results of the binary logistic regression model for active and collaborative learning. The p-value for student effort was .017, which is less than .05 (alpha). Therefore, the null hypothesis was rejected. There was a significant relationship between student effort and retention. The student effort logit (.2286) demonstrated that an increase from a student effort score of 0 to 1 increased the likelihood of being retained by .229. The predicted retention for the regression model was $\hat{y} = 1.43 + 0.229(\text{stueff})$.

Table 16

Binary Regression Analysis of Maximum Likelihood Estimates for Student Effort

Parameter	DF	Estimate (β)	Standard Error	Wald Chi-Square	Pr > ChiSq	Standardized Estimate
Intercept	1	1.4293	0.0485	868.6485	<.0001	1
stueff	1	0.2286	0.0958	5.6876	0.0171	1

The odds ratio estimate from the binary logistic regression for student effort is shown in Table 17. The odds of success in being retained was 25.7% higher for a unit increase in student effort. One unit increased in student effort increases retention 1.26 times.

Table 17

Odds Ratio Estimates for Student Effort

Effect	Point Estimate	95% Wald Confidence Limit	
stueff	1.257	1.042	1.52

Hypothesis$_A$3: There is a significant relationship between academic challenge and student retention of adult learners at community colleges.

The p-values for testing the fit of the model (Likelihood Ratio, Score, and Wald) were all less than .05, confirming there was a statistically significant improvement to the model when adding academic challenge (Table 18). However, the percent concordant (52.6) and c-statistic (.531) were low, demonstrating a weak model with low prediction probability.

Table 18

Testing Global Null Hypothesis for Academic Challenge

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	51.2153	1	<.0001
Score	51.3744	1	<.0001
Wald	51.2649	1	<.000

Table 19 shows the results of the binary logistic regression model for academic challenge. The p-value for academic challenge is < .000, which is less than .05 (alpha). Therefore, the null hypothesis was rejected. There was a significant relationship between academic challenge and retention. The academic challenge logit (.6786) demonstrated that an increase from an academic challenge score of 0 to 1 increased the likelihood of being retained by .679. The predicted retention for the regression model was $\hat{y}$ =1.11 + 0.679(acchall).

Table 19

Binary Regression Analysis of Maximum Likelihood Estimates for Academic Challenge

Parameter	DF	Estimate (β)	Standard Error	Wald Chi-Square	Pr > ChiSq	Standardized Estimate
Intercept	1	1.1143	0.0609	334.9992	<.0001	1
acchall	1	0.6786	0.0948	51.2649	<.000	1

The odds ratio estimate from the binary logistic regression for student effort is shown in Table 20. The odds of success in being retained was 97.1% higher for a unit increase in academic challenge. One unit increased in academic challenge increased retention 1.97 times.

Table 20

Odds Ratio Estimates for Academic Challenge

Effect	Point Estimate	95% Wald Confidence Limit	
acchall	1.971	1.637	2.374

Hypothesis$_A$4: There is a significant relationship between student-faculty interaction and student retention of adult learners at community colleges.

The p-values for testing the fit of the model (Likelihood Ratio, Score, and Wald) were all less than .05, confirming there was a statistically significant improvement to the model when adding student-faculty interaction (Table 21). However, the percent concordant (48.2) and c-statistic (.518) were low, demonstrating a weak model with low prediction probability.

Table 21

Testing Global Null Hypothesis for Student-Faculty Interaction

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	14.7972	1	0.0001
Score	14.7077	1	0.0001
Wald	14.698	1	0

Table 22 shows the results of the binary logistic regression model for student-faculty interaction. The p-value for student-faculty interaction was < .0001, which is less than .05 (alpha). Therefore, the null hypothesis was rejected. There was a significant relationship between student-faculty interaction and retention. The student-faculty interaction logit (.3131) demonstrated that an increase from a student-faculty interaction score of 0 to 1 increased the likelihood of being retained by .313. The predicted retention for the regression model was $\hat{y}$ =1.39 + 0.313(stufac).

Table 22

Binary Regression Analysis of Maximum Likelihood Estimates for Student-Faculty Interaction

Parameter	DF	Estimate (β)	Standard Error	Wald Chi-Square	Pr > ChiSq	Standardized Estimate
Intercept	1	1.3928	0.0411	1149.7864	<.0001	1
stufac	1	0.3131	0.0817	14.698	0.0001	1

The odds ratio estimate from the binary logistic regression for student-faculty interaction is shown in Table 23. The odds of success in being retained was 36.8% higher for a unit increase in student-faculty interaction. One unit increased in student-faculty interaction increased retention 1.37 times.

Table 23

Odds Ratio Estimates for Student-Faculty Interaction

Effect	Point Estimate	95% Wald Confidence Limit	
stufac	1.368	1.17	1.61

Hypothesis$_A$5: There is a significant relationship between support for learners and student retention of adult learners at community colleges.

The p-values for testing the fit of the model (Likelihood Ratio, Score, and Wald) were all less than .05, confirming there was a statistically significant improvement to the model when adding support for learners (Table 24). However, the percent concordant (50.7) and c-statistic (.534) were low, demonstrating a weak model with low prediction probability.

Table 24

Testing Global Null Hypothesis for Support for Learners

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	53.4826	1	<.0001
Score	53.1012	1	<.0001
Wald	52.9778	1	<.0001

Table 25 shows the results of the binary logistic regression model for student-faculty interaction. The p-value for support for learners was < .0001, which is less than .05 (alpha). Therefore, the null hypothesis was rejected. There was a significant relationship between support for learners and retention. The support for learners logit (.5583) demonstrated that an increase from a support for learners score of 0 to 1 increased the likelihood of being retained by .558. The predicted retention for the regression model was $\hat{y}$ =1.28 + 0.558(support).

Table 25

Binary Regression Analysis of Maximum Likelihood Estimates for Support for Learners

Parameter	DF	Estimate (β)	Standard Error	Wald Chi-Square	Pr > ChiSq	Standardized Estimate
Intercept	1	1.2753	0.0391	1065.0393	<.0001	1
support	1	0.5583	0.0767	52.9778	<.0001	1

The odds ratio estimate from the binary logistic regression for support for learners is shown in Table 26. The odds of success in being retained was 74.8% higher for a unit increase in support for learners. One unit increased in support for learners increased retention 1.75 times.

Table 26

Odds Ratio Estimates for Support for Learners

Effect	Point Estimate	95% Wald Confidence Limit	
support	1.748	1.504	2.031

Summary

The relationships between the five CCSSE benchmarks (independent variables) and retention (dichotomous dependent variables) were analyzed using descriptive statistics, chi-square tests, and binary logistic regressions. The target sample demographics were described in Table 3, showing that the respondents were primarily woman (60.9%), white (51.5%), working for pay (73.2%), caring for dependents (69.7%), and have plans to take classes again or accomplished their goal - retained (82.3%). Pearson's Chi-Square analysis showed low correlations between the independent variables indicating no evidence of multicollinearity.

Separate logistic regressions were done to test each hypothesis, with an analysis including all of the student engagement benchmarks in one model. The models were weak for

predicting probability, but all models were statistically significant. All five null hypotheses were rejected (Table 27). There was a statistically significant improvement to the models when adding in the independent variables of student engagement: active and collaborative learning, student effort, academic challenge, student-faculty interaction. Individually, all five student engagement benchmarks - active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners - had a significant positive impact on student retention of adult learners at community colleges. As a combined model, only academic challenge and support for learners had a statistically significant impact on student retention of adult learners at community colleges.

Table 27

Hypotheses Results

Hypothesis	Results
$H_0$1. There is no significant relationship between active and collaborative learning and student retention of adult learners at community colleges.	Rejected. *p value* = 0.007 β = 0.2551 *OR* = 1.291 (95% CI: 1.072, 1.55)
$H_0$2. There is no significant relationship between student effort and student retention of adult learners at community colleges.	Rejected. *p value* = 0.0171 β = 0.2286 *OR* = 1.257 (95% CI: 1.042, 1.52)
$H_0$3. There is no significant relationship between academic challenge and student retention of adult learners at community colleges.	Rejected. *p value* = <0.000 β = 0.6786 *OR* = 1.971 (95% CI: 1.637, 2.374)
$H_0$4. There is no significant relationship between student-faculty interaction and student retention of adult learners at community colleges.	Rejected. *p value* = 0.0001 β = 0.3131 *OR* = 1.368 (95% CI: 1.17, 1.61)
$H_0$5. There is no significant relationship between support for learners and student	Rejected. *p value* = <0.0001 β = 0.5583

retention of adult learners at community colleges.	*OR* = 1.748 (95% CI: 1.504, 2.031)

Improving retention rates of adult learners at community colleges is vital to narrowing the completion achievement gap between adult and traditional students. This chapter focused on analysis of the relationship between student engagement and student retention of adult learners at community colleges. The analysis confirmed there was a statistically significant improvement to student retention for student engagement benchmark. Chapter 5 will further discuss the findings from the analysis, how this research builds upon existing retention and engagement theory, and the limitations of the study. It will also provide recommendations for future researchers, and provide current practitioners at community colleges considerations to improve adult student retention.

Chapter 5

Conclusions and Recommendations

Over 70 years of research has established that student engagement is critical to a college student's success, including their academic achievement, retention, persistence, and completion. Astin's (1984) Student Involvement Theory addresses that a student's energy and effort through a continuum of activities and timing will positively affect student retention and persistence. However, the foundation of student engagement research was from four-year schools with traditional students.

Community colleges serve a significant population of nontraditional students, including nontraditional adult learners. At community colleges, adult learners comprise 32% of the population (U.S. Census Bureau, 2019b), and the average age of students is 28 years old (American Association of Community Colleges, 2020). Adult learners at community colleges have lower retention (National Student Clearinghouse Research Center, 2019) and completion rates than their traditionally aged counterparts (Shapiro, Dundar, et al., 2019).

This research tested if the student engagement theories developed for traditional students are relevant predictors for student retention of adult learners at community colleges. The CCSSE student engagement benchmarks were developed from empirical research on best practices of student engagement by experts in the field (Center for Community College Student Engagement, 2020b), aligning with Astin's (1984) postulate that institutions are responsible for offering engagement opportunities that have the capacity to increase active student involvement. Does the level of involvement in the researched best practices of student engagement, as measured by the CCSSE student engagement benchmarks, correlate with an adult learner's decision to continue attending a community college?

