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Student Retention Matters: A Study of Community College Student Retention Characteristics, Models, and Programs

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by

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A Dissertation submitted to the Education Faculty of Lindenwood University in partial fulfillment of the requirements for the degree of

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work at Lindenwood University and that I have not submitted it for any other college or university course or degree.

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Signature: Robert J. Goltra III Date: 11-27-18

Acknowledgments

"A journey of a thousand miles begins with a single step," (Chan, 1963, p. 78).

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Abstract

The purpose of this study was to determine if retention of first-year college students was influenced by specific variables and programs at one Midwest community college. The study was focused on responses from the Community College Survey of Student Engagement (CCSSE) (Center for Community College Student Engagement, 2013) and peer mentoring program data. Data and retention were measured using Wald chi-square tests and *t*-tests, respectively. The CCSSE benchmarks were Academic Challenge, Active and Collaborative Learning, Student Effort, Student-Faculty Interactions, and Support for Learners. Benchmarks were analyzed using student variables age, gender, working for pay, student loans, and race/ethnicity. Benchmarks titled Student Effort and Support for Learners had a significant impact on retention. The relevance of this finding became clear through analyzing specific student variables to determine their impact on each specific benchmark. Also investigated were the retention rates of first-time students who participated in the college's peer mentoring program and first-time students who did not participate in the college's peer mentoring program. Following analysis of the data, there was a statistical difference in the retention rates of first-year, peer-mentored students and non-peer mentored, first-year students. The peer mentoring program was also studied by analyzing the effects peer mentoring had on students who were on academic probation. No statistically significant difference was found in retention rates of students who remained on academic probation and their peers who had moved off probation. Data for all aspects of peer mentoring suggested program consistency positively affects retention rates of first-year students.

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Chapter One: Introduction

Following their beginnings in the early 20th century, community colleges have met the challenges of workforce needs and demands for college access and enrollment (Carnevale, Rose, & Hanson, 2012). As a result, these two-year institutions began the charge to meet the nation's higher education needs (Levin & Kater, 2013). Since their introduction, there has been a tremendous growth among community and technical colleges over the course of the past three decades, due in large part to affordable tuition, open admissions processes, flexible scheduling, and convenient locations (Carlson, 2013). Community college and technical schools' response to local industry needs in their respective communities has played a vital role in their growth as well (Berger & Fisher, 2013).

The need to study and research the connection between first-year community college student retention and resources for first-year students is as relevant today as ever before (Morgan, 2013). Community colleges continue to employ vast efforts to neutralize the swathe of low student retention rates which cut through America's campuses (Wyner, 2014). From the cost of students not completing college to the impact low retention rates play in society's future as a global power, the study of student engagement is imperative (Darling-Hammond, 2015). Retention is a concern regarding not only students' success while enrolled in the nation's community colleges, but the students' financial earning capacities and contributions to society beyond their college years as well (Balemian & Feng, 2013; Mertes & Hoover, 2014)

According to Bailey, Smith-Jaggars, and Jenkins (2015), college students' success rates improve the more engaged they are in meaningful activities while attending courses

at their respective campuses. According to the Center for Community College Student Engagement, (2013) "Student learning, persistence, and attainment in college are strongly associated with student engagement" (p. 69). Research over a number of years has uncovered a positive association between students who are engaged in classroom and campus activities and student retention and educational success (McCormick & McClenney, 2012).

A combination of societal and academic barriers paired with the increasing diversity of one Midwest community college campus requires careful evaluation of previously understood retention practices (Williamson, 2016). Examining student success at the community college level will provide additional information which may lead to useful practices to improve student retention (Heller & Cassady, 2017). Institutions of higher education face complex issues regarding the students they serve, including academic skill level, motivation, personal characteristics, and acclimation to the college environment (Karp & Bork, 2014).

This study centers on issues regarding retention of at-risk students at one Midwest community college. By knowing barriers, efforts can be put in place to focus on factors which may influence the retention of community college students. Higher education officials need all of the information and strategies they can garner which encourages students to complete the college journey they started (Heller & Cassady, 2017).

Background of the Study

Too many community college students are not persisting and completing the certificates and degrees they entered college to earn (Bailey et al., 2015). Community colleges are an essential piece in higher education expanding access to a variety of

prospective students; however, completion rates among these institutions is significantly low (Clotfelter, Ladd, & Muschkin, & Vigdor, 2013). Of first-time community college students who enrolled, less than 25% earned a degree (Kopko & Crosta, 2016). Reasons for low completion rates range from students lack of understanding the significance of earning a degree or certificate, to the absence of support during their time in college (Cohen, Brawer, & Kisker, 2014).

Drawing attention to the financial benefit of a person completing his or her education, as well as the benefit to the country's economy, is essential (Baum, Ma, & Payea, 2013). A significant issue facing the nation is the rising cost associated with non-completion of a certificate or degree in today's society (Brown, Grigsby, van der Klaauw, Wen, & Zafar, 2016). Well studied and documented, nearly every measure of economic welfare and career placement indicators from wage earnings to career satisfaction confirms today's young college graduates are outperforming their counterparts who have less education (Bureau of Labor Statistics, 2014).

The generational importance of completing a college degree is more evident today than ever before (Baum et al., 2013). Without a college degree, individuals born in lower income tiers have a 45% chance of remaining in the lower tiers and only a 5% chance of moving to the top income ranks (Baum et al., 2013). However, when a child who is born into the lower income tiers attends and pursues to earn a college degree, the odds of that individual's earnings being in the top income levels nearly quadruples, while the chances of moving out of the bottom income tier increases by 50% (Tinto, 1993).

Tinto (2012) stated there is a significantly positive correlation between academic achievement and a student's income. Significant differences exist in earned income for

community college students who complete their associate degree when compared to individuals having only earned a high school education (American Association of Community Colleges [AACC], 2014). Associate degree holders earn more than their peers who do not continue their education beyond high school (Baum et al., 2013).

Improving student retention and completion rates at the nation's community colleges positively impacts communities and workforces (Center for Community College Student Engagement, 2013). Community colleges offer educational pathways to many students who otherwise would not have access to attend an institution of higher education (Goldrick-Rab & Kendall, 2014). In return, community college completers become more involved in their communities, earn more income, and have the skills to improve the nation's workforce and labor pool (Center for Community College Student Engagement, 2012; Tinto 2012).

Enrollment at community colleges makes up about half of the total enrollment of all United States higher education institutions (AACC, 2014). According to the Center for Community College Student Engagement (2012), "Never has it been so clear that the futures of the individuals, communities, and the nation rests significantly on the ability of community and technical colleges to ensure that far greater numbers of their students succeed in college" (p. 25). However, on average, community colleges receive minimal public funding when compared to state flagship institutions (AACC, 2014).

Community colleges are expected to serve students who typically have more academic roadblocks with far fewer resources than their larger counterparts (Center for Community College Student Engagement, 2012). For instance, primary factors affecting community college students include being underprepared for college-level work, enrolled

part-time, a single parent, fiscally self-sufficient, first-generation student, and working 30 or more hours per week (Kelsay & Zamani, 2014). Many community college students come to college with many pre-college variables which require intervention at multiple levels (Karp & Bork, 2014).

The community college open admissions process encourages the attendance of students from a range of enrollment statuses (Hodara & Jaggars, 2014). According to Demetriou and Mann (2011), community college students are more likely to be classified as enrolled less than full-time, be a first-generation or a non-traditional student, belong to a racial minority, and live in the lower levels of the socioeconomic categories. Hence, community colleges enroll students who need to take lower level or developmental courses for no college credit (Hodara & Jaggars, 2014). Due to off-campus responsibilities and lack of resources, nontraditional and commuter students at community colleges struggle with a lack of engagement or connectivity (Kena et al., 2014).

Tinto (2012), stated, “More students leave their college or university prior to degree completion than stay” (p. 1). According to Hirschy et al. (2013) in *Rethinking College Student Retention*, the reasons why students drop out and give up on pursuing a college degree have been the subject of many studies throughout the years. There have been numerous debates over the course of many decades focused on addressing the significant subject areas most often referred to as student departure and non-completion (Jenkins & Cho, 2012).

The truth behind the research is many students begin college, while few continue and even fewer complete college (McCormick & McClenney, 2012; Tinto, 2012). According to the Center for Community College Student Engagement (2012), around half of all students who enroll in the nation's community colleges have the mindset or goal of earning a degree or certificate within the program of study timeframe. More concerning is the odds of students completing college after they have dropped out become very low (Hirschy et al., 2013). One of the best returns on a community college's investment is the dedication of fiscal resources and personnel to the student body toward retention efforts, which drive student success upward during and after their time at college (Rath, Rock, & Laferriere, 2013).

The significance and benefits of a nation having an educated workforce are well documented (Sperling, 2017). Competitive and competent workforce development programs that were offered in the nation's community colleges between 1979 and 2015 in states where the share of adults had earned at least a college degree realized greater increases in productivity (AACC, 2014; Berger & Fisher, 2013). While the need for an educated workforce is well documented, this country has been losing ground in workforce development as a nation and globally, which is another reason to retain and ensure community college students have every resource available to complete a program of study and graduate (Sperling, 2017). Reports reveal community colleges as a vital source of vocational, technical, and workforce education training, yet state governments have disinvested in public higher education over the past two decades (Zinn & Van Kluenen, 2014). To offset the lack of investment in community colleges, educators must

better promote and incorporate student engagement techniques and produce a well-educated and trained workforce (Berger & Fisher, 2013).

To fully understand the concept of student engagement and student success in higher education at the community college level, far more studies need to be conducted beyond research focused on four-year institutions (Dudley, Liu, Hao, & Stallard, 2015). More research needs to be completed within the technical and community college sectors (Skolnik, 2016). Studying retention in higher education requires understanding as to why students persist and continue their education to obtain a certificate or degree, while other students discontinue their pursuit of attaining their educational objectives (Tinto, 1975).

Theoretical Framework

The framework and foundation for this study were founded in Tinto's (1975) student persistence model, which includes five major components for studying higher education's accountability to student retention, persistence, and completion rates. Tinto's (1975) model has five major components for researching student retention, which include psychological, societal, economic, organizational, and interaction factors. Studies dating back to the mid-1900s where students and their college experiences have been examined (Cohen et al., 2014). Tinto was among the first to explore how these experiences impacted the decision of a student to withdrawal or remain enrolled in higher education (Elkins, Braxton, & James, 2000). Although this study was primarily developed using Tinto's (1975) theoretical framework, other student retention models, including Bean and Eaton's (2002) student attrition model and Astin's (1993) input-environment-output [I-E-O] model, were utilized.

As the cost of education rises, it is more important than ever for institutions to focus on student interactions, academic acclimation and resources, social integration, and the institution's commitment to each student's college experience (Unverferth, Talbert-Johnson, & Bogard, 2012). Even students who are academically prepared and college ready begin their college experience without the study skills and coping strategies vital to effectively maneuver the learning and social environments within college settings (Schuh, J., Biddix, J. P., Dean, L. A., & Kinzie, J., 2016). In Figure 1, a visual representation of Tinto's (1993) framework outlining factors for leaving higher education is presented.

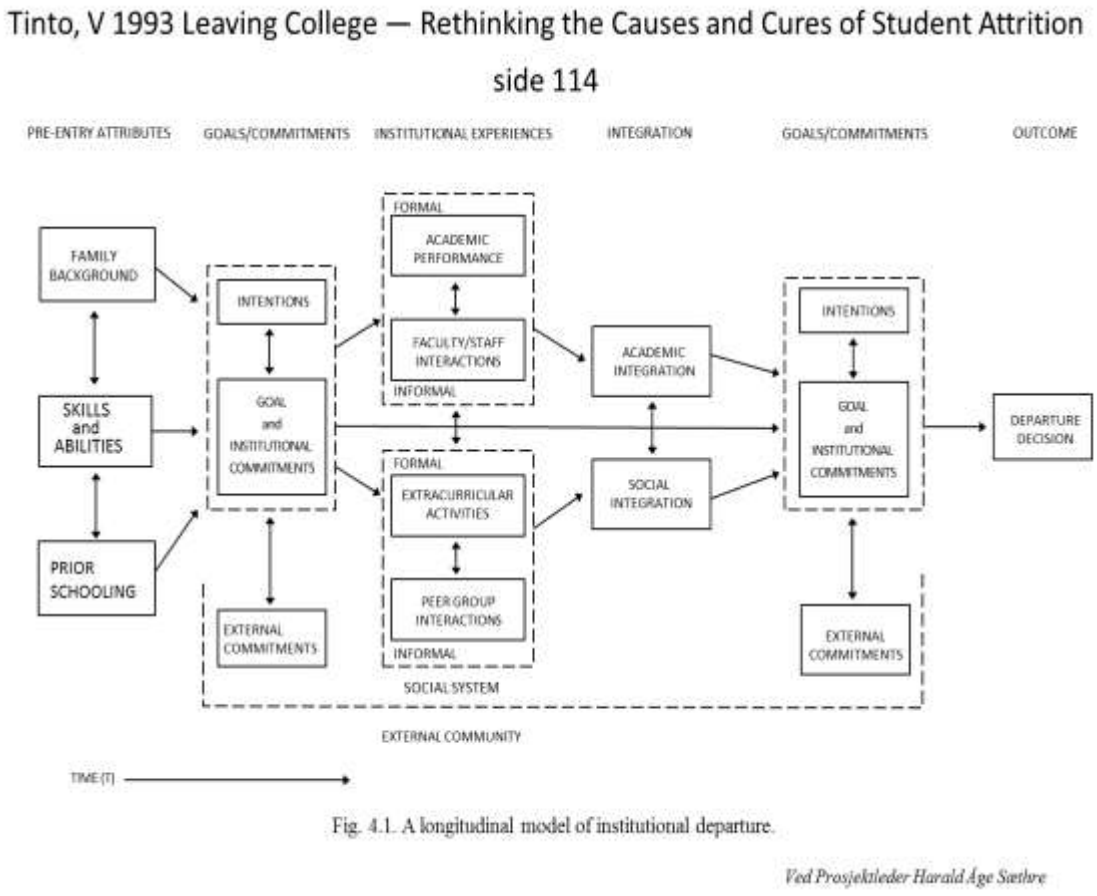

Figure 1. Tinto's revised model of student attrition (adapted by Ian McCubbin in Tinto, 1997).

Tinto's (1975) work includes the stages students progress through when deciding to withdraw from college. Tinto's (1975) student integration model relates student success to gender, race, grade point average (GPA), and such social experiences as integration with peers and faculty and participating in extracurricular activities (Mertes & Hoover, 2014). Initially, the model Tinto (2012) developed only presented one viewpoint; students who voluntarily exited college primarily due to inadequate integration into their respective college environments.

In 1993, Tinto's concepts of student departure and integration theory highlighted the significance of student engagement as a means to improve retention rates. The interactive model of student departure (Pascarella & Terenzini, 2005) brought the subject of retention to the forefront at the college level. Professional article reviews on student success reported Tinto's theories as the leading sociological viewpoint in the efforts of improving student retention (Kuh, Kinzie, Schuh, & Whitt, 2005; McCormick, Kinzie, & Gonyea, 2013). Critics of Tinto's theories have asserted his ideas are not inclusive of all types of higher education enrollees, as Tinto's population only included full-time enrollees attending four-year higher education institutions (Ozaki, 2016).

In his work, Tinto (2006) revealed factors which play critical roles from the viewpoints of the individual student as well as the institutions the students attend. By viewing retention and departure information through different lenses, it is clear to see students bring specific characteristics with them to higher education that impact their decisions to stay or depart from school (Patton, Renn, Guido, & Quaye, 2016). Likewise, factors within institutions also directly impact the success or failure of students in higher education (Nodine, Venezia, & Bracco, 2011).

When studying the reasons for retention and departure, Tinto (1975) focused on a variety of situations which were both negative and positive. Negative impacts included students who experienced failure and became an attrition statistic (Sanders, Daly, & Fitzgerald, 2016). Also, it was necessary to review positive aspects such as retention, persistence, and graduation to determine the relationship which existed among those aspects (Pike & Graunke, 2015).

Tinto (2012) found at least 20 academic and social life factors students need to possess to improve the rate of their persistence in higher education. A relationship was established where every factor had a "direct or indirect impact upon performance in college" (Tinto, 2012, p. 94). Tinto's information (2012) is valuable because institutional leaders are paying close attention to the college completion predicament among the country's institutions. Jointly and individually, college leaders are charged with growing the pool of adults who have completed postsecondary certificates and degrees (Jenkins & Cho, 2012).

Researchers have determined Tinto's model is highly established as the guide for how student retention should be measured and evaluated (Mertes & Jankoviak, 2016). A few years after Tinto's (1975) model, Bean and Metzner (1987) designed a theoretical model focused on undergraduate student attrition. Bean and Metzner's (1987) model included additional variables which helped define the significant factors in student retention for community college students.

As stated earlier, the biggest criticism of Tinto's work, along with other experts in the area of retention, is based not on the model itself, but the population the research was based. According to Hendrickson, Lane, Harris, and Dorman (2013), a majority of studies

focused on student activity at four-year institutions, with little focus on community college student populations. Research has since been developed in the area of area of community college student success (Center for Community College Student Engagement, 2012).

Recent studies have found successful community college students possess the following qualities: clear goals, strong motivation and a drive to succeed, the ability to manage external demands, and self-empowerment (Center for Community College Student Engagement, 2012). Regardless of the arena, Tinto (2012) dedicated his efforts towards students' social engagement outside of the classroom and best practices for student engagement inside the classroom. Tinto challenged higher education institutions to better define the types of college dropouts (Cote & Furlong, 2016).

While institutions of higher education have been concerned about meager student completion rates, essential issues of student retention are no longer relegated to only being a student problem in the college setting (Kuh et al., 2005). Past premonitions and steadfast beliefs placed the blame on conditions which were isolated to students not finishing what they started (Wilkens, Ashton, Maurer, & Smith, 2015). According to Kuh et al. (2005), "At the intersection of student behaviors and institutional conditions is student engagement" (p. 8). Research focusing on community college student engagement practices will allow stakeholders to better address various student and institutional issues (Center for Community College Student Engagement, 2013).

Statement of the Problem

According to Bailey et al. (2015), poor retention rates can be split into multiple areas. Areas such as low levels of academic support, lack of tutoring services, poor

student supports, lack of career and academic advising, and inadequate financial support are barriers to students not completing courses and graduating. An alarming fact considering almost half of the nation's college students have at one time been enrolled at a community college (National Center for Education Statistics [NCES], 2016).

Studies have linked academic achievement directly with income (Carnevale et al., 2012). On average, students who receive a bachelor's degree can increase their earning potential significantly over their lifetimes when compared to those who did not attend and complete an undergraduate degree (Tinto, 2012). Community college enrollees who receive an associate degree earn significantly more income than individuals who have earned less than a college degree (Tinto, 2012).

Given the persistence of low retention and completion rates in higher education, a heightened interest in this area continues (Bailey et al., 2015). Student departure continues to be of major concern for higher education (Wyner, 2014). Educational studies have also revealed a high probability of first-year community college students failing to persist in their educational pursuits if not engaged in the social and academic environments of college (Tinto, 2012). Consequently, higher education's focus on student success may aid to decrease the major problem of abysmal student retention rates in today's community colleges (Hirschy et al., 2013).

Low student engagement at the nation's community colleges has highlighted the significant need to study areas which impact the success and failure rates of students (AACC, 2014). The real consequences of not completing a certificate or degree directly and adversely impacts the lives of millions of people at a cost which can be tracked into the billions of dollars' range (Wyner, 2014). Conversely, focusing on specific areas

which most positively impact student engagement in higher education will benefit institutions in many areas including time, effort, money, resources, personal economics, and human capital (Felten et al., 2016).

The percentage of completion and graduation rates is particularly low at the community college level, a fact reflected in a less than 25% graduation rate at community colleges in Midwestern states (AACC, 2014). Data emphasize the critical aspect of student engagement at the nation's community colleges. Retention of students who enroll in community colleges with the dream of attaining skill sets and degrees to become a productive member of society and to support future generations is essential to the nation's economic progress (Bailey et al., 2015).

Purpose of the Study

The purpose of this study was to add meaningful information to the shallow pool of research concerning retention of students who enter community colleges. By focusing on the CCSSE benchmarks, peer mentoring programs, as well as targeted areas of student services used by students to complete their degrees, more information was garnered to support community college students in becoming degree completers. For this research project existing data were utilized to support areas where more focus is needed in the areas of student retention. According to former President Obama as cited in Zamani-Gallaher (2014):

> In the coming years, jobs requiring at least an associate degree are projected to grow twice as fast as jobs requiring no college experience. We will not fill those jobs—or keep those jobs on our shores—without the training offered by community colleges. (p. 122)

Awareness of and emphasis on student retention will possibly provide community college personnel, funding entities, educational governing bodies, and researchers additional insights to make critical decisions to improve student outcomes (Schneider & Yin, 2012).

Research questions and hypotheses. In this study, the research questions were as follows:

1. What is the statistical difference of the Community College Survey of Student Engagement (CCSSE) benchmarks and student groupings regarding student retention for first-time freshmen?

$H1_0$: There is no statistical difference of the CCSSE benchmarks and student groupings for student retention of first-time freshmen.

H_{1a}: There is at least one statistical difference of the CCSSE benchmarks and student groupings for student retention of first-time freshmen.

2. How are retention rates of first-time freshmen who participate in a peer mentoring program different, if at all, when comparing like students who did not participate in the peer mentoring program?

$H2_{0:}$ There is no difference in retention rates of first-time freshmen who participate in peer mentoring when comparing like students who did not participate in peer mentoring.

$H2_{a:}$ There is a difference in retention rates of first-time freshmen who participate in peer mentoring when comparing like students who did not participate in peer mentoring.

3. What difference exists, if any, in the retention rates of select groups of freshman students who successfully move off academic probation after

participating in peer tutoring and like students who do not?

H3$_{0}$: There is no difference in retention rates of select groups of first-time freshman students who participate in peer mentoring and like students who do not.

H3$_{a}$: There is a difference in retention rates of at least one of the groups of first-time freshman students who participate in peer mentoring and like students who do not.

Definition of Key Terms

To provide the reader with a better understanding of this study, the following definitions and explanations for key terms are available:

Academic probation. The policy of notifying students they have not met the academic standards of the institution and are restricted in their academic or social activities for a specified period of time or until they raise their GPA to a specific level (Barouch-Gilbert, 2015). Academic probation is most likely to occur if a student's overall grade point average falls below a 2.0 on a 4.0 scale (Long & Lane, 2014).

Associate degree. A degree given to a student who has completed two full-time enrolled years of study at a community college (NCES, 2016).

At-risk student. An individual student who possesses at least one attribute or characteristic that has historically been associated institutionally with higher rates of attrition (NCES, 2016).

Center for Community College Student Engagement. An organization for survey research, focus group work, and related services for community and technical colleges interested in improving educational quality through strengthened student

engagement and student success (Center for Community College Student Engagement, 2013).

Certificate. A program set-up to allow students to receive training in a specific subject or field (Carnevale et al., 2012).

Community college. These two-year institutions offer workforce training and postsecondary education for transfer to a four-year degree (Erisman & Steele, 2015).

Community College Survey of Student Engagement (CCSSE). A standardized, research-based survey instrument used in the United States to learn about individual college students' experiences and assess student engagement based on survey responses (Center for Community College Student Engagement, 2012)

Developmental education. College courses for underprepared students lacking the skills needed to be successful at the college level (Hodara & Jaggars, 2014).

First-generation student. A student whose parent or legal guardian has not received a bachelor's degree (Johnson, Adams-Becker, Estrada, & Freeman, 2014).

Full-time student. Typically a student enrolled in 12 or more units of credit in a fall or spring semester, or more than six units of credit in the summer term (NCES, 2016).

Higher education. Postsecondary education offered through universities, vocational schools, community colleges, liberal arts colleges, and institutes of technology (NCES, 2016).

Open admissions. Policies at community colleges which are unselective and allow students who have earned the equivalency of a high school diploma to enroll;

students often may not be required to have a minimum grade point average or standardized test score to be admitted (AACC, 2014).

Student characteristics/variables. Something which identifies a student, or a specific category in which students belong; student characteristics measured in this research include age, gender, hours working for pay, public assistance, and race/ethnicity (Center for Community College Student Engagement, 2012).

Student engagement. The level of attention and passion students display when they are learning, recognized as an important influence on achievement; student engagement outside the classroom may include clubs, organizations, and study groups (Kahu, 2013).

Student retention. Full-time enrolled students who remain enrolled and re-enroll the following semester; for this study, retention was measured as fall-to-fall enrollment (DeNicco, Harrington, & Fogg, 2015).

Student services. Professionals who provide a diverse set of services which may include registration, program selection, admissions, financial aid, and/or resources to other pertinent services (Whitt & Schuh, 2015).

Student success. A term which institutions use to focus on students, usually by measuring tangible metrics such as retention, graduation rates, and job placement (Seidman, 2012).

Student persistence. Students who are continuously enrolled in higher education (NCES, 2016).

Student retention. The number and percentage of students who remained enrolled from fall-to-fall, or as measured by any number of student groupings and cohorts (Windham, Rehfuss, Williams, Pugh, & Tincher-Ladner, 2014).

Limitations and Assumptions

As with most studies, factors that are relevant within the parameters of the research were cause for limiting the findings. Because the scope of a study can be narrow, the possibility of generalizing to all populations was decreased (Fenwick, Edwards, & Sawchuk, 2015). In this study, the following factors were identified.

This study was limited by including data from one Midwestern community college. Because results of data assessments and comparisons of retention rates could differ at other institutions, this was considered a limiting factor. Also limiting the study were the location and size of the population and sample and the ability to generalize any information obtained in this study beyond the institution studied (Fenwick et al., 2015). Only data from first-time, full-time students were considered in this study. Students who had previously taken college credits, or were enrolled in less than 12 credit hours of coursework, were excluded.

Two of the research questions focused on peer mentoring. The term peer mentoring is defined in an array of ways and may differ from institution to institution (Mitchell, 2013). Peer mentoring can be challenging to define as colleges typically have many types of mentoring roles which engage students in a variety of ways (Mitchell, 2013).

Validity is a requirement for qualitative and quantitative research (Cohen, Manion, & Morrison, 2013). An assumption may be made the CCSSE is a valid and

reliable measure of student engagement at community colleges (Center for Community College Student Engagement, 2013). An assumption was all peer mentoring data obtained from the Midwest community college contained accurate de-identified data.

Summary

In this study, retention of first-year community college students was studied. Additionally, services and supports students were using that could influence academic and social success or failure, which can lead to high or low student retention rates, were viewed. By discovering and focusing on vital student attributes, best practices can be developed which can ultimately improve the retention of students and be a leading factor in student success (Soria, Roberts, & Reinhard, 2015).

In this chapter, the significance of retention was discussed. According to Karp and Bork (2014), when a student leaves college the odds of returning are staggeringly low. Improving student retention provides promise for the problem of low community college completion rates and high student financial aid default rates (Schneider & Yin, 2012). A study reviewing earnings of college students found postsecondary certificate completers earn 20% more than high school graduates who have not completed postsecondary education (Carnevale et al., 2012). Statistics such as these prove the nation’s employers are counting on workers with college credentials, and a college education leads to higher earnings for individuals who complete their degree.

This chapter began with an introduction and background to establish a foundation for the study. Tinto's theories of retention were presented as the main theoretical framework to guide this study. The statement of the problem and the purpose of the study were discussed in relation to concerns for engagement and student retention. Study

research questions were also examined, which guided data collection for this study. Key terms and definitions, along with limitations and assumptions, were also offered to help understand the parameters of the study.

Chapter Two begins with an overview of theory, research, and literature related to student retention and engagement. The introduction of the theoretical framework is followed by student and institutional factors, which affect student retention. Information is presented exploring critical resources community colleges are investing in to support student engagement and retention.

Chapter Two: Review of Literature

Student success is a significant priority on campuses of the nation's community colleges (Levy & Polnariev, 2016). Areas explored include studying student characteristics and institutional factors as reasons students are or not successful in their efforts towards completing college (AACC, 2014). Community college student success is significant given community college enrollment has continued to grow over the past three decades (Oreopoulos & Petronijevic, 2013).