Research Questions/Hypotheses

This research explored if student engagement increases the likelihood of student retention of adult learners. It examined the research question, is there a significant relationship between the five CCSSE student engagement benchmarks (independent variables) and retention (dependent variable) of adult learners at community colleges? To address the research question, five hypotheses were tested with binary logistic regression to analyze the five independent variables - active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners - with the one dependent variable, retention. It was hypothesized that each of the five CCSSE student engagement benchmarks would positively affect student retention. Each research question directed toward adult learners at community colleges, with the null hypothesis, is listed below:

- R1. Is there a relationship between active and collaborative learning and student retention?
    - $H_0$1. There is no significant relationship between active and collaborative learning and student retention of adult learners at community colleges.
- R2. Is there a relationship between student effort and student retention?
    - $H_0$2. There is no significant relationship between student effort and student retention of adult learners at community colleges.
- R3. Is there a relationship between academic challenge and student retention?
    - $H_0$3. There is no significant relationship between academic challenge and student retention of adult learners at community colleges.
- R4. Is there a relationship between student-faculty interaction and student retention?

- $H_0$4. There is no significant relationship between student-faculty interaction and student retention of adult learners at community colleges.

- R5. Is there a relationship between support for learners and student retention?
    - $H_0$5. There is no significant relationship between support for learners and student retention of adult learners at community colleges.

Discussion of Findings

Before analyzing each individual hypothesis, the overall model combining the five CCSSE benchmarks was reviewed. The model was statistically significant, confirming that adding the student engagement benchmarks improved the prediction of student retention. However, only two of the benchmarks were statistically significant in predicting retention: academic challenge and support for learners. Adult learners who are presented with an academic challenge and feel supported by the college have the greatest likelihood of student retention. Sanford's (1967) theory of challenge and support addresses that students need to have a balance of challenge and support. "The amount of challenge a person a can handle is contingent on the amount of support available" (Komives & Woodard, 2003).

When the student engagement benchmarks were analyzed individually, each of the benchmarks was statistically significant. Many factors could have contributed to the models having different results. It is possible that some effects on retention from the individual variables were less noticeable when considered with all the benchmarks, though each variable was significant on its own. There was some moderate correlation between academic challenge and the non-significant benchmarks: active and collaborative learning (.49), student effort (.46), and student-faculty interaction (.49). It is also possible that the difference in the combined model and individual models was due to weak models of predictability. Active and collaborative learning,

student effort, and student-faculty interaction may also have been less noticeable due to some of the external influences. A large percentage of students were caring for dependents more than 30 hours per week (39%) or working for pay more than 30 hours per week (36.2%). Those outside commitments could also influence the significance of each benchmark within the model with all five benchmarks, when some of the more minor relationships were no longer significant. Having the right balance of academic challenge and support for learners can help these adult students continue developing and persisting while managing their additional external responsibilities.

The findings of the combined model and individual models suggest that student engagement matters for adult learners at community colleges. Binary logistic regression was conducted to test each hypothesis, as shown in chapter 4 (Table 27), considering the p-value, beta coefficient, and odds ratio. This section is organized by research question to compare the findings of each hypothesis, as analyzed in the individual models, to the existing literature on adult learners, student engagement, and retention.

Research Question 1: Is there a relationship between active and collaborative learning and student retention of adult learners at community colleges?

The alternative hypothesis was that there is a significant relationship between active and collaborative learning and student retention of adult learners at community colleges. The null hypothesis was rejected, confirming the alternative hypothesis that there was a significant relationship between active and collaborative learning and student retention. The odds of retention were 29.1% higher for a unit increase in active and collaborative learning. The active and collaborative learning benchmark focuses on students collaborating with others and participating in the learning process through projects, discussions, and teaching (Center for Community College Student Engagement, 2020c). This finding supports previous research that

retention increases when students are engaged in their learning (Owolabi, 2018). Astin (1984) identified that active student involvement significantly affected college satisfaction, learning, and retention. This research supports the relationship between active and engaged learning and student retention holds true for adult learners at community colleges.

This finding of a significant relationship between active and collaborative learning and student retention of adult learners at community college also aligns with Chickering and Gamson's (1987) third principal for good practice – using active learning techniques. There is an increase in student involvement and knowledge when students use practical application in learning and collaboratively working with others (Chickering & Gamson, 1987). MacDonald (2018) stated that adults learn best when actively involved with learning through participating in application-based learning, sharing their knowledge, and using life experiences with the course material. The CCSSE active and collaborative learning benchmark highlights these best practices of active and application-based learning techniques. The findings from this study suggested that retention of adult learners at community colleges increased through active involvement of these best practices.

Research Question 2: Is there a relationship between student effort and student retention of adult learners at community colleges?

The alternative hypothesis was that there is a significant relationship between student effort and student retention of adult learners at community colleges. The null hypothesis was rejected, confirming the alternative hypothesis that there was a significant relationship between student effort and student retention. The student effort benchmark emphasizes time on task and student behavior (Center for Community College Student Engagement, 2020c). The odds of retention were 25.7% higher for a unit increase in student effort. This finding supports previous

research that increased time on task leads to better student outcomes (Pace, 1984). Students with a greater quality of effort were more likely to be retained (Pace, 1984). The increased effort in student engagement leads to a more significant commitment to the learning institution (Owolabi, 2018). This research supports the relationship between student effort and student retention remains true for adult learners at community colleges.

This finding of a significant relationship between student effort and retention of adult learners at community colleges aligns with Astin's (1984) postulate of investment of physical and psychological energy. However, students have limited resources of time and energy (Astin, 1984). Adult learners have the extra challenge of balancing their school responsibilities with external work obligations and family commitments (MacDonald, 2018). Institutions are responsible for providing engagement opportunities, but students must devote the time and effort to those opportunities (Rabourn et al., 2018). Community college students who struggle with time management, work conflicts, and balancing family obligations (Porter & Umbach, 2019) may not have the extra time to devote effort to their institution. The findings from this study suggested an increase in student retention when adult learners invested time and energy toward their learning.

Research Question 3: Is there a relationship between academic challenge and student retention of adult learners at community colleges?

The alternative hypothesis was that there is a significant relationship between academic challenge and student retention of adult learners at community colleges. The null hypothesis was rejected, confirming the alternative hypothesis that there was a significant relationship between academic challenge and student retention. The odds of retention were 97.1% higher for a unit increase in academic challenge. The academic challenge benchmark focuses on how students are

challenged intellectually and creatively by the institution (Center for Community College Student Engagement, 2020c). This finding supports previous research that retention increases when students perceive college academics to be of high value and quality (Owolabi, 2018). The quality of curriculum and instruction is vital to learning (Tyler, 1949). Astin's (1984) fourth postulate recognized that learning and development are proportional to the quality and quantity of involvement. Students who are challenged academically put forth more effort to be successful (Kuh, 2008). This research supports the relationship between academic challenge and student retention holds true for adult learners at community colleges.

This finding of a significant relationship between academic challenge and retention of adult learners at community colleges aligns with the findings of Pace (1984) and Chickering and Gamson (1987). Students need to be challenged for growth and personal development (Pace, 1984), and are motivated to work hard and devote effort to their learning when given high expectations (Chickering & Gamson, 1987). Students are more likely to succeed when held to high expectations (Demetriou & Schmitz-Sciborski, 2011). MacDonald (2018) also noted that adults benefit from clear expectations and that a positive learning experience helped build a love for learning, resulting in student retention. The findings from this study suggested that retention of adult learners at community colleges increased when students felt challenged in their academic work.

Research Question 4: Is there a relationship between student-faculty interaction and student retention of adult learners at community colleges?

The alternative hypothesis was that there is a significant relationship between student-faculty interaction and student retention of adult learners at community colleges. The null hypothesis was rejected, confirming the alternative hypothesis that there was a significant

relationship between student-faculty interaction and student retention. The odds of retention were 36.8% higher for a unit increase in student-faculty interaction. The student-faculty interaction benchmark focuses on how students engage with their faculty members beyond classroom instruction (Center for Community College Student Engagement, 2020c). This finding supports Chickering and Gamson's (1987) seven principles for good practice to encourage connections between students and faculty, give prompt feedback, and respect diverse talents and ways of learning. Chickering and Gamson (1987) stated that student-faculty interaction is critical to a student's commitment. Astin (1984) also noted that for student involvement, faculty interaction led to the greatest institutional satisfaction. This research supports the relationship between student-faculty interaction and student retention remains true for adult learners at community colleges.

This finding of a significant relationship between student-faculty interaction and retention of adult learners at community colleges aligns with Chen's (2017) finding that student-faculty interactions positively affected all students, regardless of age. Arias Miller (2017) found that nontraditional students valued their faculty, but were disconnected and lacked a sense of belonging. The additional obligations of adult students can result in disconnectedness due to less engagement with faculty and peers (Rabourn et al., 2018). The findings of this study suggested an increase in student retention when adult learners have more interactions with their faculty.

Research Question 5: Is there a relationship between support for learners and student retention of adult learners at community colleges?

The alternative hypothesis was that there is a significant relationship between support for learners and student retention of adult learners at community colleges. The null hypothesis was rejected, confirming the alternative hypothesis that there was a significant relationship between

support for learners and student retention. The odds of retention were 74.8% higher for a unit increase in support for learners. The support for learners benchmark focuses on the student's perception of how the college supports and encourages success through academic and nonacademic services (Center for Community College Student Engagement, 2020c). This finding supports previous research that the entire institution should be working toward a common goal of student involvement (Astin, 1984). Colleges need to be student-ready, instead of expecting student's to be college-ready (Prystowsky et al., 2017). This research supports the relationship between support for learners and student retention holds true for adult learners at community colleges.

This finding of a significant relationship between support for learners and retention of adult learners at community colleges aligns with Milliea et al.'s (2018) findings that investing in high-impact areas, such as academic instruction, faculty, financial aid, libraries, student life, and student support areas can increase retention. The perceived supportive environment increases student engagement and retention (Rabourn et al., 2018). Michalski et al. (2017) stated that colleges should commit to supporting students with a holistic approach that encompasses academic, social, emotional, and financial support. Enos (2019) recommended creating an intensive support system before students even start and fully integrating adult learners into the college. The findings of this study suggested that retention of adult learners at community colleges increased when students were holistically supported, academically and nonacademically, to succeed at the college.

Limitations

A main limitation of the study was that the models were weak for predictability. Each binary logistic regression model had a low concordance and c-statistic. Concordant statistics less

than .70 represent weak models. The combined model had a c-statistic of .54, with the individually run models ranging from .509 (student effort) to .534 (support for learners). Though the models were statistically significant (likelihood ratio, score, and Wald), they demonstrated low prediction probability. The weakness of the models should be kept in mind when considering the hypotheses findings and recommendations for practice.

Retention was measured by a student's intent to re-enroll, self-reported in the CCSSE survey, question 28 (Appendix B). As the intent to re-enroll was self-reported, there was possible response bias for retention. Based on student responses, the retention rate would be 82.3%. The National Student Clearinghouse Research Center (2019) data shows that adult retention is between 50.6% and 52.7%. Though many students plan to re-enroll, true re-enrollment may not match those plans. Previous research affirms that adult students have complicated lives with more barriers to completing their education than their traditionally-aged counterparts, such as work responsibilities, family obligations, and financial challenges (Enos, 2019; Glowacki-Dudka, 2019; Hope, 2018; MacDonald, 2018; Rabourn et al., 2018; Wyatt, 2011). Each of these external commitments could cause unexpected life complications that would disrupt a student's plans to continue their education.

Though the CCSSE sample population includes 588 institutions of various sizes from urban, suburban, and rural locations, it was a random sample of in-person classes, so adult students who take only online courses are not included. However, 45% of the sample population took at least one online or hybrid class the term of completing the survey. These findings are not generalizable to adult learners who are taking all online courses at a community college.

Recommendations for Leaders and Practitioners

This study aimed to confirm if foundational retention theories were applicable to adult learners at community colleges. The findings support, yes, the five CCSSE student engagement benchmarks are positively correlated with retention. When tested individually, each unit increase in the CCSSE benchmarks increased the retention odds of success: active and collaborative learning (29.1%), student effort (25.7%), academic challenge (97.1%), student-faculty interaction (36.8%), and support for learners (74.8%). As the combined model, only academic challenge and support for learners were statistically significant, increasing the odds of success of being retained by 88.8% per unit increase academic challenge and 60.47% for support for learners. This supports previous research that various student engagement opportunities positively affect student outcomes regardless of age (Budd, 2017; Chen, 2017; Cardenas, 2018). Community colleges should consider all of these best practices when working toward increasing the retention of adult learners. However, with limited resources and a need to prioritize efforts, increased academic challenge and support for learners have the most significant relationship with student retention. The study findings demonstrate that there is a significantly higher odds of retention for academic challenge (97.1% higher) and support for learners (74.8% higher), therefore increasing involvement in these areas should be considered the most critical.

This concept of challenge and support aligns with research on individual development, coaching, and mentoring. Campbell, Dortch, and Burt (2018) stated, rigorous learning "sufficiently challenges and encourages all students to achieve their full potential" (p. 12). When academic rigor supports learning and faculty provide clear expectations, support, and validation, students have improved learning and success (Campbell, Dortch, & Burt, 2018). Challenge and support, introduced by Sanford (1967) and further developed by Daloz (1986), produce optimal

performance (Day & Blakey, 2012). Challenge and support also apply beyond the higher education field in organizational development and human resources, and are used for employee development and mentoring. Individual growth occurs with high challenge and high support (Boerema, 2011). Through genuine concern, respect, and active listening, support leads to strong relationships, and through accountability, providing feedback, risk-taking, and challenging assumptions, challenge leads to strong results (Day & Blakey, 2012).

Adult learners' engagement in their education through learning and connections is linked with increased retention. Kuh (2008) noted that though high-impact practices benefit adult learners, these students are less likely to be engaged. Community colleges need to remember the complexities and increased barriers in adult learners' lives while inspiring these students to be actively involved in their education. Employees at all levels of the institution can be respectful and empathetic toward the complex lives of adult learners, while fostering the student engagement behaviors that positively affects student retention.

Student engagement is meaningful for adult learners at community colleges. The correlation between student engagement and student retention emphasizes the importance of adult learners' active involvement and academic and social integration. This is important because even though adult learners have complex lives with external obligations, colleges need to establish ways to integrate student engagement into their educational experience. Community colleges cannot rely on the fact that adult students are motivated to succeed academically with career and life goals. Higher levels of engagement with each benchmark correlated with a higher likelihood of retention.

Increasing an adult learners' student effort, active and collaborative learning, student-faculty interaction, and most importantly, academic challenge and support for learners supports

an overall better educational experience and increased student retention. Community colleges would benefit from the concept of inescapable engagement (McClenney and Greene, 2005) and being student-ready (Prystowsky et al., 2017). For each student engagement benchmark, community colleges need to identify ways to encourage active participation. There is an opportunity for community colleges to embed the best practices of the student engagement benchmarks in student onboarding, within the classroom and curriculum, and through the institution's culture.

Academic Challenge

This study found that odds of retention were 97.1% higher for an increased unit in academic challenge. This high correlation demonstrates the importance of adult learners feeling challenged within their academics during their educational pursuits at a community college. Therefore, it is essential for community colleges to maintain high expectations and standards in coursework. Community colleges should provide intellectually and creatively challenging work for adult learners. Community colleges may want to consider offering professional development opportunities on how to develop an academically challenging learning environment. Faculty should have high standards and provide clear expectations to encourage a student's best work. High-quality learning opportunities should involve complex tasks that allow students to analyze concepts, form ideas, apply theory, and make judgments. Feeling that the coursework is academically challenging and receiving a high-quality education lead to personal growth and increased effort. Therefore, it is not surprising that student retention increases with academic challenge.

Support for Learners

Community colleges should establish a culture of student support throughout the entire institution. This study found that an increased unit in support for learners correlated with a 74.8% higher likelihood of student retention. The high correlation emphasizes the need for adult learners to feel supported in all aspects of their educational and personal development at a community college. Taking a holistic approach to consider all parts of student success can increase students' perceptions of support from the college. The academic and nonacademic support includes helping students with traditional services areas such as academic advising, career counseling, and financial aid, as well as socially and inclusively to students of all backgrounds. Offering genuine support and understanding of adult learners' complex lives and developing college connections are correlated with increased student retention. Faculty, staff, and administration should all recognize their role in building a supportive environment for students. Encouraging students to be engaged, connecting students to resources, and helping students navigate the academic and nonacademic challenges can help build the confidence and motivation students need to achieve goals.

Active and Collaborative Learning

Community colleges should consider curriculum review and course evaluations to ensure that classes are taught with active and collaborative learning opportunities. When well-designed, the collaborative process of working with others benefits adults in the classroom and helps provide transferable skills that adults desire outside of the classroom. Community colleges should encourage active involvement and collaboration in the classroom through course discussions, group projects, and presentations. Adult learners need to be provided the opportunity to expand their learning outside of the classroom by participating in learning communities, service-learning, or sharing their course knowledge with others through

discussions and tutoring. Active involvement and connection with peers in learning activities are correlated with increased student retention.

Student Effort

Community colleges should motivate adult learners to put forth the necessary energy to demonstrate successful student behavior. Adult learners are responsible for their behaviors and must regularly apply themselves for student success, but community colleges should encourage and support students to adopt those behaviors. Adult learners have competing demands on their time, so community colleges need to be upfront in college expectations for student success and stress the significance of devoting time to their educational goals. Adult students may need additional support to navigate their complex lives and manage their time so that they can allocate the necessary "time on task" for school. Students who devote more time to reading, writing, studying, doing homework, and using tutoring and lab services are more likely to be retained.

Student-Faculty Interaction

Community college leaders need to recognize and highlight the faculty's critical role in student success and retention. Faculty must understand how their direct interactions with students impact the student's overall success at the community college. Faculty at community colleges should frequently communicate with students and encourage students to engage with them within and beyond the classroom. Faculty should interact with students in the classroom, provide prompt feedback, and discuss grades and assignments. Faculty should be available for adult learners before or after class, during office hours, and through email or other digital communication. These interactions should go beyond the course assignments to strengthen a personal connection with the students on general academic progress and career plans. By

understanding that adult learners have complex lives and serving as a role model and mentor to support their learning, faculty can help increase student retention.

Recommendations for Future Research

This study confirmed that there is a positive relationship between student engagement of adult learners at community colleges and student retention, but further research is needed. Though statistically significant, the models were weak. Similar research should be conducted to identify if there are stronger models of predictability. A stronger predictive model would offer more insight into how to positively affect student retention of adult learners.

A similar study can be replicated with different cohorts, or using the same cohort and including or excluding different student retention responses (e.g., excluding students who respond completing or uncertain). Additionally, COVID-19 has dramatically affected the lives of adult learners and the operations of community colleges. Duplicating this study when the 2022 CCSSE cohort becomes available (responses for 2020, 2021, and 2022) will highlight how COVID-19 has affected student engagement and student retention. Though most community college students take courses in person (U.S. Department of Education, 2019), COVID-19 shifted many courses online. Future research could consider student engagement of adult learners at community colleges in online courses.

This study measured student retention through self-reported responses of student's intent to re-enroll. There was inconsistency in the CCSSE's student response retention rate (82.3%) and the National Student Clearinghouse Research Center (2019) retention rate for adult learners (ranging from 50.6% to 52.7%). With the expectation of actual retention to be lower, it would be beneficial for future research to use institution retention data to measure the dependent variable.

This study found positive relationships between each student engagement benchmark and retention of adult learners at community colleges. However, an overall raw score was used for each benchmark. Further research is needed to analyze which components of the benchmarks have the greatest impact on student retention. Future research could consider the individual survey components that compile an individual raw CCSSE student engagement benchmark – active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners. This would allow for a more in-depth analysis of the best practices of the individual student engagement benchmark for community colleges to implement to positively affect the retention of adult learners. With academic challenge and support for learners having the most significant relationship with student retention for adult learners at community colleges, additional research is needed to what aspects of the benchmarks are most significant to the adult student's likelihood of being retained.

Lastly, the research scope could be narrowed by adult learner characteristics. For example, the adult learners who worked for pay (73.2%), cared for dependents (69.7%), or paid out of pocket for tuition and fees (65.9%). Each of these subsets of the adult learner population could be considered for future research.