Community colleges have also been referred to as one of the most important higher education innovations of the 20th century (Beach, 2012). While increased enrollment at the nation’s community colleges is positive, the financial burden of students leaving college before they have completed a certificate or degree program falls squarely on institutions, other students, and the country as a whole (McCormick et al., 2013). While the identification and concern of nationwide low retention and completion rates have long been known, community colleges have done little to break the cycle of poor retention rates, which keep too many students from completing their certificate or degree program (Levin & Kater, 2013).

Resources need to match student needs, as community college students have different academic needs than traditional four-year students (Complete College America, 2015). One such example is the large percentage of the student population at the community college level who are placed in basic skills courses as they enter and begin their higher education journey (Bettinger, Boatman, & Long, 2013). According to Scott-Clayton and Rodriguez (2012), 60% of students enter community college unprepared. The number of underprepared students entering community colleges is unproportionately

higher than data indicating 20% of four-year college attendees enter and enroll in remedial courses (Complete College America, 2015). Given the high percentage of community college students taking remediation courses, the study of community college resources for retention and persistence is critical (Bailey et al., 2015; Handel, 2010).

The quintessential retention questions surrounding community college leaders focus on reasons why students leave college and the obstacles and issues which manifest, leading students to not continue their education (Karp & Bork, 2014). Predominantly, two main consistent themes, which preside over higher education retention problems, relate to student issues and institutional shortcomings (Nevarez, Wood, & Penrose, 2013). In this study, low student retention rates of students based on age, gender, hours worked for pay, public assistance received, and race/ethnicity were examined. The review of literature highlights institutional factors connected to poor student retention, such as inadequate support for both academics and students. This chapter is organized into the following sections; retention models, the background of student retention and engagement, and student supports, which includes services offered as student supports for student success in higher education.

Theoretical Framework

The need to study student departure of community college students comes from staggering data, which suggest 45% of students who enroll in two-year colleges depart during their first year (Kopko & Crosta, 2016). Retention continues to remain one of the most difficult challenges for higher education (Hirschy et al., 2013). Given the staggeringly high departure rate of students, researchers have called for initiatives and

redesigns of community college institutions to be better focused and accountable for retention and completion rates of the students they serve (Bailey et al., 2015).

The need to provide community college students with resources to support persistence continues to be a significant hurdle for institutions (Brown, 2012). Brown (2012) stated, "With growing concerns over higher education accountability and diminishing resources, student retention rates and the reasons why students remain at a postsecondary institution continue to persist" (p. 834). Over the course of time, studies focused on the core reasons for low retention rates have been conducted (Berger, Blanco-Ramirez, & Lyons, 2012; Wladis, Conway, & Hachey, 2015). In addition to Tinto's (2012) work, contributions of educational researchers John Bean, Shevawn Bogdan Eaton, and Alexander Astin are studied as well. The impact of the study of college student departure continues to be instrumental in community colleges as an approach to improving high student attrition rates (Graham, 2017).

Several theoretical models provide support to explain the factors which impact a student's decision to persist or withdraw from an institution (Quaye & Harper, 2014). The majority of these conceptual models were developed based on student activity at four-year institutions and not on the community college student population (Hendrickson et al., 2013). The present study utilizes a blending of three theoretical frameworks to inform the research study. The three frameworks are Tinto's (1993) student integration model, Bean and Metzner's (1987) student attrition model, and Braxton, Hirschy, and McClendon's (2011) theory of student departure in commuter colleges and universities models.

The theoretical framework for this study was fundamentally centered on Tinto's contributions in the area of higher education retention (Tinto, 1975, 1993, 2012). Many well-known authorities in this area of study have determined Tinto's model is highly established where student retention should be measured and evaluated (Mertes & Jankoviak, 2016). Tinto (1993) reviewed student retention from two perspectives: retention and departure. In his work, Tinto (2006) revealed factors which play key roles from the perspectives of the individual student as well as the institutions the students attend.

Higher education student retention has been the subject of thousands of literature reviews over the past 80 years (Tinto, 2006, 2017). One of the first articles addressing student retention was written in 1938 by John McNeely (Morrison & Silverman, 2012). The study he conducted used data from 60 institutions, and he examined student demographics, social engagement, and reasons for student departure (Morrison & Silverman, 2012). McNeely became known for coining the term "student mortality," a term which helped start conversations about student departure (Morrison & Silverman, 2012). The U.S. Department of Interior and the Office of Education published the study titled, "College Student Mortality" which at the time was considered cutting-edge research as to the depth in which the study covered patterns of student behaviors leading to student college departure (Morrison & Silverman, 2012). This research would eventually become common practice among researchers studying higher education retention (Morrison & Silverman, 2012).

In the 1960s, more research surfaced that documented concerns in retaining higher education students to completion (Berger et al., 2012). Summerskill (1962)

expanded on the 1957 student retention work of Philip Jacob titled, “Changing Values in College" through studying attrition rates and factors related to students leaving before completing their college programs of study. Feldman and Newcomb (1969) used over 1,000 historical studies on college retention spanning four decades in their work. Findings focused on institutional characteristics by measuring the effect colleges have on students both during and after their years of attending higher education (Berger et al., 2012). These early pioneers in college student retention provided foundations for Tinto’s (1993) extensive work on why some college students persevere and how others are at risk of incompletion.

Key roles in retention range from personal factors to institutional factors (Wyner, 2014). Poor retention rates and high student departure rates can be blamed on many factors (Cox, 2009). The following factors have been proven to be primary obstacles for students.

Socioeconomic. Research conducted in the area of higher education has shown socioeconomic status (SES) is a strong predictor of academic success in college; low socioeconomic status is decidedly connected with low achievement (Tomul & Savasci, 2012). Studies of the effects of SES and income of pre-college and college student success found individual student SES to be a reliable indicator of whether a student earns a college degree (Tomul & Savasci, 2012). Per the U.S. Department of Commerce (2014), high school completers from low-income families were less likely to enroll in a two- or four-year college or university directly after completing high school than classmates from middle- and high-income backgrounds. Income level gaps concerning individuals who attend and do not attend college are as wide today as three decades ago

(Baum et al., 2013). Many economic experts believe students from low-income backgrounds will struggle if they attend college, as statistically, they are less likely to complete a degree program and are often left with only a large debt to pay off without the economic means or education to earn an income to do so (Cochrane & Cheng, 2016).

First-generation college students. Community college enrollment is almost half of the nation's first-year students; hence, community colleges are a significant access point to college for millions of individuals from underrepresented populations from first-generation backgrounds (Demetriou & Mann, 2011). The first year of college is especially important for first-generation students (Bok, 2017). Multiple contributing factors place first-generation students at high risk of leaving college between their first and second years (Chen & Carroll, 2005). Contributing factors such as poor time management, lack of study skills, a misunderstanding of social college norms, and intrapersonal struggles, are a few of the weighty issues community colleges must recognize and intervene to ensure first-generation college students opportunities for success (Bok, 2017).

Academically unprepared. A key void community colleges have filled in American education has been the role of expanding higher education access; however, with open access has come a large gap between college-ready and underprepared students (Bailey & Smith-Jaggars, 2016). As a direct result of academically unprepared students entering community colleges, low rates of college completion constitute a significant problem (Moore & Shulock, 2011). Many students are entering community colleges not equipped to grasp college-level course content (Bailey et al., 2015).

Scholarly studies have found less than one-third of high school completers graduate ready for college work (Bailey & Smith-Jaggars, 2016). The gap widens the longer one waits to begin the higher education work (Bailey et al., 2015). Community colleges have been placing students who have not tested into entry-level college courses into remedial or developmental education courses at a rate of 38% to 45% (Bailey & Smith, 2016).

Employment. Being employed while attending college has become a norm among today's student population, which makes understanding how employment impacts student retention critical to supporting students (Bailey et al., 2015). A correlation has been found between the hours a college student works as an employee and their success in the classroom (Entwistle & Ramsden, 2015). The growth of college attendance in nontraditional students who are not coming directly from high school has risen sharply, accounting for around 40% of the growth in college enrollment in recent years (Carnevale et al., 2011).

The NCES (2016), discovered college students who work 15 or fewer hours weekly have a much higher GPA than students working 16 or more hours. Overall, college students are far more likely to join the labor force than high school students, 79.9% and 47.5%, respectively (NCES, 2016). Additionally, individuals attending college less than full-time had a much higher rate of labor force participation than full-time college students (Juszkiewicz, 2016).

Support services. Community colleges have been slow to make the institutional commitment to add specialized services needed to improve poor retention rates (Tinto, 2012). Only 50% of two-year colleges have dedicated an individual or team to lead and

assume accountability for managing retention plans (AACC, 2014). Additionally, less than 30% of two-year colleges have well-defined improvement objectives for retention of students moving from their first year to their second year of college (Bailey et al., 2015). Only 23% of two-year colleges have established goals to improve degree completion (NCES, 2016).

Research conducted through the Education Longitudinal Study in 2012 confirmed 46% of low-income students, those with family incomes of less than $25,000 per year, chose to attend community colleges directly after high school. In contrast, only 18% of high-income students attend community colleges directly after high school (Education Longitudinal Study, 2012). Similarly, 41% of students who chose to attend community college were first-generation students, with 19% of students whose parents had a college degree (Education Longitudinal Study, 2012). Overall, community college student demographics show the need for services and an institutional environment which all students, regardless of individual demographics, can grow and succeed as a college student (NCES, 2016).

Ultimately the basis for measuring student success is academic achievement in the classroom (York, Gibson, Rankin, & Susan, 2015). Studying adult learning theories which address multiple dimensions of student success such as student satisfaction, acquisition of skills, and persistence has improved student outcomes in the nation's community colleges (Brophy, 2013). However, theories which define student success can be viewed as vague with too broad of a definition of student success (York et al., 2015). Adult learning theories which define student success use multiple factors of a student's learning experience beyond his or her GPA (Hirschy et al., 2013). Identifying dimensions

of students' learning is essential, and therefore, all aspects must be included in a comprehensive evaluation of students' experiences and outcomes (Kahu, 2013).

Historical Perspective of Student Retention

The subject of retention has been debated for decades, with many of today's theories and views evolving from years of studies (Berger et al., 2012). Early research focused on the role personality, and motivation has in influencing students' willingness to meet the demands of college (Tinto, 1993). Researchers in this section were carefully studied in the writing of this dissertation; the following historical summaries describe their work.

Tinto's work. Historically, student retention was viewed through the lens of issues students brought to the institution (McCormick et al., 2013). Tinto's (1993) research builds a hybrid model which intersects both student and institutional characteristics as keys to the success and failure of students. Predominantly, Tinto's (1993) work revealed the need for progress of institutional characteristics as essential to increasing student success. The focus on both institutional and student characteristics shifted the burden from being solely on the student to a shared responsibility with institutions of higher education evaluating their practices from within (McCormick et al., 2013).

In Tinto's (1975) article, he described his theory through a vast amount of literature focused on students who do not persist; hence, he presented two challenges. In the article, Tinto (1975) expressed the need for higher education to describe dropouts and place students who depart into categories such as voluntary and involuntary. Involuntary dropouts would be students who left because of academic issues or administration action,

while voluntary dropouts were a students choice to leave on their own terms (Pervin, Reik, & Dalrymple, 2015). Another need Tinto (1975) found was for colleges to become familiar with the reasons student drop out. Tinto (1975) stated, "This paper attempts to formulate a theoretical model that explains the processes of interaction between the individual and the institution that lead differing individuals to drop out from institutions of higher education" (p. 90).

Tinto (1975) challenged colleges to track student departures in a way that measured interaction and integration between students and institutions they attended. Tinto (1975) understood student retention issues were beyond just theories; he believed non-college factors also played a role in student departure. While the majority of students enter college wanting to succeed, they bring with them characteristics and attributes which are specific to themselves (Tinto, 1975). Attributes such as academic skills, gender, race/ethnicity, and age play a role in students' pursuits of higher education (Morrison & Silverman, 2012). Tinto's (1975) theory connected institutional characteristics and commitment to students to student retention.

Alexander Astin. In addition to Tinto, work in the field of student retention was conducted by Alexander Astin (Berger et al., 2012). Astin's book titled, *Preventing Student from Dropping Out* (1975), had a significant influence in the field of student retention, which essentially tied into Tinto's theory, both in the timing of their research and the crossover in contributions (McCormick et al., 2013). With Astin's (1975) focus on developmental theory and student retention, he added to the movement of studying student retention.

Astin (1984) eventually wrote about the importance of student involvement, and the more involved a student while enrolled in college, the higher the chances of the student would be retained. Astin (1984) believed what a student gains both socially and academically can be attributed to the amount and quality of involvement as a student. His theory also included the need to connect the institution's desired outcomes to student development and co-curricular activities (Berger et al., 2012). Astin's (1984) theory conceptualized the importance of student demographics, past experiences, experiences while attending college, and eventual outcomes, which are what students gain while attending and graduating from college.

Astin's (1984) and Tinto's (1975) student success models were comparable in regard to explaining college student attrition. Criticism of Astin's work, as much as his theory, was that he focused solely on full-time students attending four-year institutions (Pascarella & Terenzini, 2005). Despite the lack of focus on community college students, research by Astin and Tinto are still considered today as the most significant contributions to student retention and engagement (McCormick et al., 2013)

C. Robert Pace. Pace's (1984) study of student retention is also still significant in today's theoretical student retention landscape. While Tinto primarily focused on student integration as a means of improved retention and Astin's work supported involvement, Pace's theories concentrated on time students engaged in opportunities provided by colleges (Astin, 1984; Pace, 1984; Tinto, 2012). The commonality of models of these three researchers focuses on the significance of student involvement for retention (Kuh, Kinzie, Schuh, Whitt, & Wiley, 2011).

Like Astin (1984), Pace's (1984) theory focused on the impact of student participation in both social and academic organizations and activities. Pace (1984) sought to assess a student's quality of effort; he did so by developing the College Student Experiences Questionnaire. Developed in 1979, Pace assessed the investment in using opportunities and resources an institution provides students to enhance their learning experience and development as a student (Tinto, 2016).