Summary

The purpose of this study was to test if student engagement predicted the student retention of adult learners at community college. Adult learners make up approximately one-third of the community college population, but colleges continue to struggle to retain them. Was there a significant relationship between the five CCSSE student engagement benchmarks (independent variables) and retention of adult learners at community colleges? When tested individually, each of the CCSSE benchmarks - active and collaborative learning, student effort,

academic challenge, student-faculty interaction, and support for learners - increased the likelihood of student retention. Student engagement is valuable for adult learners at community colleges.

The five CCSSE student engagement benchmarks were predictors of student retention of adult learners at community colleges. This confirms that student engagement strategies support the retention of adult learners at community colleges. These findings are significant to community college leaders who are working to fulfill their missions by increasing adult student retention and completion. Community colleges should develop and adapt their student engagement opportunities to support adult learners. Though student engagement is beneficial for adult learners, they are less likely to be actively engaged because of their external obligations. Due to the complex lives of adult learners, student engagement opportunities need additional advocacy and promotion.

Students are responsible for actively participating, but community colleges should develop opportunities that allow and encourage adult learner participation. Community colleges need to consider how to offer effective engagement opportunities and embed best practices so that adult learners' engagement is integrated and ingrained as part of their college experience. Implementing the best practices of student engagement is the first step for community colleges, but must be complemented with initiatives to increase adult students' participation. Future research should consider which engagement activities are most beneficial for adult learners and how to motivate adult students to participate in the engagement opportunities offered by community colleges.

References

American Association of Community Colleges. (2020). AACC fast facts 2020. https://www.aacc.nche.edu/wp-content/uploads/2020/03/AACC_Fast_Facts_2020_Final.pdf

American Psychological Association. (2017). Education and socioeconomic status. Retrieved from: http://www.apa.org/pi/ses/resources/publications/education.aspx

Angell, L. (2009). Construct validity of the Community College Survey of Student Engagement (CCSSE), *Community College Journal of Research and Practice*, 33:7, 564-570, https://doi.org/10.1080/10668920801901217

Arias Miller, T. (2017). *Exploring the non-traditional student experience at community college: A case study* (Order No. 10633921). Available from ProQuest Dissertations & Theses Global. (1989149470).

Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Development 25*(4), 297–308.

Astin, A. W. (1999). *Student involvement: A developmental theory for higher education.*

Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*(4), 485–540. https://doi.org/10.3102/00346543055004485

Bettinger, E. P., Boatman, A., & Long, B. T. (2013). Student supports: Developmental education and other academic programs. *The Future of Children*, 93-115. https://doi.org/10.1353/foc.2013.0003

Boerema, A. J. (2011). Challenging and Supporting New Leader Development. *Educational Management Administration & Leadership, 39*(5), 554–567. https://doi.org/10.1177/1741143211408451

Brooks, D. Y. (2018). *A quantitative study of the perceptions of student engagement among women with children attending community college* (Order No. 10750094). Available from ProQuest Dissertations & Theses Global. (2081928073).

Budd, L. B. (2017). *The differences in first-year retention rates for adult and traditional community college students enrolled and not enrolled in learning communities.* ProQuest LLC.

Campbell, C. M., Dortch, D., & Burt, B. A. (2018). Reframing Rigor: A Modern Look at Challenge and Support in Higher Education. *New Directions for Higher Education, 2018*(181), 11–23. https://doi-org.links.franklin.edu/10.1002/he.20267

Cardenas, J. N. (2018). *Factors leading to student completion: A study of successful post-traditional students* (Order No. 10814371). Available from ProQuest Dissertations & Theses Global. (2054017139).

Caruth, G. D. (2018). Student engagement, retention, and motivation: Assessing academic success in today's college students. *Participatory Educational Research, 5*(1), 17-30. https://doi.org/10.17275/per.18.4.5.1

Cataudella, V. B. (2018). *Nontraditional Students' Engagement at Community Colleges: Influences and Links to Academic Performance* (Order No. 10816447). Available from ProQuest Dissertations & Theses Global. (2042579771).

Center for Community College Student Engagement. (2012). A matter of degrees: Promising practices for community college student success: A first look. Austin, TX: University of

Texas at Austin, Community College Leadership Program. http://www.ccsse.org/docs/Matter_of_Degrees.pdf

Center for Community College Student Engagement. (2020a). *About the Community College Survey of Student Engagement (CCSSE)*. https://www.ccsse.org/aboutccsse/aboutccsse.cfm

Center for Community College Student Engagement. (2020b). *About the survey.* https://www.ccsse.org/aboutsurvey/aboutsurvey.cfm

Center for Community College Student Engagement. (2020c). *CCSSE Annotated Bibliography.* https://www.ccsse.org/aboutsurvey/biblio

Center for Community College Student Engagement. (2020d). *Member colleges.* https://www.ccsse.org/aboutccsse/colleges.cfm

Center for Community College Student Engagement.(2020e). *Overview*. https://www.ccsse.org/survey/reports/2019/overview.cfm

Center for Community College Student Engagement. (2020f). *Sampling and administration.* https://www.ccsse.org/aboutsurvey/sampling.cfm

Center for Community College Student Engagement. (2020g). *Understanding survey results.* https://www.ccsse.org/survey/reports/2020/understanding.cfm

Center for Community College Student Engagement. (2020h). *Why focus on student engagement?* https://cccse.org/why-focus-student-engagement

Chen, W. L. (2017). Understanding the student success gap: Building models for underrepresented racial minority and non-traditional students' college experience in community college. (Order No. 10262399). Available from ProQuest Dissertations & Theses Global. (1935978724). https://doi.org/10.17077/etd.ocb533pc

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE bulletin*, *3*, 7. https://doi.org/10.1016/0307-4412(89)90094-0

Cosgrove, J. J., & McDoniel, L. J. (2009). Community college strategies: Creating a culture of action using mission-based assessment. *Assessment Update*, *21*(4), 11-14.

Creswell (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. (4th ed.). Pearson: Boston, MA.

Crews, T. B., Wilkinson, K., & Neill, J. K. (2015). Principles for good practice in undergraduate education: Effective online course design to assist students' success. *Journal of Online Learning and Teaching*, 11(1), 87-103.

Crisp, G., & Mina, L. (2012). The community college: Retention trends and issues. In A. Seidman (Ed.) *College Student Retention: Formula for Student Success, 2nd Edition* (pp. 147-166). Lanham,Maryland: Rowman & Littlefield Publishers, Inc

Crisp, G. (2016). Promising practices and programs: Current efforts and future directions. *New Directions for Community Colleges*, *2016*(175), 103-110. https://doi.org/10.1002/cc.20216

Cutler White, C. (2019). Higher education governance and the attainment agenda: Arrangements with benefits for community colleges? *Community College Review, 47*(3), 219–241. https://doi.org/10.1177/0091552119852158

Dao, S. T., & Velazquez, M. A. M. (2013). Exploring success: Challenges and opportunities of traditionally disadvantaged college students. *We Build Our Bridges Together: 2013 Monograph Series*, *240*, 240-273.

Data used with permission from the Center for Community College Student Engagement, The Community College Survey of Student Engagement [2019 Cohort], The University of Texas at Austin.

Davis, A., Dent, E., & Wharff, D. (2015). A conceptual model of systems thinking leadership in community colleges. *Systemic Practice & Action Research*, 28(4), 333-353. https://doi.org/10.1007/s11213-015-9340-9

Day, I., & Blakey, J. (2012). *Challenging coaching: Going beyond traditional coaching to face the FACTS.* Hachette UK.

Demetriou, C., & Schmitz-Sciborski, A. (2011, November). Integration, motivation, strengths and optimism: Retention theories past, present and future. In *Proceedings of the 7th National Symposium on student retention* (Vol. 201).

Dreon, O. (2013). Applying the seven principles for good practice to the online classroom. *Faculty Focus.* https://www.facultyfocus.com/articles/online-education/applying-the-seven-principles-for-good-practice-to-the-online-classroom/

EducationUSA (2018). *What is a U.S. undergraduate student?* https://educationusa.state.gov/your-5-steps-us-study/research-your-options/undergraduate/what-us-undergraduate-student

Elton, L. (2010). Complexity theory - an approach to assessment that can enhance learning and - more generally - could transform university management. *Assessment & Evaluation in Higher Education*, 35(5), 637-646. https://doi.org/10.1080/02602931003782533

Enos, G. (2019), Nontraditional students flourish when fully integrated into campus. Recruiting & Retaining Adult Learners, 22: 12-12. https://doi.org/10.1002/nsr.30529

Flynn, D. (2014). Baccalaureate attainment of college students at 4-year institutions as a function of student engagement behaviors: Social and academic student engagement behaviors matter. *Research in Higher Education*, *55*(5), 467-493. https://doi.org/10.1007/s11162-013-9321-8

Flynn, J., James, R., Mathien, T., Mitchell, P., & Whalen, S. (2017). The overlooked context: Pedagogies for engagement and empowerment at the community college. *Curriculum & Teaching Dialogue*, *19*.

Fox, J. (2015). *Applied regression analysis and generalized linear models*. Sage Publications

Garza, T., Huerta, M., García, H. A., & Lau, J. (2020). Exploring sense of belonging, socioacademic integrative moments, and learning communities related to ELS' persistence based on reenrollment decisions in community colleges. Community College Review. October 2020.. https://doi.org/10.1177/0091552120964873

Glowacki-Dudka, M. (2019). How to engage nontraditional adult learners through popular education in higher education. *Adult Learning, 30*(2), 84-86. https://doi.org/10.1177/1045159519833998

Goltra III, R. J. (2018). *Student Retention Matters: A Study of Community College Student Retention Characteristics, Models, and Programs* (Order No. 13806283). Available from ProQuest Dissertations & Theses A&I; Publicly Available Content Database. (2190668806).

Hammons, J., Keogh, R., & Hui, M. M. (2014). Time for a new paradigm for young adult learners. *Community College Week*, *26*(22), 4-5.

Higher Learning Commission. (2015). Assumed practices: Policy changes adopted on second reading. *Adopted Commission Policy: Assumed Practices.* (June 26, 2015).

http://download.hlcommission.org/policy/updates/AdoptedPoliciesAssumedPractices_2015_06_POL.pdf

Hope, J. (2018). Adopt 5 proven strategies to increase learning and student retention. *Recruiting & Retaining Adult Learners, 21*(2), 1-7.. https://doi.org/10.1002/nsr.30404

Huang, H., Fernandez, S. B., Rhoden, M.-A., & Joseph, R. (2019). Elements of a college support program that matter: A case study. *Research on Social Work Practic*e, *29*(8), 949-960. https://doi.org/10.1177/1049731519832105

Jaafar, R., Toce A., & Polnariev, B.A. (2016). A multidimensional approach to overcoming challenges in leading community college math tutoring success, *Community College Journal of Research and Practice*, 40(6), 534-549, https://doi.org/10.1080/10668926.2015.1021406

James, J. L. (2020). Students as Stakeholders: Understanding Expectations Can Increase Student Retention. *Journal of College Student Retention: Research, Theory & Practice*. January 2020. https://doi.org/10.1177/1521025119898844

Kadlec, A., & Rowlett, I. (2014). What we've learned about supporting faculty, administrator, and staff engagement. *New Directions for Community Colleges*, 2014(167), 87-98. https://doi.org/10.1002/cc.20113

Kaikkonen, D. (2016). Shifting from Enrollment-to Performance-Based Funding in Higher Education: What Can We Learn from Washington's Experience?. *Education Finance and Policy*, *11*(4), 482-498. https://doi.org/10.1162/EDFP_a_00190

Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education,* 38(5), 758-773. https://doi.org/10.1080/03075079.2011.598505

Kamer, J. A., & Ishitani, T. T. (2019). First-Year, Nontraditional Student Retention at Four-Year Institutions: How Predictors of Attrition Vary Across Time. *Journal of College Student Retention: Research, Theory & Practice*. June 2019. https://doi.org/10.1177/1521025119858732

Karp, M. M. (2016). A holistic conception of nonacademic support: how four mechanisms combine to encourage positive student outcomes in the community college. *New Directions For Community Colleges,* 2016(175), 33-44.

Komives, S. R., & Woodard Jr, D. B. (2003). *Student services: A handbook for the profession*. John Wiley & Sons.

Kuh, G. D. (2008). High-impact educational practices: What they are, who has access to them, and why they matter. *Association of American Colleges and Universities,* 14(3), 28-29.

Kuh, G. D. (2009). The national survey of student engagement: Conceptual and empirical foundations. *New directions for institutional research*, *2009*(141), 5-20. https://doi.org/10.1002/ir.283

Lancaster, J. R., & Lundberg, C. A. (2019). The Influence of Classroom Engagement on Community College Student Learning: A Quantitative Analysis of Effective Faculty Practices. *Community College Review*, *47*(2), 136–158. https://doi.org/10.1177/0091552119835922

Lee, E. (2015). *Transitioning into the middle class after college: 'Hidden injuries' and partial mobility.* Presented at the Annual Meeting of the American Sociological Association. Chicago, IL

Leingang, D. J. (2017). *Working and providing care: Increasing student engagement for part-time community college students* (Order No. 10288121). Available from ProQuest Dissertations & Theses Global. (1968657888).

Levin, J. S. (2005). The business culture of the community college: Students as consumers; students as commodities. *New Directions for Higher Education,* 2005(129), 11–26. https://doi.org/10.1002/he.169

MacDonald, K. (2018). A review of the literature: The needs of nontraditional students in postsecondary education. *Strategic Enrollment Management Quarterly*, 5(4), 159–164. https://doi.org/10.1002/sem3.20115

Malhotra, N. K., & Birks, D. F. (2005). *Marketing research: An applied approach*. Harlow, England: Financial Times/Prentice Hall.

Margarit, V., & Kennedy, J. (2019). Students' variables predicting timely graduation at a community college. *Journal of Higher Education Theory and Practice*, *19*(6). https://doi.org/10.33423/jhetp.v19i6.2308

Marti, C. N. (2008). Dimensions of student engagement in American community colleges: Using the Community College Student Report in research and practice. *Community College Journal of Research and Practice, 33*(1), 1-24. https://doi.org/10.1080/10668920701366867

McCarrell, K., & Selznick, B. (2020). (Re)Measuring Community College Student Engagement: Testing a Seven-Factor CCSSE Model. *Community College Review*, 48(4), 400–422. https://doi.org/10.1177/0091552120936345

McCormick, A. C., & McClenney, K. (2012). Will these trees ever bear fruit?: A response to the special issue on student engagement. *The Review of Higher Education*, *35*(2), 307-333. https://doi.org/10.1353/rhe.2012.0010

McClenney, K. M. (2007). Research update: The community college survey of student engagement. *Community College Review*, *35*(2), 137-146. https://doi.org/10.1177/0091552107306583

McClenney, K. M., & Greene, T. (2005). A tale of two students: Building a culture of engagement in the community college. *About Campus, 10*(3), 2–7. https://doi.org/10.1002/abc.129

McClenney, K., Marti, C. N., & Adkins, C. (2012). Student engagement and student outcomes: Key findings from Community College Survey of Student Engagement. *Community College Survey of Student Engagement.* https://eric.ed.gov/?id=ED529076

McFarland, J., Hussar, B., Zhang, J., Wang, X., Wang, K., Hein, S., Diliberti, M., Forrest Cataldi, E., Bullock Mann, F., and Barmer, A. (2019). The Condition of Education 2019 (NCES 2019-144). U.S. Department of Education. Washington, DC: National Center for Education Statistics. https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019144

McGrath, D. and Tobia, S. (2008), Organizational culture as a hidden resource. *New Directions for Community Colleges*, *144,* 41-53. https://doi.org/10.1002/cc.344

Michalski, J. H., Cunningham, T., & Henry, J. (2017). The diversity challenge for higher education in Canada: The prospects and challenges of increased access and student success. *Humboldt Journal of Social Relations*, *39*, 66-89.

Millea, M., Wills, R., Elder, A., & Molina, D. (2018). What matters in college student success? Determinants of college retention and graduation rates. *Education*, *138*(4), 309-322.

National Adult Learner Coalition. (2017). *Infographic: Fast facts on adult learners.* http://bit.ly/InfoNALC

National Center for Education Statistics. (n.d.) *Nontraditional undergraduates/definitions and data*. https://nces.ed.gov/pubs/web/97578e.asp

National Student Clearinghouse Research Center. (2019). *Persistence & retention – 2019.* https://nscresearchcenter.org/snapshotreport35-first-year-persistence-and-retention

Nora, A., Crisp, G., & Matthews, C. (2011). A Reconceptualization of CCSSE's Benchmarks of Student Engagement. *The Review of Higher Education, 35*(1), 105-130. https://doi.org/10.1353/rhe.2011.0036

O'Keeffe, P. (2013). A sense of belonging: Improving student retention. *College Student Journal*, *47*(4), 605-613.

Ortagus, J. C., Kelchen, R., Rosinger, K., & Voorhees, N. (2020). Performance-Based Funding in American Higher Education: A Systematic Synthesis of the Intended and Unintended Consequences. *Educational Evaluation and Policy Analysis*, *42*(4), 520–550. https://doi.org/10.3102/0162373720953128

Owolabi, E. (2018). Improving student retention, engagement and belonging. *Lutheran Education*, *148*, 58-72. https://lej.cuchicago.edu/secondary-education/improving-student-retention-engagement-and-belonging/

Pace, C. R. (1984). *Measuring the quality of college student experiences. An account of the development and use of the College Student Experiences Questionnaire.* Los Angeles, CA: Higher Education Research Institute.

Parnes, M. F., Suárez-Orozco, C., Osei-Twumasi, O., & Schwartz, S. E. (2020). Academic outcomes among diverse community college students: What is the role of instructor

relationships?.*Community College Review*, *48*(3), 277-302. https://doi.org/10.1177/0091552120909908

Pascarella, E. T., & Terenzini, P. T. (1991). H*ow college affects students: Findings and insights from twenty years of research*. Jossey-Bass Inc., San Francisco, CA.

Pascarella, E. T., & Terenzini, P. T. (2005). *How College Affects Students: A Third Decade of Research. Volume 2*. Jossey-Bass, An Imprint of Wiley., Indianapolis, IN.

Pituch, K. A. & Stevens, J. P. (2016). *Applied multivariate statistics for the social sciences (6th ed.)*. New York, NY: Routledge.

Porter, Stephen R. and Umbach, Paul D. (2019). What challenges to success do community college students face? *Raleigh, NC: Percontor, LLC.*

Price, K., & Baker, S. N. (2012). Measuring students' engagement on college campuses: Is the NSSE an appropriate measure of adult students' engagement?. *The Journal of Continuing Higher Education*, *60*(1), 20-32. https://doi.org/10.1080/07377363.2012.649127

Pruett, P. S. (2015). *Factors influencing the retention of developmental students in community colleges* (Order No. 3707395). Available from ProQuest Dissertations & Theses Global. (1687220872).

Prystowsky, R. J., Herrera, J., Crowley, C., Lowery-Hart, R., & Fannon, S. (2017). Grabbing Third Rails: Courageous Responses to Persistent Equity Gaps. *Liberal Education*, *103*(2), 44-49. https://www.aacu.org/liberaleducation/2017/spring/prystowsky

Rabourn, K. E., BrckaLorenz, A., & Shoup, R. (2018). Reimagining student engagement: How nontraditional adult learners engage in traditional postsecondary environments. *The Journal of Continuing Higher Education*, *66*(1), 22-33. https://doi.org/10.1080/07377363.2018.1415635

Ragle, C. (2016). *The effects of co-curricular involvement on first-generation community college students* (Order No. 10106070). Available from ProQuest Dissertations & Theses Global.

Rosier, J. M. (2016). *Predicting student departure: Academic integration and other factors that predict departure among nontraditional students at a commuter university* (Order No. 10240589). Available from ProQuest Dissertations & Theses Global. (1868419198).

Schein, E. (2015). Taking culture seriously in organization development. In: Rothwell, W.J., Stavros, J.M., Sullivan, R.L. (Eds). Practicing organization development, 233-244. https://doi.org/10.1002/9781119176626.ch14

Schmidt, E. K., & Langberg, K. (2008). Academic autonomy in a rapidly changing higher education framework: Academia on the procrustean bed?. *European Education,* 39(4), 80-94. https://doi.org/10.2753/eue1056-4934390406

Schuetz, P. (2008). Developing a theory-driven model of community college student engagement. *New Directions for Community Colleges*, *144*, 17-28. https://doi.org/10.1002/cc.342

Scobey, D. (2020). The crossroads of change: Why adult learners are so important to the future of higher education (and vice versa). *Explorations in Adult Higher Education, 2020*(6), 84-95.