Pace (1984) theorized, "All learning and development require an investment of time and effort by the student. Time is a frequency dimension. The effort is a quality dimension because some kinds of effort are more educative than others" (p. 2). Pace concluded that a student's time deals with how often and long he or she dedicates time to a task and that a student's effort is the level of quality put forth in the effort towards a task (Berger et al., 2012). Specifically, Pace (1984) defined "time on task" as the duration a student has been enrolled in college and the length of time spent engaged in classroom work. Pace (1984) defined "quality of effort" as the magnitude of which students utilize opportunities and resources that institutions make available to enhance their learning and development. Pace (1984) determined a student's achievement is significantly improved by investing additional time and effort in tasks such as interacting with faculty and collaborating with peers on educational responsibilities.

John Bean and Shevawn Bogdan Eaton. Bean and Eaton (2002) formed a model of retention known as the psychological model of student retention. The focus of the model surrounds a student's mindset where the intention of leaving college occurs at the onset of enrolling in higher education (Bean & Eaton, 2002). Bean (2015) stated, "Intention is based on pre-matriculated attitudes and behaviors that affect the way a

student interacts with the institution. On the basis of this interaction, the student develops attitudes towards their experiences and norms related to student behavior" (p. 55).

Similar to other models, Bean's model is longitudinal and highlights student behaviors and beliefs while enrolled and attending school (Bean & Eaton, 2002). Bean and Eaton (2002) noted individuals enter school with set characteristics formed from personal experiences, talents, and self-assessments. The knowledge of these characteristics can be discovered and measured through a series of questions asked of students as they transition (Gordon & Steele, 2015). Questions in such areas as confidence in academic ability may measure normative beliefs (Gordon & Steele, 2015). Student self-reflection questions surrounding areas such as the opinions of influential people may assess past behavior (Bean & Eaton, 2001). Self-assessment questions which address academic and social experiences in higher education settings can assist with measuring critical emotional factors of student self-efficacy (Panadero, Brown, & Strijbos, 2016)

Students begin to engage themselves at institutions both socially and academically through classroom experiences, on-campus activities, interacting with faculty, and other student exchanges (Strange & Banning, 2015). New experiences are created while the student also remains in communication with friends, family, and past acquaintances separate from their school experiences (Strange & Banning, 2015). Bean and Eaton (2002) found:

> Connections and communications to institutional and individual contacts, unfortunately, does not equate to meaningful academic and social integration. Students conduct ongoing self-assessment as they interact with the college

> environment which can be detailed by several psychological processes. The self-assessments help students connect particular experiences they have had at the institution with their general feelings about college. (p. 75)

The 2002 model of Bean and Eaton is used to assess the interaction and response of students to their respective environments by looking at a number of areas. One area of the model which determines student persistence is titled *entry characteristics*; entry characteristics are factors the institution has little control over (Bean & Eaton, 2002). Entry characteristics such as past behavior, personality, initial self-efficacy, initial attributes, normative beliefs, coping strategies, motivation to attend, skills, and abilities are aspects the students bring with them to college (Kuh et al., 2011).

Pascarella and Terenzini (2005) developed a model which proved student characteristics and pre-college preparation have a direct impact on students' performance at the college level. Another area of the psychological model of student attrition titled *environmental interactions* includes bureaucratic, academic, social, and interactions external to the institution as aspects rooted within the organizational structure and culture of the college (Sandeen & Barr, 2014). Interactions between students and the institution are ongoing, yet interactions do not automatically integrate students into the environment (Braxton, 2000). Student-to-student interaction and student-to-institution interactions allow students to be personally linked in a profound way with many other aspects of the college (Sandeen & Barr, 2014). Kuh et al. (2011) determined students who were not connected through areas of the college socially or academically found the most attractive option was to return home.

Another area of Bean and Eaton's (2002) findings labeled *psychological processes* suggested students by nature employ some self-assessments while interacting with numerous institutional constituents. One of the methods described, self-efficacy, focuses on the way an individual perceives his or her ability to act in a certain way to assure specific outcomes (Gordon & Steele, 2015). The process referred to as a coping process, emphasizes how individual students can handle and adapt to stresses while attending college (Kuh et al., 2005).

According to Bean and Eaton (2002), "Institutional fit and loyalty lead to the intention to persist which leads to actual persistence" (p. 77). This piece of the model is titled, L*ocus of Control*, which is the belief students are in control or have a significant influence on their successes and failures (Bean & Eaton, 2002). Drawing connections between students' locus of control and the use of academic supports may be crucial to student retention (Drago, Rheinheimer, & Detweiler, 2018).

The psychological model of student attrition also focuses on intermediate outcomes (Mayhew, Bowman, Rockenbach, Seifert, & Wolniak, 2016). Intermediate outcomes include academic integration and performance along with social integration (Mayhew et al., 2016). All of the pieces of the model lead to a student's attitudes, intentions, and behaviors toward encouraging student retention and persistence (Mayhew et al., 2016). Each component shapes student perceptions of college life and affects their attitudes of institutional fit and institutional loyalty (Bean & Eaton, 2002).

Further evidence of the significance of student engagement towards persistence lies in the work of Pace (1984), who noted the greater the student involvement in various academic and social activities, the more likely the student will be successful in college.

Pace's perspectives placed an increased emphasis on context and led to what is described as a contextual model expressed as environment-experience-development (Knowles, Holton III, & Swanson, 2014). In the 1970s, Pace's work resulted in the concept of a student's "quality of effort" being of significance rather than Astin's I-E-O model and student characteristics, which ultimately led to the creation of the College Student Experiences Questionnaire (Webber, Krylow, & Zhang, 2013).

Alexander Astin and the I-E-O model. In addition to Tinto, research in student retention and engagement also focuses on the work of Alexander Astin (1985). Astin's model consisted of thinking about student performance as a model consisting of cause and effect between a student's contribution to his or her education, interaction with the environment, and outcomes of the educational experiences (Bean & Metzner, 1987). Astin's theory (1984, 1993) along with Tinto's theories (1975, 1993) are discussed in this chapter to demonstrate the impact of institutional and educational experiences of college students. Astin's (1985) and Tinto's (1975) theories capture the significance of the influence of higher education institutions on student engagement, as well as the role an institution can play in retention and graduation rates.

In Astin's (1975) book titled, *Preventing Students from Dropping Out*, he shared his theoretical work which concentrated on student retention through developmental theory. Astin's (1984) work with developmental theory added to the movement of studying student retention. Similar to Tinto (1975), Austin emphasized the importance of student engagement, both socially and academically. Their differences in college retention and development were revealed through Astin's (1993) student success model.

Astin (1993) and Tinto's (1993) views on college retention and development were vastly different. In Astin's (1993) model he stated:

> Inputs refer to the characteristics of the student at the time of initial entry to the institution; environment refers to the various programs, policies, faculty, peers, and educational experiences to which the student is exposed; and outcomes refers to the student's characteristics after exposure to the environment. (p. 7)

Astin's (1993) believed students' characteristics and persistence were pivotal to understanding student retention and engagement. The student's individual attributes such as academic potential, race, and gender, along with the impact of past educational experiences such as high school academic grades and social involvement play an essential role in predicting future successes or failures (Seidman, 2012). Bailey et al. (2015) concluded another foundational piece in both Astin and Tinto's models are institutional environment factors. An institutional environment includes students' objectives and institutional goals as well as the institution's commitment to students, such as interacting with faculty, socializing with other peers, and being involved in curricular development (Bailey et al., 2015).

Astin's and Tinto's student success model similarities included their approach to studying college student attrition; criticism of both Astin and Tinto's works were also similar (Ro, Terenzini, & Yin, 2013). Astin (1977, 1993) noted students remained at higher education institutions when students made connections with faculty and staff on campus. Tinto (1993) indicated the reasons why students leave college include, having difficulty with academics, a lack of social adjustment to college life, an unclear purpose

of being in college, and feelings of isolation. Consequently, retention can be profoundly affected by enhancing student interaction with campus personnel (Lei, 2016).

Student Retention and Engagement

Sternberg (2013) stated retention of college students is a significant problem affecting higher education today. Not only do colleges lose enrollment, revenue, and the opportunity to positively alter the lives of students who chose not to re-enroll; students' careers and potential incomes can hang in the balance as they move on from institutions where they enrolled and dropped out (AACC, 2014). Darling-Hammond (2015) documented the benefits of completing a degree or certificate in a trade continues to be crucial to society. College degree attainment has replaced high school diplomas and GEDs as the academic qualification most needed for financial independence (Baum et al., 2013).

In his work, *Leaving College,* Tinto (1993) summarized some crucial points. In short, facets which impact students and support them in being retained in higher education are similar to traits present that determine if a student will be academically successful (Center for Community College Student Engagement, 2012). Tinto (1993) recapped available evidence:

> Though the research is far from complete, it is apparent that the more students are involved in the social and intellectual life of a college, the more frequently they make contact with faculty and other students about learning issues, especially outside the class, the more students are likely to learn. (p. 69)

Quaye and Harper (2014) concluded student engagement is critical in combating the crippling affects student departure has on college campuses and society. Quaye and

Harper (2014) measured the significance of student engagement and found strong practical approaches and evidence in this area. Institutional leaders and stakeholders are becoming more aware of its impact and influence on achievement and learning in higher education (Kahu, 2013). Kuh et al. (2005) stated student engagement could be defined as the amount of involvement in the campus community and the ownership they take in their academic development, coupled with the amount an institution encourages overall student engagement both academically and in co-curricular activities.

When reviewing the CCSSE results, it was found, “Students learn more when they are actively involved in their education and have opportunities to think about and apply what they are learning in different settings” (Center for Community College Student Engagement, 2012, p. 4). Student engagement and its effects on the overall college experience are central to understanding college success at all levels ranging from membership in subpopulations to the entire college environment (Quaye & Harper, 2014). Astin and Oseguera (2012) established, “Having a lot of commuting students detracts from the institution’s ability to create a climate that encourages student engagement with campus resources, facilities, and personnel” (p. 123).

Community college leaders understand student engagement efforts are vital to the future of their institution's retention and overall enrollment numbers (Windham et al., 2014). Research shows the importance of training college employees on best practices in responding to students’ needs and the meaningfulness of campus life and activities on student engagement (Astin, 1993; Center for Community College Student Engagement, 2012). Umbach and Wawrzynski (2005) concluded faculty members are also an essential component in an institution’s effort towards student success. Colleges whose faculty have

significant student course-related interactions that occur both in and out of the typical classroom setting confirmed student gains in the areas of social development and overall learning (Umbach & Wawrzynski, 2005).

Investing in students through student retention supports. Exploring ways to help institutions whose populations include the neediest students is pivotal (AACC, 2014). Price and Tovar (2014) stated research in student retention has shown the value of investing resources on community college campuses across the nation. Fundamental retention questions as to why students are leaving college are regularly fielded at the federal and state level on topics of students leaving college and not continuing their education (Braxton, 2002). Past responses of reasons why high student attrition exist have been to lay the blame on either the student or institution (Quaye & Harper, 2014). Likewise, institutional shortcomings in the areas such as academic advising, career planning financial support, and counseling can translate to lower rates of student persistence (Gordon & Steele, 2015).

Because almost half of students who enroll in two-year institutions fail to re-enroll after their first year, it is crucial to find strategies to support students (D'Amico, Dika, Elling, Algozzine, & Ginn, 2014). The aforementioned statistic is staggering given the fact that community colleges are essential pieces of the American higher education system (Hersh & Merrow, 2015). It is estimated that by the year 2020, two-thirds of occupations in the United States will require a postsecondary education (NCES, 2016). Hence, completion is a critical target for community colleges and the students they serve (Price & Tovar, 2014).

In addition, studies also show some students who do not persist, "stop-out" temporarily rather than drop out altogether (Manning, Kinzie, & Schuh, 2013). Interruptions in postsecondary education prolong the time-to-degree and the possibility of not completing a degree at all (AACC, 2014). Many colleges focus on improving processes such as student support services, advising, and admissions, as a way to reduce student departure rates (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006).

Mayo (2013) theorized another successful strategy many colleges implement is commonly known as the first-year experience. First-year experiences are typically provided via face-to-face interactive courses early in the first months of the student's college career (Mayo, 2013). The goal among institutions for the first-year freshman seminar is to promote retention, persistence, completion (Mayo, 2013).

Peer Mentoring

College is a critical time in people's lives for development and growth (Nilson, 2016). The transition to higher education can present obstacles for students (Brooman & Darwent, 2014). Adjusting to academic rigors of college-level coursework, learning to navigate social aspects of becoming part of a new organization, as well as ensuring life necessitates while attending college have been shown to be difficult for incoming college students (Hartwell-Walker, 2015).

Peer mentoring is a common practice among higher education institutions (Mitchell, 2013). There are a number of implementation practices and definitions for peer mentoring (Terrion & Leonard, 2007). Several decades of peer mentoring and peer mentoring research has passed; yet, there is no consensus for a definition of peer

mentoring. This is unsurprising given the diversity of relationships classified as mentoring (Goodlad, 2013).

Research conducted by Terrion and Leonard (2007) defined two types of mentoring models. The first model is a more traditional approach to peer mentoring, "in which an older more experienced person serves one of two main functions; a task-related or career-related function; or a psychosocial function" (Terrion & Leonard, 2007, p. 150). The peer mentoring model, however, is contrasting traditional mentoring because "mentors and mentees who are roughly equal in age, experience, and power provide task and psychosocial support" (Terrion & Leonard, 2007, p. 150).

The use of peer mentoring in higher education has evolved to being seen as a valuable approach towards providing students with tools to be successful (Colvin, 2015). Peer mentoring provides a personal connection between a more veteran college student and a less experienced student and has the goal to assist academically and socially via offering encouragement, support, knowledge, and advice to the mentee (Smith, 2013). Through social interactions learning occurs and meaning is constructed from these interactions (Vygotsky, 1978).

Peer mentoring allows first-time college students a chance to enhance their social learning through interactions with their peers (Cook-Sather, Bovill, & Felten, 2014). Peer mentoring relationships provide social learning opportunities for community college students (Lundberg, 2014). Peer mentoring highlights the research of social learning theories, which focus on individuals learning indirectly by observing and modeling the behaviors with whom the person identifies (Mitchell, 2013).

In a college peer mentoring setting, first-year students observe their peers' behaviors and are more likely to seek to imitate their mentor's actions (Dweck, 2016). Peer mentors are crucial support for the learning process for college-aged students, primarily through modeling (Dalton & John, 2017). Peer mentoring provides numerous social interactions, which engage students in interactive learning (Sherman & Kurshan, 2005). According to Sherman and Kurshan (2005), "Social activities allow students to express and develop their understandings with peers as they pursue projects through conversations that stimulate examining and expanding their understandings" (p. 12).

An array of student development theories focused on student engagement, which impacts theoretical models of student development, exists (Kahu, 2013). One such theory is Erik Eriksen's eight stages of psychosocial development (Smith, 2013). Eriksen, both a developmental psychologist and psychoanalyst, is recognized for his philosophy on the psychological development of human beings (Smith, 2013). Eriksen penned the well-known phrase, "identity crisis," and his theory considered the impact of numerous outside sources of society plays in this area of development (Cote & Levine, 2014).

Eriksen's development theory concentrates on the personality development of humans starting at birth through death (Cote & Levine, 2014). In this epigenetic principle, Eriksen stated that personality develops in a fixed sequence and each phase builds on the previous one (Jones, 2013). Eriksen theorized each individual would go through these steps in a lifetime and progress through the steps in a specific order (Baltes & Schaie, 2013).

Multiple stages of Eriksen's psychosocial development model relates to college-aged student development and progress (Smith, 2013). Eriksen's model has stages which

highlight emerging adulthood and runs parallel to the average range of ages for enrolled college students and their development during the college years (Berk, 2017). The stage of the model which focuses on the age range of 18 to 35 is a time many individuals seek relationships and "settle down" in an effort of securing partners for intimate relationships (Merriam & Bierema, 2013). A theory that is consistent among Eriksen's stages of development and more present-day developmental theories is during the late teens to mid-twenties, individuals transition from being dependent upon others, i.e., caregivers, parents, and other adults and begin to make decisions for themselves (Gross & McIlveen, 2016).

Peer mentoring can have a positive impact on a student's transition and first semester of college (Mitchell, 2013). College students can experience a lack of belonging, impacting their development despite any maturing they may have experienced in high school or as employees in the workforce between high school and enrolling at a community college (O'Keeffe, 2013). Mentees are less likely to feel isolated and alone during stressful times due to the mentor relating to what their mentee is dealing with in their lives (Horton, 2015). Mentees can talk to their mentors about the stress they are going through (Horton, 2015).

Research has confirmed there are positive effects for new students when they work with a skilled peer mentor to ease the transition into college, thus increasing the odds of positive outcomes (Shook & Keup, 2012). The student and peer mentor relationship may play an essential part in the social and academic growth of first-time students and their transition into higher education (Lundberg, 2014). Accordingly, many institutions utilize formal peer leadership programs, which are by design networks to

allow new and at-risk students to interact with peers who are successful in college, to help and support the conversion into postsecondary education (Goodlad, 2013). Given the continuing issues associated with retention due to the many challenges and obstacles first-year college students face, measuring the effectiveness of peer mentoring as a retention tool in higher education is essential (Moxley, Najor-Durack, & Dumbrique, 2013).

While student mentoring relationships vary from campus to campus, the ultimate outcome is to help enrollees reach their academic objectives and finish their degrees in an attainable timeframe (Moxley et al., 2013). Student-to-student peer mentoring is recognized as a proven approach to promoting community college student success (DuFour & Eaker, 2009). While peer mentoring can be highly effective towards student retention, declining enrollment, falling budgets, and fewer resources, affect the decisions of supporting and dissolving programs such as peer mentoring (Barr & McClellan, 2018). These decisions are too often made with little research on the effectiveness of the employed approaches to student success and more so based on the balancing budget lines (Barr & McClellan, 2018).

The effectiveness of peer mentoring depends on several critical areas of the program (Mitchell, 2013). One such key is student-to-student peer mentors and mentees are more likely than participants in teacher-to-student mentoring relationships to make a personal connection and have a shared viewpoint with regard to how they understand and navigate the realities of being a college student in today's higher education realm (Colvin, 2015). This piece of the relationship matters greatly as the differences in vantage points impact the development of the mentee students' identification as a college student

(Mitchell, 2013). The mentor's standing and credibility are profound factors and determiners of whether mentees will buy in and take advantage of their mentors' guidance (Colvin, 2015).

Studies measuring the positive effect of peer mentors on both the development and increased knowledge level of college students provide support for student engagement best practices (Quaye & Harper, 2014). Through an inquiry using 192 variables related to the college-student life of approximately 50,000 undergraduate students, Astin (1993) found "the student's peer group is the single most potent source of influence on growth and development during the undergraduate years" (p. 398). Peer mentoring is also considered effective when implemented as an intervention in the success and retention of at-risk students (Colvin, 2015).

Peer mentoring is a one-on-one relationship that connects student mentors and student mentees who are of similar ages, with the mentor having had at least one semester of courses at the college level (Mitchell, 2013). The focus of the relationship is to build connections with resources, mentors, and support systems to enhance first-time students' academic and personal journey (Goodlad, 2013). Studying past peer mentoring data and current data will allow decision-makers to better focus on the effectiveness of peer mentoring towards retaining community college students (Baer & Duin, 2014). Focusing on the effect of peer mentoring on select student freshman groups and their success transitioning off academic probation, and also studying academic gains and successes of students having been mentored while on academic probation, is important (Mitchell, 2013). The importance is supported by research that supports peer mentoring as a tool,

which may create positive changes in campus settings through the use of trained students serving as role models (Woods & Preciado, 2016).

A focus of mentors being committed to fellow students' success through organized discussion and tutoring with individual and small groups of students is vital (Terrion & Leonard, 2007). Goals of peer mentoring are to assist students in gaining skills that can be used not only in the student's academic work but also in everyday life (Quaye & Harper, 2014). Peer mentoring at the community college helps students become the types of learners who succeeds beyond the community college setting, whether that be in a career field or transferring to a four-year institution (Kuh et al., 2011).

Peer mentors can have a positive influence on retention; mentors can encourage students to stay in college and pursue their education until they achieve their goals (Good & Lavigne, 2017). Skills learned through peer mentoring go well beyond the attainment of content knowledge and mastery of course readings (Mitchell, 2013). Critical skills such as collaboration, written and oral communication, originality, critical thinking, problem-solving, diversity, information management, content knowledge, personal management, and technological literacy are learned as well (Brophy, 2013).

Student-to-student peer mentoring has proven to have a positive impact on students' GPA, credits earned, and retention, with many advantages over other systems used to improve student outcomes (Smith, 2013). One such succinct advantage lies in the mentees ability to work with mentors in sharing a common perspective and attitude towards developing and shaping the role of the mentee as a college student (Terrion &

Leonard, 2007). The student-to-student relationship allows mentors to show they understand the struggles and hurdles of being a college student (Mitchell, 2013).

Another essential area of peer mentoring is the direction a mentor offers the mentee in developing a sense of college student identity (Shook & Keup, 2012). As students transition to college, whether that is from high school, another college, or from the workplace, learning a new version of themselves as college student can be a barrier to their success (Horton, 2015). One of the many ways a peer mentor supports college success is by helping new students learn to understand their role as a college student better (Horton, 2015). Barriers range from learning each of their instructors' expectations, while effectively applying their academic backgrounds and knowledge in the classroom setting (Gershenfeld, 2014).

First-year college students can learn their role as a student through mentor role modeling as a mentee (Dawson, 2014). From the mentoring connection, new college students learn firsthand how mentors handle a range of college issues from the classroom to finances to social skill sets needed to complete their education. (Terrion & Leonard, 2007). The interaction between mentor and mentee offers credibility, which addresses the social-psychological needs of new college students (Smith, 2013). The expertise an active and successful student mentee offers a new college student is invaluable, which is not only relatable but an excellent source of knowledge of factual information associated with the issues of being new to a college climate (Horton, 2015).

Community College Survey of Student Engagement

The correlation between student motivation and engagement to college success is strong (Wlodkowski & Margery, 2017). Survey instruments are used to assist colleges

with measuring attributes such as motivation and engagement to determine the areas an institution needs to improve to better retention and, ultimately, graduation rates (Wyner 2014). One such survey instrument, the CCSSE, is a standardized, research-based survey tool used in the United States to learn about individual college students' experiences and assess student engagement based on survey responses (Center for Community College Student Engagement, 2012). The primary purpose and function of the CCSSE are to highlight student engagement, or the amount of time and energy the students invest in meaningful educational practices (Center for Community College Student Engagement, 2013). This assessment tool is used to collect student feedback related to student engagement at their respective colleges, which is a significant gauge of persistence toward completion (Center for Community College Student Engagement, 2013).

The Center for Community College Student Engagement (2013) oversees multiple national student engagement survey research projects. The measures include the CCSSE, the Community College Faculty Survey of Student Engagement, the Survey of Entering Student Engagement, and the Community College Institutional Survey (Center for Community College Student Engagement, 2013). The CCSSE remains the leading and most widely given survey for the Center for Community College Student Engagement (2013). The center partners with researchers and engages in projects such as Building Relationships for Student Success, Community College Connections, and Starting Right (Center for Community College Student Engagement, 2013). Since founded, the Center for Community College Student Engagement (2013) has collaborated with multiple community colleges with their goal of increasing completion rates by over 50% over the next decade.

A key partner with the Center for Community College Student Engagement is the AACC (Center for Community College Student Engagement, 2013). The AACC highlighted the center's commitment to studying community college student engagement by issuing a dramatic call to increase completion rates and the center's many years of providing survey tools specifically designed for community college and their students (Center for Community College Student Engagement, 2013). The Center for Community College Student Engagement (2013) has received generous funding from organizations such as the Bill and Melinda Gates Foundation to join in a national project aiming to increase capacity for community colleges. The Phi Theta Kappa Honor Society has also partnered with the center to assist with their goal of increasing completion rates by over 50% over the next decade through a program the honor society calls, Commit to Complete (Center for Community College Student Engagement, 2012).

The CCSSE is centered on the concept of student engagement, student involvement, integration, and quality of effort in social and academic collegiate experiences related to student learning, persistence, and academic attainment (Center for Community College Student Engagement, 2013). The Center for Community College Student Engagement's (2012) research center houses many annotated bibliographies which support individual factors used in the survey tool. Marti (2008) stated the CCSSE is a "reliable instrument that can be used to inform institutional decision making about teaching practices, campus design, and institutional culture. . . and can be used for research with community college students" (p. 2).

The CCSSE survey is validated by years of work which has proven a positive relationship between survey responses of students related to the engagement behaviors

gathered by the CCSSE and better results for students at community colleges (Dudley et al., 2015). The validation demonstrates the CCSSE measures campus practices and behaviors of students which are meaningful and impactful; therefore, the CCSSE delivers a beneficial alternative for student success (Center for Community College Student Engagement, 2013). The survey is cited in many national journals due to the focus of their research and literature on community college assessment, benchmarking, and student completion (Bers & Younger, 2014).

The CCSSE is administered in college classrooms during the fall semester via a paper-and-pencil as a means to measure student engagement (Center for Community College Student Engagement, 2013). Comprised of 38 questions administered to a random stratified sample, the 50-minute survey measures five benchmarks the center has identified as key to enrollee engagement (Center for Community College Student Engagement, 2013). The data from categories such as Active and Collaborative Learning, Student Effort, Academic Challenge, Student-Faculty Interaction, and Support for Learning, are compared with community college information nationally by size, classes listed by size, and cohorts taking the survey during the same surveying cycle (Center for Community College Student Engagement, 2013).

Summary

The significance of college retention and persistence is evident through the vast amount of literature available on the topics (Mayhew et al., 2016). Many student characteristics need to be taken into account at institutions of higher education when studying retention rates of community colleges (Schneider & Yin, 2012). Hence, multiple retention models were presented in Chapter Two.

The models of Bean and Eaton (2002), Astin (1975), and Tinto (1975) were reviewed to obtain an understanding and foundation of retention. Also reviewed was the psychosocial learning theory of Eriksen which points out that positive student outcomes are derived from the successful adaptation of the ego, which must be reaffirmed and nurtured continuously (Berk, 2017). Peer mentors and mentees who collaboratively engage in positive social learning experience a sense of proficiency in their skills (Terrion & Leonard, 2007). Whereas negative experiences while attending college may cause the student to emerge with a sense of inadequacy and be more at risk of dropping out of school (Bailey et al., 2015).

In Chapter Three, select characteristics which play a role in retention and persistence, along with targeted interventions deployed to improve retention rates of students are explored as possible causes and interventions. The methodology and related areas to conduct this study are also presented. Specific data collection procedures along with analysis and ethical considerations are addressed.

Chapter Three: Methodology

Retaining students in higher education has been a concern for several decades (Tinto, 2012). Knowing about retaining students and taking action are two vastly different concepts (Tinto, 2012). Astin (1975) was correct when purporting:

> Dropping out of college is a little like the weather: [it is] something everyone talks about, but no one does anything about. This predilection for talk over action is reflected in much of the research on dropouts, which has focused more on counting, describing, and classifying them than on seeking solutions to the problem. (p. 1)

Consequently, using existing information as an indicator of students' success and failures is necessary to impact future change (Hirschy et al., 2013).

Closing gaps and barriers hindering student success is essential to student retention progress (Bean, 2015). According to Brooman and Darwent (2014), the two most commonly used statistics relating to student success are freshman-to-sophomore retention rates and first-year annual return rates. First-year student return figures are indicative of the overall amount of first-time, full-time college students who re-enroll after completing their freshman year (Brooman & Darwent, 2014).

In this chapter, the style of research methodology used in this study, specifically quantitative research methods, is explained. The problem and purpose, along with research questions, are restated. The population and sample of the study are identified, and the types of data that were collected are detailed. A brief overview of the analysis of the data is also addressed.

Problem and Purpose Overview

First-time students who enter community colleges are leaving institutions at a high rate, and these departures are resulting in less than satisfactory college completion rates (Sanders et al., 2016). College retention not only impacts students but the institutions they attend (Tierney & Sablan, 2014). Since a majority of research available has focused on four-year institutions, the need to conduct further studies in two-year community colleges and technical schools exists (Wyner, 2014).