Shapiro, D., Dundar, A., Huie, F., Wakhungu, P., Bhimdiwala, A., & Wilson, S. (2019). Completing college: A state-level view of student completion rates. *Signature Report No. 16a*. Herndon, VA: National Student Clearinghouse Research Center.

Shapiro, D., Dundar, A., Yuan, X., Harrell, A. T., Wild, J. C., & Ziskin, M. B. (2014). Some college, no degree: A national view of students with some college enrollment, but no

completion, *Signature Report No. 7*. Herndon, VA: National Student Clearinghouse Research Center.

Shapiro, D., Ryu, M., Huie, F., & Liu, Q. (2019). Some college, no degree: A 2019 snapshot for the nation and 50 states, *Signature Report No. 17*. https://nscresearchcenter.org/some-college-no-degree-2019

Spilde, M. (2009). More learning, higher earnings. *Community College Journal, 80*(3), 5.

Sutton, H. (2018). Community college completion report finds success initiatives on the rise. *Recruiting & Retaining Adult Learners, 20*(5), 8. https://doi.org/10.1002/NSR.30319

Sutton, H. (2020). Community college report outlines declining enrollment concerns, top priorities. *Recruiting & Retaining Adult Learners, 22*(5), 8. https://doi.org/10.1002/NSR.30565

Tabachnick, B. & Fidell, L. (2019). *Using multivariate statistics (7th ed.)*. New York, NY: Pearson.

Tinto, V. (1975). Dropout from Higher Education: A Theoretical Synthesis of Recent Research. *Review of Educational Research, 45*(1), 89–125. https://doi.org/10.3102/00346543045001089

Tinto, V. (1993). Building community. *Liberal Education*, *79*(4), 16-21.

Tinto, V. (2017). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice*, *19*(3), 254-269. https://doi.org/10.1177/1521025115621917

Troyer, D. K. (2015). The mission of the community college: Relevant in 2015?. *Perspectives*. 2(1).

Tyler, R. W. (1949). *Basic principles of curriculum and instruction. Chicago: University of Chicago.*

U.S. Census Bureau (2019a). Educational attainment in the United States: 2018. https://www.census.gov/data/tables/2018/demo/education-attainment/cps-detailed-tables.html

U.S. Census Bureau (2019b). School enrollment in the United States: October 2018 - Detailed tables. https://www.census.gov/data/tables/2018/demo/school-enrollment/2018-cps.html

U.S. Department of Education. (2018). Integrated Postsecondary Education Data System (IPEDS), Fall enrollment component final data (2006 - 2017) and provisional data (2018). *National Center of Education Statistics.*

U.S. Department of Education. (2019). Integrated Postsecondary Education Data System (IPEDS), Spring 2019, Fall enrollment component (provisional data). *National Center of Education Statistics.*

Vaughan, G. B. (2006). *The community college story*. Amer. Assn. of Community Col.

Washington, K. (2016). *The impact of student engagement on the academic achievement and re-enrollment of community college students* (Order No. 10253347). Available from ProQuest Dissertations & Theses Global. (1870786046).

Washington, L. R. (2017). *A quantitative study on student engagement at achieving the dream and non- achieving the dream community colleges evaluated with CCSSE data* (Order No. 10255710). Available from ProQuest Dissertations & Theses A&I. (1938356287).

Wells, M., Gilbert, E., Mahle-Grisez, L., Newman, R., & Rowell, K. (2014). High hopes: Fostering a culture of hope at a community college. *Mid-Western Educational Researcher*, *26*(1), 60-66.

Woodard, B. R., & Fatzinger, J. B. (2018). Student engagement with other students. *New Directions for Teaching and Learning*, *2018*(154), 99-107. https://doi.org/10.1002/tl.20295

Wraga, W. G. (2017). Understanding the Tyler rationale: Basic Principles of Curriculum and Instruction in historical context. *Espacio, Tiempo y Educación*, *4*(2), 227-252.

Wyatt, L. G. (2011). Nontraditional student engagement: Increasing adult student success and retention. *The Journal of Continuing Higher Education, 59*(1), 10-20. https://doi.org/10.1080/07377363.2011.544977

Yu, H. (2015). Student retention at two-year community colleges: A structural equation modeling approach. *International Journal of Continuing Education and Lifelong Learning, 8*(1), 85-101.

Zerquera, D. D., Ziskin, M., & Torres, V. (2018). Faculty views of "nontraditional" students: Aligning perspectives for student success. *Journal of College Student Retention: Research, Theory & Practice, 20*(1), 29–46. https://doi.org/10.1177/1521025116645109

Appendix A

Franklin University IRB Approval

IRB #: IRB-2020-51
Title: STUDENT ENGAGEMENT OF ADULT LEARNERS AT COMMUNITY COLLEGES
Creation Date: 12-10-2020
End Date:
Status: Approved
Principal Investigator: Janet Spitzig
Review Board: Franklin University IRB
Sponsor:

Study History

Submission Type	Review Type	Decision
Initial	Exempt	Exempt

Key Study Contacts

Member Blake Renner	Role Co-Principal Investigator	Contact blake.renner@franklin.edu
Member Janet Spitzig	Role Principal Investigator	Contact spitzi01@email.franklin.edu
Member Janet Spitzig	Role Primary Contact	Contact spitzi01@email.franklin.edu

Appendix B

Data Use Agreement for Community College Survey of Student Engagement

Data Use Agreement
Community College Survey of Student Engagement

The Community College Survey of Student Engagement (*CCSSE*) instrument is copyrighted. Data collected through CCSSE administration and maintained as part of the Center for Community College Student Engagement's (CCCSE) national database is the property of *CCCSE*. These data will be made available only for use in research projects approved by *CCCSE* in advance and only upon favorable review of the requestor's submission of the following information:

1. Please provide a brief description of the proposed research and a clear statement of the objectives and methods to be used (no more than 3-4 paragraphs).

Historically, colleges have developed policies, procedures, and practices to support traditional students to help students actively engage in their college experience. However, nontraditional students are a significant part of the college population who may have different support and engagement needs than their traditional counterparts (Bean & Metzner, 1985; MacDonald, 2018; Rabourn et al., 2018; Wyatt, 2011, Yu, 2015). Nontraditional students are those who do not fit into the traditional student pattern of attending college full-time directly following high school graduation. Some of the subpopulations of nontraditional students include those 25 years and older who have delayed enrollment after high school, attend college part-time, work full-time, did not receive a traditional high school diploma, or are financially responsible for dependents (National Center for Education Statistics, n.d.). This study will focus on the subpopulation of nontraditional-aged students, or adult learners 25 and older. Adult learners are retained at a lower rate than their traditional aged counterparts are, as much as 12.7% lower (NSC Research Center, 2019). Of the adult students who completed a degree or certificate within six years, 84.2% had their first completion at the starting institution, compared to 68.1% of students who started at 20 or younger (Shapiro et al., 2019). The majority of adult learners complete at their starting institution or dropout, with less than 6% earning their first degree at a different institution (Shapiro et al., 2019) emphasizing the importance of institutions student retention. This research will analyze if the five CCSSE student engagement benchmarks are predictors of student retention – plan to reenroll – of adult learners at community colleges.

For this research, only participants of the 2019 CCSSE cohort who are 25 and older will be included to meet the parameters of the study. Approximately one-third of the respondents in the 2019 CCSSE cohort were nontraditional-age (CCSSE 2019 Cohort Frequency Distribution). Students must select yes for (a) complete a certificate program or (b) obtain an associate degree on Question 26 (reason/goal for attending) for inclusion. Students who only select yes for (c) transfer to a 4-year college or university, (d) obtain or update job-related skills, (e) change careers, or (f) self-improvement/personal enjoyment will be omitted. The independent variables are the five CCSSE Benchmarks – active and collaborative learning, student effort, academic challenge, student-faculty interaction, and student support – and the depended variable is student retention.

Variable Name	*Hypothesis*	*Questions on CCSSE*
Active and Collaborative Learning	*H01. There is no significant relationship between active and collaborative learning and student*	*4a, 4b, 4f, 4g, 4h, 4i, 4q*

	retention of adult learners at community colleges.	
Student Effort	*H02. There is no significant relationship between student effort and student retention of adult learners at community colleges.*	*4c, 4d, 4e, 6b, 10a, 12d1, 12e1, 12h1*
Academic Challenge	*H03. There is no significant relationship between academic challenge and student retention of adult learners at community colleges.*	*4o, 5b, 5c, 5d, 5e, 5f, 6a, 6c, 7, 9a*
Student-Faculty Interaction	*H04. There is no significant relationship between student-faculty interaction and student retention of adult learners at community colleges.*	*4j, 4k, 4l, 4m, 4n, 4p*
Support for Learners	*H05. There is no significant relationship between support for learners and student retention of adult learners at community colleges.*	*9b, 9c, 9d, 9e, 9f, 12a1, 12b1*
Student Retention	*Dependent variable of all hypothesis: H01, H02, H03, H04, H05*	*28*

The data will be analyzed with descriptive statistics, chi-square tests, and binary logistic regressions. The descriptive statistics will provide a general summary of the participants' characteristics: gender, enrollment type, age, and ethnicity. The inferential statistics will test if there is statistical significance to make inferences for the adult learner population at community colleges. Chi-square test and logistic regression can determine if there is a statistically significant correlation between student engagement and student retention. Chi-square analysis is appropriate in this study because it examines the relationship between discrete variables (Tabachnick & Fidell, 2019), such as the student engagement benchmarks and student retention. The chi-square critical value, found using a chi-square distribution table for alpha 1 degree of freedom, will test if the predication variable (retention) is related to the five independent variables (the student engagement benchmarks). Logistic regression is appropriate when the outcome variable is binary (Pituch & Stevens, 2016). The prediction of the binary outcomes is presented as an odds of the outcome, or ratio. To test each hypothesis, separate logistic regressions will be done for each of five the student engagement benchmarks, active and collaborative learning, student effort, academic challenge, student-faculty interaction, and student support, to determine which are predictors for student retention. The hypotheses will be tested at a .05 alpha level using two-tailed testing. Similarly, Pruett (2015) used the existing CCSSE data to test hypotheses of retention for developmental education students with binary logistic regression for retained or not retained, the dependent variable. This research will use the same dichotomous dependent variable, retention, measured through planned reenrollment.