In this study, the intent of conducting research was to discover if a difference existed between targeted student success engagement practices and student retention rates at a Midwestern community college. Multiple data measures were used to determine if composite scores from targeted areas of the CCSSE and student peer mentoring participation at a Midwestern community college aligned with the college's retention rates. If differences were found, the process of discovering specific results within data was explored. By advancing research from previous studies in the field of community college retention, the goal of this study was to postulate additional resources as well as ignite more discussion regarding community college student success in the higher education arena (AACC, 2014). Focused insight regarding community college student engagement provides more information to stakeholders such as researchers, policymakers, administrators, faculty, and accrediting bodies (Kuh, 2001).

Research Questions

To guide this research study, the following research questions were posed:

1. What is the statistical difference of the Community College Survey of Student Engagement (CCSSE) benchmarks and student groupings regarding student

retention for first-time freshmen?

$H1_0$: There is no statistical difference of the CCSSE benchmarks and student groupings for student retention of first-time freshmen.

H_{1a}: There is at least one statistical difference of the CCSSE benchmarks and student groupings for student retention of first-time freshmen.

2. How are retention rates of first-time freshmen who participate in a peer mentoring program different, if at all, when comparing like students who did not participate in the peer mentoring program?

$H2_{0:}$ There is no difference in retention rates of first-time freshmen who participate in peer mentoring when comparing like students who did not participate in peer mentoring.

$H2_{a:}$ There is a difference in retention rates of first-time freshmen who participate in peer mentoring when comparing like students who did not participate in peer mentoring.

3. What difference exists, if any, in the retention rates of select groups of freshman students who successfully move off academic probation after participating in peer tutoring and like students who do not?

$H3_{0:}$ There is no difference in retention rates of select groups of first-time freshman students who participate in peer mentoring and like students who do not.

$H3_a$: There is a difference in retention rates of at least one of the groups of first-time freshman students who participate in peer mentoring and like students who do not.

Research Design

Quantitative methodology was the type of research used to conduct this study. Quantitative research involves describing occurrences by collecting numerical data that are analyzed using mathematically-based measures (Neuman, 2014). According to Fraenkel, Wallen, and Hyun (2012), quantitative research using statistical methods begins with collecting data based on a hypothesis. Researchers then choose a methodology based on descriptive or inferential statistical methods (Locke, Spirduso, & Silverman, 2014). In quantitative research, data are collected using measurements which are objective (Lock et al., 2014).

There are several types of research which are classified as quantitative research including survey, correlational, causal-comparative, and experimental (Mills & Gay, 2016). Data are collected in survey research using sampling polls and questionnaires to get an indication of true behaviors with precision (Mertens, 2014). Survey research better allows researchers to assess behavior and systematically display findings (Mills & Gay, 2016). Typically expressed using percentages, survey research can compare one or several or groups at a time (Creswell, 2013).

In correlational research, tests are conducted to determine if there are relationships between two variables (Brezinski & Wuytack, 2012). A minimum of two groups is involved when using correlational research (Mills & Gay, 2016). The purpose of correlational research is to establish the effect one variable has on other variables and to study the relationship between them (Mills & Gay, 2016). Correlational research is conducted to explain an observed frequent event (Leedy & Ormrod, 2013). A certain amount of manipulation is involved, and once the information is amassed, data are

scrutinized mathematically to deduce assessments (Creswell, 2013).

Experimental research is explicitly guided by a hypothesis and can have several theories (Mills & Gay, 2016). Once a hypothesis statement is made, experiments commence proving whether the statement is true or not (Leedy & Ormrod, 2013). This type of research is the foundation of most sciences (Creswell, 2013).

Causal-comparative research, ultimately the type of quantitative research determined to be appropriate for this study, is used to show a cause-and-effect relationship and involves a comparison of the groups involved (Locke et al., 2014). The intent of causal-comparative research is not focused on the interaction of two groups and the impact on each other; rather, this style of research attempts to identify how different groups are affected by the same situation (Locke et al., 2014). Causal-comparative research is used to study two or more groups without focusing on their relationship between the groups (Leedy & Ormrod, 2013).

Since de-identified secondary data was used in this study, both qualitative and mixed methods research approaches were rejected as appropriate means to conduct this study. Qualitative research occurs in the participant's natural setting (Neuman, 2014). The purpose of this study was not to attempt to make sense of or interpret an occurrence in terms of the perceptions of participants (Locke et al., 2014). The drawback to the use of mixed methods research is the potential lack of bringing about a satisfactory integration of qualitative and quantitative methodologies (Leedy & Ormrod, 2013). Since quantitative methodology was the type of research conducted, both independent and dependent variables existed in the study (Mills & Gay, 2016). Independent variables can influence dependent variables (Fraenkel et al., 2012).

Population and Sample

The very process of research begins with identifying a population (Creswell, 2013). A sample of data was taken to represent the population (Fraenkel et al., 2012). To adequately represent the population and sample for this study, it was necessary to understand the participants as represented by the secondary data used in this study (Flick, 2014).

The college in this study has approximately 20,000 students, both full- and part-time, enrolled in courses on multiple campuses (Institution Catalog, 2017). The Midwest community college is fully accredited by the North Central Association of Colleges and Schools and the Higher Learning Commission (HLC) (Institution Catalog, 2017). Also, the college recently was involved in an accreditation process with the HLC (Institutional data, 2017). Accreditation by the HLC ensures that credit hours are accepted through reciprocity agreements in the 19 states that make up the association and all college credit hours are accepted throughout the 50 states (HLC, 2016).

The college serves a high part-time and continuing-education population. Approximately 40% of the total student population participates in the federal student loans program (Institutional data, 2017). Students attend the Midwest community college to receive training in over 150 certificate and degree programs (Institutional data, 2017). The Midwest community college serves the surrounding geographical area with the belief that student erudition is a core value of the school; employee knowledge is vital to their mission, and institutional education is the basis for evolution and advancement (Institutional data, 2017). The Midwest community college mission statement endorses learning as a lifelong progression, and learners are complex persons with intellectual,

physical, emotional, spiritual, social, ethical, vocational and economic dimensions (Course Catalog, 2017).

In this study, a sample of full-time students who completed the CCSSE was obtained; the sample consisted of 8,029 students. The sample was representative of the entire school population including identified subgroups (Center for Community College Student Engagement, 2013). Using stratified sampling resulted in a reduction of error, while focusing on smaller sample sizes (Mills & Gay, 2016).

Stratified sampling has numerous advantages over simple random sampling. (Mills & Gay, 2016). Researchers use stratified sampling to lessen or enlarge the sample size required to achieve a given precision with the same sample size (Bluman, 2014). In this study, once groups were stratified by benchmarks, random samples were selected from each of the subgroups (Creswell, 2013; Fraenkel et al., 2012). Students below the age of 18 and students who had taken the assessment multiple times were omitted from the sample.

The CCSSE is administered via paper in classrooms during the fourth and fifth weeks of the fall semester (Center for Community College Student Engagement, 2013) . Multiple semesters of surveys were examined for the purposes of this study. The de-identified data sample was stratified before analyzing to ensure selected variables were represented in the sample (Landsverk et al., 2012).

Data were also collected from the campus peer mentoring program. Peer mentoring is a pilot program offered to students who are first-year students at the Midwest community college (Institution Catalog, 2017). In this study, persistence and retention of students who participated in the peer mentoring program were analyzed. This

component of the study provided feedback to determine the success of the peer mentoring program while serving first-year, at-risk, underprepared students through peer mentoring interventions and a developed, coordinated system of first-year support, including a case management approach to advising and peer mentoring.

Survey participants who did not fit the predefined objective of the study were excluded to ensure scientific and ethical principles of this study. Those surveyed who were ruled out to safeguard data integrity of the study included students under the age of 18, non-full-time enrolled students, and individuals who completed the survey multiple times. Similar to inclusion criteria, exclusion criteria are used as guides to ensure the integrity of data collected (Sieber & Tolich, 2013).

Instrumentation

Data from the results of the CCSSE instrument were obtained from the institution's student information system at a Midwestern community college. The 38-question instrument validated connections between student engagement and student outcomes including, but not limited to, persistence, academic performance, and attainment (Center for Community College Student Engagement, 2013).

Additionally, data from a pilot program comprised of first-year experience students engaging in peer mentoring and peer tutoring were also used in this study (Institutional data, 2017). The mentoring program is designed to support underprepared, first-year students. Data were collected using Jenzabar's student tracking system (Sardonis, Strodtman, & Stober, 2012). De-identified data collected from this program were used to compare like students who were not participants in the peer mentoring program. The NCES (2016), a center of the Institute of Education Services (2016), which

is the research arm of the United States Department of Education, was used to confirm data from the in-house tracking system. Data collected by the NCES are standardized, and the NCES data reduces the chance of bias, which often occurs during the collection of data (Dickinson & Adelson, 2014).

Data Collection

To begin the research study, permission was obtained from the Midwest community college's Institutional Review Board through a request which was completed to outline the purpose and approach for the study, and then permission was obtained from Lindenwood University (see Appendix A). After permissions were secured, a formal request was made to the Office of Institutional Research at the Midwest community college to obtain the de-identified data representing the sample population (see Appendix B).

Data requested were previously collected by the Midwestern community college's Office of Institutional Research. Surveys were proctored by faculty and staff of the college to pre-determined randomly-selected courses, which were chosen by the CCSSE institute for fall semester administration. Data were requested in a de-identified digital format. Once data were obtained, the researcher began analysis. Research data were anticipated to be analyzed using both descriptive and inferential statistics. Data were collected and transmitted to the Statistical Package for Social Sciences (SPSS).

Data Analysis

The purpose of data analysis is to statistically answer research questions (Locke et al., 2014). Bluman (2014) noted data analysis is a process of inspecting, cleaning, transforming, and modeling data with the goal of emphasizing useful information,

suggesting conclusions, and supporting decision making. Preexisting data were obtained in this study; there are multiple benefits to using pre-existing data, such as time savings and more extensive databases (Bryman, 2016). Concerns with using pre-existing data are participants are not readily available to be questioned for reliability (Bryman, 2016).

Both descriptive and inferential statistics were utilized in this study to analyze data. Specific data collected were analyzed using descriptive statistics. Percentages and frequencies were used with descriptive statistics to initially encapsulate and describe data (Fraenkel et al., 2012). To determine if a statistical difference existed, inferential statistics were used (Bluman, 2014).

For the first research question, the statistical test chosen was a Wald chi-square test. The Wald chi-square test is a method used to test the significance of independent variables within a research model (Sen & Singer, 2017). According to Sen and Singer (2017), chi squared *t*-tests are appropriate to use when working with an array of variables. With the Wald chi-square test, ordinal logistic regression is used to predict a dependent variable given one or more independent variables (Meyers, Gamst, & Guarino, 2016). For this study, using ordinal regression allowed interactions between independent variables to predict dependent variables (Meyers et al., 2016). The four assumptions needed for ordinal regression to document findings to provide valid results were considered (Hosmer Jr., Lemeshow, & Sturdivant, 2013).

The student grouping variables for research question number one were categorical. Data included age of participants, gender of participants, race/ethnicity of participants, number of hours participants worked for pay, and the level of public assistance participants received. Data for research question number one were ordinal with

outcome-dependent variables.

When analyzing data, Wald statistic values with the highest scores indicate the independent variables which are more predictive of the outcome dependent variables (Hox, Moerbeek, & Van de Schoot, 2017). In this research study, chi-square tests were conducted to investigate whether the distribution of student responses on the CCSSE varied when compared to one another using retention as the dependent variable (Hosmer Jr. et al., 2013). An alpha level of .05 was used.

For research question number two, data were analyzed using a two-proportion *z*-test and an alpha level of .05. This type of inferential analysis is conducted when the researcher wants to know more information about two populations (Bluman, 2014). In this research study, the two populations explored were students who participated in a peer mentoring program and students who did not. The outcome or independent variable used for this question was student retention.

Research question number three and respective hypotheses were addressed using a *t*-test for independent samples (Pituch, Stevens, & Whittaker, 2013). Retention was the criterion variable, which was defined as sustained enrollment of first-year students from enrollment in their first fall semester of 2016 with continued enrollment in the following fall semester of 2017. The alpha level of .05 was used to test the null hypothesis.

The probability of missing data was likely as is the case with the majority of research (Mertler & Reinhart, 2016). For this study, any missing data were the result of survey respondents failing to or not having the ability to respond to questions within the survey. Missing data from the study's variables were removed before the analysis began.

Specific survey questions relevant to retention of first-year community college

enrollees were selected from the CCSSE for this study. Students were categorized as retained or not retained, as determined by institutional tracking data. In Table 1, the question related to the age of the participants is shown.

Table 1

Retention Using Background Related to CCSSE Questions

Background Information	CCSSE Questions	Responses
Age	Mark your age group	Under 18
		18-19
		20-21
		22-24
		25-29
		30-39
		40-49
		50-64
		65+

Note. Question number 29 from the survey titled, *The Community College Student Report* (2016).

Another specific question relevant to retention of first-year community college enrollees was asked regarding gender. Students selected male or female or were given the option not to answer the question. Working while going to school was another area on the CCSSE assessment. Students chose the number of hours they worked from a range of *none* to *more than 30*. In Table 2, the question regarding working is presented.

Table 2

Retention Using Background Related to CCSSE Questions

Background Information	CCSSE Question	Responses
Working for pay	Number of hours	None
		1–5
		6–10
		11–20
		21-30
		More than 30

Note. Question number 10b from the survey titled, *The Community College Student Report* (2016*).*

Students who use financial aid, specifically students who use student loans was another question asked on the CCSSE instrument. This prompt allowed students to choose the level they used financial aid while going to school. The levels students could choose were a major source of educational payment, a minor source of support for education, or not a source at all.

Other information collected through the CCSSE was related to the category of race and ethnicity. Students could choose the category they identified as most relevant.

They also had the option to not reveal their race or ethnicity. The information is presented in Table 3.

Table 3

Retention Using Background Related to CCSSE Questions

Background Information	CCSSE Question	Responses
Race/Ethnicity	What is your racial or ethnic identification	American Indian or other Native American Asian, Asian American or Pacific Islander Native Hawaiian Black or African American, Non-Hispanic White, Non-Hispanic Hispanic, Latino, Spanish Other

Note. Question number 34 from the survey titled, *The Community College Student Report* (2016).

Ethical Considerations

Data collected through this research study was presented in a general, de-identified manner so no personal or individual student information was revealed (DePoy & Gitlin, 2015). No scores were extracted and analyzed individually. It is highly improbable anyone would be able to identify a single student in this study or dataset. In addition, the Center for Community College Student Engagement (2013) maintained student-identifications are confidential; identifying information is not released to the college or any agency.

By using strict guidelines, confidentiality, anonymity, and privacy of students are protected (McMillan & Schumacher, 2014). The concealment of student data was further verified by the administration of the Midwest community college by requiring the Office of Institutional Research to extract data and ensure the de-identified state. Only after these procedures occurred were data presented to the research so that analysis of the data could begin in this study.

To ensure confidentiality of data, all information and documents were kept in a secured filing cabinet under the supervision of the researcher. All electronic files were protected by using a password and a personal computer on a secured site. In compliance with research protocols, all documents and records will be destroyed three years from completion of the research project (DePoy & Gitlin, 2015).

Summary

In Chapter Three, the problem and purpose of the study were restated. The three research questions with the null hypotheses were reviewed. The population of the study was discussed along with methods used to extract a representative sample (Creswell, 2013). After IRB approval was sought from Lindenwood University, permission to obtain de-identified data collected on first-time college students enrolled in an open admissions public Midwestern community college were retrieved from student responses on the CCSSE, via the institution's research department. Also in this chapter, data collection procedures that occurred during this study were reviewed, and data analysis procedures were presented. In the data analysis section, anticipated types of descriptive and inferential statistical tests were discussed. In addition, ethical considerations needed to ensure the study was done properly were also stated.

In Chapter Four, an extensive discussion of the data analyzed are presented. The specific data analysis used to answer each research question is discussed. Narrative explanation along with tables of information are offered to further explain the data.

Chapter Four: Analysis of Data

The objective of this study was to add information concerning the retention of students who enter community colleges (Center for Community College Student Engagement, 2013). By focusing on the CCSSE benchmarks, peer mentoring programs, as well as targeted areas of student services used by students to complete their degrees, information was garnered to determine if these factors support community college students in becoming degree completers. Student success in college is one of the primary concerns for stakeholders in higher education (Moxley et al., 2013). In this research project, the focus was on areas where more emphasis is needed regarding student retention (Creswell, 2013). In Chapter Four, descriptive and inferential statistics and are presented.

Bean and Metzner's (1987) student attrition model was used as a framework in this study to determine if persistence factors identified by items on the CCSSE could be used to predict persistence of first-year community college students at one Midwest community college. As suggested by Bean and Metzner (2002), analysis of student behaviors and beliefs while students are enrolled and attending college is relevant (Bean & Eaton, 2002). As defined by items on the CCSSE (Center for Community College Student Engagement, 2013), the student attrition model (Bean & Metzner (1987) was used to predict the retention of first-year students who completed the survey.

In sections that follow, a brief summary of participants' demographics and the data used in the study are reviewed. Outcomes of the analysis of data are presented in order by research question. Narrative explanations, tables of information, as well as

statistical analysis are presented to clarify the information. Finally, a summary is provided to recap the contents of the chapter.

Demographic Information

The sample for the first portion of the study consisted of de-identifiable data provided by the Office of Institutional Research at the participating community college. Institutions that have students take the CCSSE are categorized by three characteristics: location, campus type, and student enrollment (Center for Community College Student Engagement, 2012) . Locations of colleges are categorized in one of three ways, whether the communities served are rural, suburban, or urban (Center for Community College Student Engagement, 2012). Colleges are categorized as either single campus, multi-campus, or multi-college settings (Center for Community College Student Engagement, 2013). The size and student enrollment of colleges are classified as fewer than 3,000 students to 15,000 or more students, and the enrollment determines the cost of the survey (Center for Community College Student Engagement, 2013). The Center for Community College Student Engagement (2013) rated the Midwestern community college in this study in the urban, multi-campus, extra-large category.

Data for research question number one included survey scores of 8,029 students who completed the CCSSE from randomly selected classes from the five campuses of the Midwestern community college. Questions on the survey focused on institutional practices and student behaviors which were highly correlated with student retention (Center for Community College Student Engagement, 2013). The survey has five benchmarks which focus on the student experience (Bers & Younger, 2014).

Some exclusions occurred in the study. Students who were excluded from the sample were respondents who did not indicate full-time enrollment, were enrolled at the institution part-time, reported age as under 18, or had previously taken the survey. Exclusions were identified to protect the integrity of the data (Mcdowell, 2013).

Data for research question number two and three were also obtained from the Office of Institutional Research. De-identified data retrieved were focused on retention of first-time freshmen who participated in the Midwestern community college's peer mentoring program. For this study, 2,001 first-year college enrollees were selected to participate in the peer mentoring programs from all five campuses of the institution.

Beyond studying participants retention in the peer mentoring program, research question number three also focused on students who were on academic probation and the impact of peer mentoring participation while on academic probation. Data for research question number three was also obtained from the Office of Institutional Research. For this study, 2,001 first-year college enrollees were selected to participate in the peer mentoring programs from all five campuses of the institution.

Data Analysis

In this section, findings from each research question are presented. Descriptive analysis is presented first including frequencies and percentages. Student information including characteristics and dependent variables to provide further details, clarity, and a better understanding of the data results are presented prior to inferential statistical quantitative analyses. Frequency tables were created to present data for age, gender, race/ethnicity, number of hours worked for pay, and public assistance received.

Descriptive analysis of data for the research questions. As shown in the frequency table, most students surveyed fell into two age ranges, 18 to 19 and 20 to 21 years of age. Student age ranges of 18- to 19-year olds and 20- to 21-year-olds made up over half of those surveyed. All ages represented in the study are shown in Table 4.

Table 4

Age of CCSSE Participants

Age	*n*	%
18-19	3,627	45
20-21	2,898	36
22-24	504	6
25-29	317	4
30-39	467	6
40-49	202	2
50-64	11	.5
65+	3	.5
Total	8,029	100.0

Note. Question number 34 from the survey titled, *The Community College Student Report* (2016). Abbreviation: *n* = subsample size, and % is the percent of the sample.

Gender was another area studied for research question number one. While the difference was modest, most of the surveyed students were female. Males made up less than half of the total, while females were the majority in this study. Gender percentages are presented in Table 5.

Table 5

Gender of CCSSE Participants

Gender	*n*	%
Female	4,558	56.7
Male	3,471	43.3
Total	8,029	100.0

Note. Abbreviation: *n* = subsample size, and % is the percent of the sample size.

Most participants in this study identified as Caucasian. There was a gap between the next highest race/ethnicity group with students identifying as Black or African American and those reporting as Hispanic, Latino, Spanish. The least number of participants self-identified as Asian, Asian-American, Pacific Islander, or as American Indian or other Native American. A concentrated group of pupils were classified as Other. All race/ethnicity participants represented in the study are shown in Table 6.

Table 6

Race/Ethnicity of Participants taking the CCSSE

Race/Ethnicity	*n*	%
American Indian or other Native American	122	2
Asian, Asian American, or Pacific Islander	188	2
Black or African American, Non-Hispanic	2,105	26
Native Hawaiian	8	1
Hispanic, Latino, Spanish Latino	446	5
White, Non-Hispanic	5,098	63
Other	62	1
I prefer not to respond	0	0
Total	8,029	100.0

Note. Abbreviation: *n* = subsample size, and % is percent of the sample size.

More students answered they worked for pay than students who marked they worked zero hours per week. In fact, only 6% of students surveyed reported not working at all. The majority of surveyed students worked substantial hours each week. A large number of students worked more than 11 hours a week, while fewer students worked six to 10 hours per week. The smallest number of students worked six to 10 hours compared to the greatest number of students who worked 30 or more hours per week. All hours worked by students represented in the study are shown in Table 7.

Table 7

Hours Worked for Pay per Week of CCSSE Participants

Hours per week	*n*	%
None	491	6
1–5	246	3
6–10	65	1
11–20	1,132	14
21–30	2,094	26
More than 30	4,001	50
Total	8,029	100.0

Note. Abbreviation: *n* = subsample size, and % is the percent of the sample size.

The majority of students relied on student loans to pay for tuition. A large portion of students marked student loans as a major source used to pay tuition at the Midwestern community college, while a much smaller percentage marked student loans as a minor source or not a source to pay tuition. All student loan categories represented in the study are shown in Table 8.

Table 8

Public Assistance Received by CCSSE Participants

Public Assistance	*n*	%
Major source	5,280	66
Minor source	2,258	28
Not a source	491	6
Total	8,029	100.0

Note. Major source = More than 50% of tuition paid; Minor source = Less than 50%, more than 0%; Not a source = 0% paid. Abbreviation: *n* = subsample size, and % is the percent of the sample.

Gender was also reported for research question number two and three. The majority of students who participated in the peer mentoring program were male. Out of 1,158 students, 57.9% were male. Females made up less than half of the total surveyed (42.1%).

The majority of students participating in peer mentoring fell into two age ranges, 18 to 19 and 20 to 21 years of age. Student age ranges of 18- to 19-year olds and 20- to 21-year-olds were well over three-fourths of students surveyed. All ages who participated in peer mentoring are shown in Table 9.

Table 9

Age of Peer Mentoring Participants

Age	*n*	%
18–19	1592	80
20–21	306	15
22–24	66	3
25–29	15	.7
30–39	8	.3
40–49	9	.3
50–64	3	.2
65+	2	.1
Total	2001	100.0

Note. Abbreviation: *n* = subsample size, and % is the percent of the sample.

Inferential statistical analysis of research question one. The first research question, *What is the statistical difference of the Community College Survey of Student Engagement (CCSSE) benchmarks and student groupings regarding student retention for first-time freshmen?* was analyzed using Wald's Test of ordinal logistic regression. Wald statistic values provide an indicator of the relative predictive strength of independent variables in a study with outcome-dependent variables (Hox et al., 2017). For this research question, Wald's statistic values of 100 or higher were considered significantly

different (Azzalini, 2017). For research question number one, Wald's statistic values were listed from highest to lowest, as recommended by Hox et al. (2017), as the best arrangement to compare variables.

Specific subgroups from a Midwestern community college were explored using the CCSSE benchmark data gleaned from the survey. The CCSSE uses benchmarks as a method of grouping related survey items which conceptually focus on best practices for institutions to implement and student behaviors that promote student engagement (Center for Community College Student Engagement, 2013). The five CCSSE benchmarks which were used in this study are Active and Collaborative Learning, Academic Challenge, Student Effort, Student-Faculty Interaction, and Support for Learners (Center for Community College Student Engagement, 2013).

Chi-square analysis was used to measure the association between the five CCSSE benchmarks and students retained and not retained. A chi-square test of goodness-of-fit was used to display whether the observed data fit the expected data (Lindgren, 2017). The chi-square goodness-of-fit test is most significant and reliable in studies with larger populations and is best applied to data placed in categories or classes (Lindgren, 2017).

When comparing the CCSSE benchmarks of specific student groupings, two of the five CCSSE benchmarks were statistical different when compared with student retention for student groupings. The CCSSE benchmarks with a significant statistical difference were Student Effort and Support for Learners. All CCSSE benchmarks analyzed as a total group are presented in order in Table 10.

Table 10

Retention by Benchmark of CCSSE Total Group

Benchmark (variable, grouping)	Est.	Wald	*df*	*p*
Student Effort (Benchmark 3)	.009	132.142	1	< .05
Support for Learners (Benchmark 2)	.007	102.415	1	< .05
Student-Faculty Interaction (Benchmark 5)	.004	69.249	1	< .05
Active and Collaborative Learning (Benchmark 4)	.001	0.858	1	< .05
Academic Challenge (Benchmark 1)	.001	0.149	1	< .05

Note. Abbreviations: Est. = estimate, Wald = Wald statistic, *df* = degrees of freedom, *p* = probability.

Findings related to variables for CCSSE benchmarks. Independent variables identified for research question one were also analyzed to determine whether a difference existed. Gaps in educational attainment related to factors which affect retention such as gender, age, number of hours worked for pay, and public assistance received have gained much attention, especially among students in higher education (Windham et al., 2014). The CCSSE benchmark independent variables analyzed to determine if a difference existed were age, gender, number of hours worked, and public assistance received. Specifically, the impact of a student's gender in retention was significant for this study in seeking differences within the sample group. Grouping students by age for this study was

vital in studying current student support benefits to all first-year community college students, regardless of age.

Seeking data on students who were employed, grouped by the number of hours employed each week, allowed the researcher to hone in on retention of students who had such a commitment while enrolled as a first-year student. Gleaning data for students who used student loans and their rates of retention allowed the researcher to identify if borrowing money had an impact on student retention. Findings related to each of the independent variables follow.

Findings of the gender-focused chi-square test were run to determine if there was a significant difference between student retention and gender at the Midwestern community college. A chi-square was run with the results 3.41301 and $p \leq = .065$. Chi-square results indicated scores of the two variables, student retention and gender, were not significantly different.

The next area analyzed was students who use student loans and retention. Once again, a chi-square test was performed to determine if there was a significant difference. Results of the chi-square test were .12838 with a $p \leq = .741$. Results indicate no significant difference between retention and students' use of public assistance.

Student age groups were also analyzed with groupings following the same format used in the student survey. A chi-square test was performed to determine if there was a significant difference among groupings of ages. Results indicated some groupings were significant while others were not. A significant difference existed in the age group 50 to 65 (55.3%), and a significant difference existed in the non-retention of students in the 18 to 24 age group.

The next variable analyzed was students who work while going to school. Chi-square test results showed a significant difference between student retention and hours students work for pay. The chi-square results were 12.49852 with a $p \leq = .014$. The greatest number of retained students worked fewer hours for pay when compared to students working more hours for pay. The greatest number of students retained while working for pay fell in the one to five and six-10 hours worked categories.

Inferential statistical analysis of research question number two. The second research question, *How are retention rates of first-time freshmen who participate in a peer mentoring program different, if at all, when comparing like students who did not participate in the peer mentoring program?* was analyzed using inferential statistics. For research question number two, a two-proportion *z*-test was applied to evaluate the difference in student retention of participants who participated in a peer mentoring program and students who did not participate in peer mentoring. *Z*-tests are used when testing the hypothesis of two population variances with sample sizes of 30 or larger (Bluman, 2014). A two proportion *z*-test is used to compare two populations on a common variable but which otherwise are independent of each other (Bluman, 2014). The level of significance for this research question was set at .05.