The purpose of the statistical analysis is to examine the relationship between the five student engagement benchmarks (independent variables) and student retention (dependent variable). The results will be shared descriptively through charts and graphs, and the hypotheses will be rejected or accepted. The frequency of each variable and the likelihood ratio test, mean, standard deviation, confidence intervals, and odds ratio will be provided for the relationship of the variables. The results, as shared in the figures and tables, will then be used to discuss findings and make inferences about the general population to serve as a guide for community colleges as they consider their student engagement of adult learners. The logit, or natural log of odd, and the odds ratio will be a major focal point in the discussion of the results, as the probabilities of student retention will be shared for each student engagement benchmark.

References

Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*(4), 485–540.

MacDonald, K. (2018). A review of the literature: The needs of nontraditional students in postsecondary education. *Strategic Enrollment Management Quarterly*, 5(4), 159–164. https://doi.org/10.1002/sem3.20115

National Center for Education Statistics. (n.d.) Nontraditional undergraduates/definitions and data. Available at: https://nces.ed.gov/pubs/web/97578e.asp. Accessed January 2020.

NSC Research Center. (2019). Persistence & retention – 2019. Retrieve from: https://nscresearchcenter.org/snapshotreport35-first-year-persistence-and-retention/

Pituch, K. A. & Stevens, J. P. (2016) Applied multivariate statistics for the social sciences (6th ed.). New York, NY: Routledge.

Pruett, P. S. (2015). *Factors influencing the retention of developmental students in community colleges* (Order No. 3707395). Available from ProQuest Dissertations & Theses Global. (1687220872).

Rabourn, K. E., BrckaLorenz, A., & Shoup, R. (2018). Reimagining student engagement: How nontraditional adult learners engage in traditional postsecondary environments. *The Journal of Continuing Higher Education, 66(*1), 22-33. https://doi.org/10.1080/07377363.2018.1415635

Shapiro, D., Dundar, A., Huie, F., Wakhungu, P., Bhimdiwala, A., & Wilson, S. (2019). Completing college: A state-level view of student completion rates. *Signature Report No. 16a*. Herndon, VA: National Student Clearinghouse Research Center.

Tabachnick, B. & Fidell, L. (2019). Using multivariate statistics (7th ed.). New York, NY: Pearson.

Wyatt, L. G. (2011). Nontraditional student engagement: Increasing adult student success and retention. *The Journal of Continuing Higher Education, 59(*1), 10-20. https://doi.org/10.1080/07377363.2011.544977

Yu, H. (2015). Student retention at two-year community colleges: A structural equation modeling approach. *International Journal of Continuing Education and Lifelong Learning, 8*(1), 85-101.

2. Clearly state your research questions.

This research explores if student engagement increases the likelihood of student retention of adult learners. Specifically, is there a significant relationship between the five CCSSE student engagement benchmarks (independent variables) and retention (dependent variable) of adult learners at community colleges? The five independent variables and one dependent variable, lead to five research questions in regards to adult learners at community colleges.

- *R1. Is there a relationship between active and collaborative learning and student retention?*
- *R2. Is there a relationship between student effort and student retention?*
- *R3. Is there a relationship between academic challenge and student retention?*
- *R4. Is there a relationship between student-faculty interaction and student retention?*
- *R5. Is there a relationship between support for learners and student retention?*

3. Expected completion date of the research;

April 2021

4. Name, title, organization and complete contact information for the principal investigator; if the requested use is for a dissertation study, please provide also the same information for the dissertation committee chairperson.

Janet Spitzig, Doctoral Candidate at Franklin University
Spitzi01@email.franklin.edu
440-241-3957
1279 Ethel Ave. Lakewood, OH 44107

Dr. Blake Renner, Committee Chair and Dean of Students at Franklin University
Blake.Renner@franklin.edu
614-947-6236
201 S. Grant Ave. Columbus, OH 43215

The data provided under this agreement consists of a 30% random sample of the full 2019 three-year *CCSSE* cohort data set. All items from the main survey except for the student identification number and student's major are included. A codebook will be provided with the data set. The data set will also include variables with randomized values to distinguish respondent institutions and respondent state; these values were randomly assigned so that the actual institution and state cannot be identified. This data set will includes 103,537 respondents from 588 colleges in 46 states.

Agreement:
Applicant must agree to the following conditions:

1. Applicant will provide to *CCCSE* an electronic copy of the proposal for subject research (e.g., the dissertation proposal for doctoral studies), including the overview of proposed research, research questions, literature review, and description of methodology. These materials shall be provided in a timeframe that allows *CCCSE* staff at least 3 weeks for review and comment prior to finalization of the research proposal.

2. Applicant will provide to *CCCSE* an electronic copy of the results of data analysis; electronic and hard copies of the subject report or study; and the appropriate citation for the work. The signature below also indicates permission to cite the report or study, with appropriate credit, on the *CCCSE* Web site.
3. When data on *CCSSE's* items are reported, applicant will include the following citation: "Data used with permission from the *Center for Community College Student Engagement, The Community College Survey of Student Engagement [date of survey version -- e.g., 2019],* The University of Texas at Austin."
4. Permission is valid for one-time use only but may be renewed with written permission from *CCCSE*.
5. Applicant agrees to comply with provisions set forth in *CCCSE's* policy statement on Responsible Uses of Survey Data (see link at bottom of page at www.cccse.org).

Janet Spitzig

Please Print Principal Investigator's Name

Janet Spitzig

Principal Investigator's Signature

12/21/2020

Date

Please return this information to the address listed below or email to data@cccse.org.

The University of Texas at Austin
Center for Community College Student Engagement
3316 Grandview Street, Austin, TX 78705

Appendix C

Sample of the Community College Survey of Student Engagement

CCSSE Community College Survey of Student Engagement

THE COMMUNITY COLLEGE SURVEY OF STUDENT ENGAGEMENT

Instructions: It is essential that you use a No. 2 pencil to complete this survey. Mark your answers as shown in the following example:

Correct Mark ⬬
Incorrect Marks ⊘ ✗ ◒ ◔

1. Did you begin college at this college or elsewhere?	○ Started here	○ Started elsewhere
2. Thinking about this current academic term, how would you characterize your enrollment at this college?	○ Full-time	○ Less than full-time
3. Have you taken this survey in another class this academic term?	○ Yes	○ No

4. In your experiences at this college during the current academic year, about how often have you done each of the following? *(Please respond to each item)*	**Very often**	**Often**	**Some-times**	**Never**
a. Asked questions in class or contributed to class discussions	○	○	○	○
b. Made a class presentation	○	○	○	○
c. Prepared two or more drafts of a paper or assignment before turning it in	○	○	○	○
d. Worked on a paper or project that required integrating ideas or information from various sources	○	○	○	○
e. Come to class without completing readings or assignments	○	○	○	○
f. Worked with other students on projects during class	○	○	○	○
g. Worked with classmates outside of class to prepare class assignments	○	○	○	○
h. Tutored or taught other students (paid or voluntary)	○	○	○	○
i. Participated in a community-based project (service-learning activity) as a part of a regular course	○	○	○	○
j. Used e-mail to communicate with an instructor	○	○	○	○
k. Discussed grades or assignments with an instructor	○	○	○	○
l. Talked about career plans with an instructor or advisor	○	○	○	○
m. Discussed ideas from your readings or classes with instructors outside of class	○	○	○	○
n. Received prompt feedback (written or oral) from instructors on your performance	○	○	○	○
o. Worked harder than you thought you could to meet an instructor's standards or expectations	○	○	○	○
p. Worked with instructors on activities other than coursework	○	○	○	○
q. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	○	○	○	○
r. Had serious conversations with students who differ from you	○	○	○	○
s. Skipped class	○	○	○	○

5. During the current academic year, how much has your coursework at this college emphasized the following mental activities? *(Please respond to each item)*	**Very much**	**Quite a bit**	**Some**	**Very little**
a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	○	○	○	○
b. Analyzing the basic elements of an idea, experience, or theory	○	○	○	○
c. Forming a new idea or understanding from various pieces of information	○	○	○	○
d. Making judgments about the value or soundness of information, arguments, or methods	○	○	○	○
e. Applying theories or concepts to practical problems or in new situations	○	○	○	○
f. Using information you have read or heard to perform a new skill	○	○	○	○

PLEASE DO NOT MARK IN THIS AREA

SERIAL #

6. During the current academic year, how much reading and writing have you done <u>at this college</u>? *(Please respond to each item)*

	None	1–4	5–10	11–20	More than 20
a. Number of assigned textbooks, manuals, books, or packets of course readings	○	○	○	○	○
b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	○	○	○	○	○
c. Number of written papers or reports of any length	○	○	○	○	○

7. Mark the response that best represents the extent to which your examinations during the current academic year have challenged you to do your best work <u>at this college</u>.

Extremely challenging ⑦ ⑥ ⑤ ④ ③ ② ① Extremely easy

8. Which of the following have you done, or are you currently doing <u>at this college</u>? *(Please respond to each item)*

	Yes	No
a. Internship, field experience, co-op experience, or clinical assignment	○	○
b. An English course taught specifically for students whose first language is not English (ESL, ESOL)	○	○
c. Developmental/remedial reading course (also referred to as Basic Skills, College Prep, etc.)	○	○
d. Developmental/remedial writing course (also referred to as Basic Skills, College Prep, etc.)	○	○
e. Developmental/remedial math course (also referred to as Basic Skills, College Prep, etc.)	○	○
f. Honors course	○	○

9. How much does <u>this college</u> emphasize the following? *(Please respond to each item)*

	Very much	Quite a bit	Some	Very little
a. Encouraging you to spend significant amounts of time studying	○	○	○	○
b. Providing the support you need to help you succeed at this college	○	○	○	○
c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	○	○	○	○
d. Helping you cope with your non-academic responsibilities (work, family, etc.)	○	○	○	○
e. Providing the support you need to thrive socially	○	○	○	○
f. Providing the financial support you need to afford your education	○	○	○	○

10. About how many hours do you spend in a typical 7-day week doing each of the following? *(Please respond to each item)*

	None	1–5	6–10	11–20	21–30	More than 30
a. Preparing for class (studying, reading, writing, rehearsing, doing homework, etc.)	○	○	○	○	○	○
b. Working for pay	○	○	○	○	○	○
c. Participating in college-sponsored activities (organizations, campus publications, student government, intramural sports, etc.)	○	○	○	○	○	○
d. Providing care for dependents living with you (parents, children, spouse, etc.)	○	○	○	○	○	○
e. Commuting to and from classes	○	○	○	○	○	○

11. How much has your experience <u>at this college</u> contributed to your knowledge, skills, and personal development in the following areas? *(Please respond to each item)*

	Very much	Quite a bit	Some	Very little
a. Acquiring job- or work-related knowledge and skills	○	○	○	○
b. Writing clearly and effectively	○	○	○	○
c. Speaking clearly and effectively	○	○	○	○
d. Thinking critically and analytically	○	○	○	○
e. Solving numerical problems	○	○	○	○
f. Working effectively with others	○	○	○	○
g. Learning effectively on your own	○	○	○	○
h. Developing clearer career goals	○	○	○	○
i. Gaining information about career opportunities	○	○	○	○

3/8" PERF

FOLD

12. This section has three parts. Please answer all three parts, indicating (1) how often you have used the following services during the current academic year, (2) how satisfied you are with the services, and (3) how important the services are to you at this college. *(Please respond to each item)*

	(1) Frequency of Use				(2) Satisfaction				(3) Importance		
	5 or more times	2–4 times	1 time	Never	Very	Some-what	Not at all	N.A.	Very	Some-what	Not at all
a. Academic advising/planning	○	○	○	○	○	○	○	○	○	○	○
b. Career counseling	○	○	○	○	○	○	○	○	○	○	○
c. Job placement assistance	○	○	○	○	○	○	○	○	○	○	○
d. Peer or other tutoring	○	○	○	○	○	○	○	○	○	○	○
e. Skill labs (writing, math, etc.)	○	○	○	○	○	○	○	○	○	○	○
f. Child care	○	○	○	○	○	○	○	○	○	○	○
g. Financial aid advising	○	○	○	○	○	○	○	○	○	○	○
h. Computer lab	○	○	○	○	○	○	○	○	○	○	○
i. Student organizations	○	○	○	○	○	○	○	○	○	○	○
j. Transfer advising/planning	○	○	○	○	○	○	○	○	○	○	○
k. Library resources and services	○	○	○	○	○	○	○	○	○	○	○
l. Services for students with disabilities	○	○	○	○	○	○	○	○	○	○	○
m. Services for active military and veterans	○	○	○	○	○	○	○	○	○	○	○

13. During the current academic term at this college, I completed registration before the first class session(s).
- ○ Yes; I was registered for all of my courses before the first class session(s)
- ○ Mostly; I was registered for most of my courses before the first class session(s)
- ○ Partly; I was registered for some of my courses before the first class session(s)
- ○ No; I was not registered for any of my courses before the first class session(s)

14. The one response that best describes my experience with orientation when I first came to this college is:
- ○ I took part in an online orientation prior to the beginning of classes
- ○ I attended an on-campus orientation prior to the beginning of classes
- ○ I enrolled in an orientation course as part of my course schedule during my first academic term
- ○ I was not aware of a college orientation
- ○ I was unable to participate in orientation due to scheduling or other issues

15. During my first academic year at this college, I participated in a first-year experience program.
- ○ Yes
- ○ No

16. During my first academic term at this college, I participated in an organized learning community (a formal program in which groups of students take two or more classes together).
- ○ Yes
- ○ No

17. During my first academic term at this college, I participated in a student success course (a course that teaches the skills needed to succeed in college).
- ○ Yes
- ○ No

18. I was told that I should enroll in a developmental/remedial course (also referred to as Basic Skills, College Prep, etc.) in my first academic term at this college, and I...
- ○ Did enroll in more than one of these courses
- ○ Did enroll in one of these courses
- ○ Did not enroll in any of these courses
- ○ Not applicable

3/8" PERF

FOLD

SERIAL # PLEASE DO NOT MARK IN THIS AREA

19. During the current academic term at this college, my instructors clearly explained a class attendance policy that specified how many classes I could miss without a penalty.
- All of my instructors explained a class attendance policy
- Most of my instructors explained a class attendance policy
- Some of my instructors explained a class attendance policy
- None of my instructors explained a class attendance policy

20. Before the end of my first academic term at this college, an advisor helped me develop an academic plan (a personalized plan with a defined sequence of courses for completing a college certificate or degree and/or for transferring to a 4-year college or university).
- Yes
- No
- I'm still in my first academic term; I have not yet developed an academic plan

21. Someone at this college contacts me if I am struggling with my studies to help me get the assistance I need.
- Yes
- No
- Not applicable

22. During the current academic year at this college, I have participated in supplemental instruction/supplemental learning (extra class sessions with the instructor or an experienced student).
- Never
- Less than 1 time a week
- 1–2 times a week
- 3–4 times a week
- More than 4 times a week

23. How likely is it that the following issues would cause you to withdraw from class or from this college? *(Please respond to each item)*

	Very likely	Likely	Somewhat likely	Not likely
a. Working full-time				
b. Caring for dependents				
c. Academically unprepared				
d. Lack of finances				
e. Transfer to a 4-year college or university				

	Extremely	Quite a bit	Somewhat	Not very
24. How supportive are your friends of your attending this college?				
25. How supportive is your immediate family of your attending this college?				

26. Indicate which of the following are your reasons/goals for attending this college. *(Please respond to each item)*

	Yes	No
a. Complete a certificate program		
b. Obtain an associate degree		
c. Transfer to a 4-year college or university		
d. Obtain or update job-related skills		
e. Change careers		
f. Self-improvement/personal enjoyment		

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PLEASE DO NOT MARK IN THIS AREA

SERIAL #

27. Indicate which of the following are sources you use to pay for your tuition at this college. *(Please respond to each item)*

	Major source	Minor source	Not a source
a. My own income/savings	○	○	○
b. Income/savings from family	○	○	○
c. Employer contributions	○	○	○
d. Active military or veteran benefits	○	○	○
e. Grants	○	○	○
f. Scholarships	○	○	○
g. Student loans (bank, etc.)	○	○	○
h. Public assistance	○	○	○

28. When do you plan to take classes at this college again?
- ○ I will accomplish my goal(s) during this academic term and will not be returning
- ○ I have no current plan to return
- ○ Within the next 12 months
- ○ Uncertain

29. At this college, in what range is your overall college grade point average (GPA)?
- ○ A
- ○ B
- ○ C
- ○ D or lower
- ○ I do not have a GPA at this college

30. In what range was your overall high school grade point average (GPA)?
- ○ A
- ○ B
- ○ C
- ○ D or lower
- ○ I do not remember

31. When do you most frequently take classes at this college? *(Mark only one)*
- ○ Day classes (morning or afternoon)
- ○ Evening classes
- ○ Weekend classes

32. During the current academic term, how many classes are you taking...
(Please respond to each item)

	None	1	2	3	4	5 or more
a. Face-to-face (a class in which all instruction is face-to-face in a classroom)	○	○	○	○	○	○
b. Online (a class in which all instruction is online)	○	○	○	○	○	○
c. Hybrid (a class that is a mixture of face-to-face and online instruction)	○	○	○	○	○	○

33. How many total credit hours have you earned at this college, not counting the courses you are currently taking this academic term?
- ○ None
- ○ 1–14 credits
- ○ 15–29 credits
- ○ 30–44 credits
- ○ 45–60 credits
- ○ Over 60 credits

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34. **How many total academic terms have you been enrolled at this college?**
- ○ This is my first academic term
- ○ This is my second academic term
- ○ This is my third or fourth academic term
- ○ This is my fifth or sixth academic term
- ○ I have been enrolled more than six academic terms

35. **Would you recommend this college to a friend or family member?**
- ○ Yes
- ○ No

36. **How would you evaluate your overall educational experience at this college?**
- ○ Excellent
- ○ Good
- ○ Fair
- ○ Poor

37. **Do you have children who live with you and depend on you for their care?**
- ○ Yes
- ○ No

38. **Mark your age group.**
- ○ Under 18
- ○ 18–19
- ○ 20–21
- ○ 22–24
- ○ 25–29
- ○ 30–39
- ○ 40–49
- ○ 50–64
- ○ 65+

39. **Your gender identity:**
- ○ Man
- ○ Woman
- ○ Other
- ○ I prefer not to respond

	Yes	No
40. **Are you married?**	○	○
41. **Is English your native (first) language?**	○	○
42. **Are you a current or former member of the U.S. Armed Forces, Reserves, or National Guard?**	○	○
43. **Are you an international student or non-resident alien?**	○	○
44. **Are you a student-athlete on a team sponsored by this college's athletics department?**	○	○

45. **What is your racial or ethnic identification?** *(Mark all that apply)*
- ○ American Indian or Alaska Native
- ○ Asian
- ○ Black or African American
- ○ Hispanic or Latino
- ○ Native Hawaiian
- ○ Pacific Islander (non-Native Hawaiian)
- ○ White
- ○ Other
- ○ I prefer not to respond

3/8" PERF

46. What is the highest academic credential you have earned? *(Mark only one)*

- ○ None
- ○ GED
- ○ High school diploma
- ○ Vocational/technical certificate
- ○ Associate degree
- ○ Bachelor's degree
- ○ Master's/doctoral/professional degree

47. Who in your family has attended at least some college? *(Mark all that apply)*

- ○ Mother
- ○ Father
- ○ Brother/Sister
- ○ Child
- ○ Spouse/Partner
- ○ Legal Guardian
- ○ No one

Additional Items
(Please respond to these items if requested)

1.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	*11.*	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
2.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	*12.*	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
3.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	*13.*	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
4.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	*14.*	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
5.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	*15.*	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
6.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	*16.*	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
7.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	*17.*	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
8.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	*18.*	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
9.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	*19.*	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
10.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	*20.*	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

Using the list provided, please fill in the bubbles that correspond to the code indicating your program, major, or pathway of study. In the top row, indicate the first number in the program code. In the bottom row, indicate the second number in the program code.

Ⓞ	①	②	③	④	⑤	⑥	⑦	⑧	⑨	
Ⓞ	①	②	③	④	⑤	⑥	⑦	⑧	⑨	

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Please provide your student identification number by filling in the corresponding bubbles. For example, in the first column, indicate the first number or letter in your student ID number, and so forth. Please do not enter your social security number. (OPTIONAL)

(Please begin here)

3/8" PERF

Thank you for sharing your views.

PLEASE DO NOT MARK IN THIS AREA

SERIAL #