To conduct the test, a *z*-score was calculated for each of the two comparison groups (Bluman, 2014).. Of the 2,001 students in the peer mentoring program, 57.71% were retained, obtaining a score of 1.95. There were 1,759 students, or 39.45% who did not participate in the peer mentoring program, which when calculated, achieved a score of -1.82. When the two groups were compared, a *z*-score of 1.18 was obtained, with $p = .0337$. At the .05 level of significance, it was determined there was a significant

difference between students who engaged in the peer mentoring program and students who did not partipcipate in the program. For research question two, the null hypothesis was rejected. Results are shown in Table 11.

Table 11

Peer Mentoring Program

Category	*n*	*%*	*z*	*p*
Peer-mentored Students	2,001	57.71	1.18	0.0337
Non-Peer Mentored Students	1,759	39.45		

Note. $P \leq = < 0.05$. Abbreviations: *n* = sample size, *%* = percent, *z* = *z*-score, *p* = *p*-value.

Inferential statistical analysis of research question number three. The third research question, *What difference exists, if any, in the retention rates of select groups of freshman students who successfully move off academic probation after participating in peer tutoring and like students who do not?* was analyzed using inferential statistics. Student populations consisting of first-year students engaged in a peer mentoring program over the course of a one-year time span was the focus of research question three. The qualified sample consisted of students who were determined through a series of considerations.

First, all students who had graduated from high school and were enrolled as a first-year, full-time college student and chose to participate at the Midwestern community college peer mentoring program, were selected. A total of 2,001 students were placed on probation while participating in the peer mentoring program. Participants were selected from lists provided by the Midwestern community college of first-year students served by

the peer mentoring program. Lists of all first-semester, first-time college students were used to compare to those who participated in the peer mentoring program while on probation.

Of the 2,001 students on academic probation, while participating in the peer mentoring program, 50.87% who moved off probation were retained, while 49.13% who remained on probation were retained. Data were analyzed using a *t*-test, and the means of both student groupings were analyzed. When means were analyzed, a result of 0.349 was obtained indicating there was not a statistically significant difference between students who received peer mentoring and retention and students who did not. Hence, the null hypothesis was not rejected. The results are shown in Table 12.

Table 12

Academic Probation Analysis of Peer Mentoring

Category	*M*	*SD*	*t*	*df*	*p*
Move Off Probation Retained	4.18	.71	1.183	1	0.349
Remain on Probation Retained	4.05	.69	1.772	1	

Note. $P \leq = < 0.05$. Abbreviations: *M* = mean, *SD* = standard deviation, *t* = *t*-stat.

Summary

This study was focused on retention of specific first-time, first-year students when comparing CCSSE benchmark responses of specific student groupings at a Midwestern community college. Student demographic information was presented in this chapter. Using the CCSSE benchmarks, specific student groupings and benchmarks that

indicated a difference between retention of students and benchmarks which did not for students classified as first-time freshmen were discovered. Also, it was found there was not a difference between retention and academic probation of students in peer mentoring programs.

In Chapter Five, a summary of the research and data analysis is provided, and implications for practice are discussed. Recommendations for future studies involving student retention are made based on the results of the study. Suggestions for modifications to this study for future research are made to improve the level of targeted student success engagement practices and student retention rates.

Chapter Five: Summary and Conclusions

Nationally, students enrolled full-time at community colleges graduate at a rate of 57% within six years (AACC, 2015). According to the National Student Clearinghouse (2016), the six-year completion rate for all community college students regardless of attendance status is 39%. Such data provided justification that this study of first-year community college student variables and possible connections with retention was a critical area to explore.

Informed community-college professionals understand the need, especially in today's competitive higher education market, for continued research focused on seeking connections between first-year community college student retention and resources for first-year students (Morgan, 2013). Hence, analysis of student departure (McCormick & McClenney, 2012). The analysis must include an institution's implementation of interventions to improve retention rates; students persisting to earn a degree can be a valuable contribution to the community college field (McCormick & McClenney, 2012).

In the following sections of Chapter Five, findings for research questions one, two, and three are summarized. Results of the analysis are viewed and compared to the research presented in Chapter Two. Implications for practice are discussed along with recommendations for future research. The chapter ends with a summary and reflections.

Findings

The purpose of this study was two-fold. First, data were collected from one community college to determine if there was a difference between the CCSSE benchmarks and specific student variables. Also, information regarding the effectiveness of the institution's peer mentoring program was analyzed to determine the difference

between the retention of freshmen students who participated in the program and were on probation and like students who had not participated in the program.

For the first research question, student variables were measured among five student engagement benchmarks and retention rates. The research question, *What is the statistical difference of the Community College Survey of Student Engagement (CCSSE) benchmarks and student groupings regarding student retention for first-time freshmen?* was addressed using a Wald chi-square analysis (Mertler & Reinhart, 2016).

To answer this question, ordinal regressions were conducted, which allowed interactions between independent variables to predict dependent variables (Bluman, 2014). As a result, two of the five student engagement CCSSE benchmarks, Student Effort and Support for Learners, were found to be statistically significant for student retention.

The second research question, *How are retention rates of first-time freshmen who participate in a peer mentoring program different, if at all, when comparing like students who did not participate in the peer mentoring program?* was addressed using *t*-tests for independent samples (Pituch et al., 2013).

A $p < .05$ level of significance was set to determine if a statistically significant difference existed between the two groups of students (Fraenkel et al., 2012). The outcome of this analysis revealed a statistically significant difference in the number of first-year, peer-mentored students who were retained when compared to non-peer mentored, first-year students. Therefore, the null hypothesis was rejected.

The third research question, *What difference exists, if any, in the retention rates of select groups of freshman students who successfully move off academic probation after participating in peer tutoring and like students who do not?* was addressed by using *t*-tests for independent samples (Pituch et al., 2013).

The level of significance was set at $p < .05$ to determine if a statistically significant difference existed between the two groups of students (Fraenkel et al., 2012). The outcome of this analysis revealed there was not a statistically significant difference in the number of first-year, peer-mentored students retained while remaining on academic probation when compared to the first-year, peer-mentored students who moved off academic probation. Therefore, the null hypothesis was not rejected (Salkind, 2016).

Conclusions

As demonstrated in this study, student variables and institutional programming could have a significant impact on the retention of first-year students. Socioeconomic status, first-generation student status, academic unpreparedness, and employment are obstacles to student success (Entwistle & Ramsden, 2015). These barriers, coupled with a lack of student resources as documented in Chapter Two from Bailey et al. (2015), are noted as a lack of quality supports in the form of academic advising, career planning, and financial resources and are tied to low completion rates.

In response to research question one, not every CCSSE benchmark was linked with retention. Some variables within each benchmark proved to be indicators for student success (Center for Community College Student Engagement, 2012). The outcomes of the Wald chi-square test pointed to the significance of interactions between

student effort and the employment of institutional resources that lead to improved retention outcomes.

As stated in Chapter Two, shifting the burden from students being solely responsible for their persistence and completion to a shared responsibility between the institution and the student, allowed for initiatives to get off the ground (McCormick et al., 2013). When retention focus is data driven, student efforts are maximized and play a more significant role in first-year students' success (McCormick et al., 2013).

The two variables which met the Wald test threshold go hand in hand. When students put forth the effort and feel supported academically and socially; the likelihood of success rises (Tinto, 1975). Furthermore, as discussed in Chapter Two, Pace's (1984) theory of student retention is still significant. Pace (1984) sought to assess students' "quality of effort" which was highlighted in the results of the CCSSE as an area students understood to be vital to completing college. Investments institutions made to enhance the learning experiences of students, coupled with student effort levels, led to positive student retention results (Pace, 1984).

The second research question was posed to address the retention rates of specific student groups who participated in peer mentoring compared to students who did not participate in peer mentoring at a Midwest community college. Primary obstacles for student success presented in Chapter Two were found in this study to be barriers to student success. Common first-generation college student hurdles such as poor time management, lack of study skills, the need to acclimate socially, and overcoming personal struggles were a focus of the Midwest community colleges mentoring program.

This focus aligned with the work documented in Chapter Two from Bean and Eaton (2002). They noted the use of peer mentoring in higher education has evolved to be seen as a valuable approach towards providing students with tools to be successful (Colvin, 2015). The strong significance levels found in this study related to participating in peer mentoring mirrored the work of Kuh et al. (2011) who found students who were not connected socially or academically, through a program like peer mentoring, believed the best option was to return home.

In this current study, the peer mentoring program proved to be a program which assists students with closing the gaps and overcoming barriers hindering their success and improving their likelihood of remaining in college (Bean, 2015). Peer mentors' involvement in addressing these common hurdles of first-year students through programs such as peer mentoring may lead to higher retention rates than for students who were not provided or chose not to team with a peer to assist with the hurdles (Bok, 2017).

The third research question was posed to address retention rates of first-year freshman students who successfully move off academic probation after participating in peer tutoring and those who do not. No significant difference was found between the two groups. This finding aligns with the work from Bailey et al. (2015) who noted many students entering community colleges are not equipped to grasp college-level course content. The impact of peer mentoring, once a student has been placed on academic probation, lessens (Smith, 2013).

Data from this study showed the percentage of students retained after moving off probation was very similar to those who remained on probation. Bailey and Smith (2016) noted the placement of students into community college developmental courses, who

have not tested into entry-level college courses, is at a rate of 38% to 45%. Such high rates of developmental placement lead to higher rates of students being placed on academic probation (Hodara & Jaggars, 2014). Students enrolled in developmental courses typically face many obstacles, with less than 25% of students completing their degree within eight years of enrollment (Jenkins & Cho, 2012).

Hence, students who received peer mentoring and were enrolled in developmental courses may have lower retention rates. Also, once on probation, a student's motivation level and efforts may drop, leading to less engagement in their academics (Krumrei-Mancuso, Newton, Kim, & Wilcox, 2013). The conclusions presented illustrate the need of institutional administrators, faculty, and students to continually reflect on their responsibility to student retention. Institutional personnel need to work together as a cohesive group to facilitate essential connections using proven resources to build a healthier academic community for all stakeholders to assure student retention.

Implications

In a study titled, "*What Matters in College Student Success? Determinants of College Retention and Graduation Rates*," authors found understanding and acting on specific issues that influence student retention can assist practitioners in choosing the best programs and areas to invest in for improving student persistence (Millea, Wills, Elde, & Molina, 2018). Results of this study were mixed regarding the significance student variables and institutional programming had on retention; an implication that the variables could be statistically significant, yet not strongly predictive for outcome measures (Mertler & Reinhart, 2016).

Utilizing multiple frameworks of proven researchers provides guidance on how best to implement and measure current practices for future planning. The theories posed by Tinto (1993), Bean and Metzner (1987), and Braxton, Hirschy, and McClendon (2011) are varied, and yet each provided an appropriate framework to view student retention in this study. Therefore, there is no one theoretical model that fits when measuring all of the needs students bring to campus (Crisp, 2016).

In regard to research question number one, the data strongly suggested that CCSSE benchmarks Student Effort and Support for Learners should have continued supported to sustain strong student retention. Also recommended is to focus on students' first four weeks of the semester. Research has proven once students begin struggling academically without being identified and with no support, the likelihood of catching up is highly unlikely (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996).

Another recommendation would be faculty collecting and providing attendance records to student services personnel throughout the first two weeks of the semester. Student services would reach out to absent students with reminders of student resources and supports. Additionally, the implementation of an early alert system allowing faculty to communicate concerns to student services personnel to contact struggling students throughout the semester is needed.

The data to answer research question number two showed a significant difference between peer mentoring and student retention. Based on the findings, a recommendation to expand the peer mentoring program to a broader base of students, including second-year and less than full-time enrolled students would be encouraged. Increasing peer

mentoring program curriculum to include study skills, preparation for class, and soft skills would also add more preparation.

The data to answer research question number three did not show a significant difference between peer mentoring and retention rates of students on or recently coming off academic probation. To improve retention rates of students on probation, making attendance to peer mentoring a requirement would be beneficial. Students on probation would be expected to devote a set allotment of hours per week with a peer mentor and tutor. Students unable to attend required hours in person would be supported through an online service which would allow students to meet with peer mentors regardless of location with more flexible time slots.

College administrators must bolster efforts to improve student and faculty interactions to support student retention at the participating community college, and establish faculty-led learning communities and study groups. The structure could include student leaders being available to conduct study group reviews an hour before and immediately after courses on the schedule with the highest rates of withdrawals, as well as letter grades of D's and F's from the previous four semesters of data. Learning communities could be organized by academic discipline, student sub-groups such as first-generation students, developmental education students, and type of classes.

Leaders of learning communities and study groups would be chosen from a group of students who successfully mastered high-risk courses and who instructors viewed as responsible. Researching data trends of course schedules and infusing academic supports which meet students' availability and content needs for students would cause an increase

in the number of students preparing for and reflecting on class content and study skills (Carlson, 2013).

Recommendations for Future Research

Results and findings of this study are not intended to be presented as a generalizable to the broader audience of higher education institutions. Future studies with similar research questions are encouraged to be conducted using a more extensive collection of institutions, other geographic areas, and differing student demographics. The HLC, an accrediting body, expects institutions to prove assessments for continuous improvement (HLC, 2013). Conducting studies in the area of retention, especially among specific groups of students, and assessing outcomes is vital to the core of higher education (Ary, Jacobs, Irvine, & Walker, 2018). With assessment comes documentation which leads to accountability and learning outcomes to benefit students (Suskie, 2018).

Data and research should inform best practices and policy decision making (Anyon, 2014). Recommendations for future research which could lead to federal, state, local, and institutional policy development and implementation are communicated in this section. This research study is indicative of the need for continued research aimed at connecting community college students to resources and programs which improve the institution's retention efforts for specific student subgroups (Braxton, 2002).

Student data for this study was gathered from only one institution. Gathering data from students at multiple colleges for an increased sample size would produce more reliable data (Neuman, 2014). While data provided a snapshot of how retention was impacted, there remains questions of overall effects student variables and peer mentoring

have on student achievement. Collecting and examining data from multiple colleges for numerous academic years would allow more opportunity to learn more about the long-term effects student variables and peer mentoring have on student retention and better inform college stakeholders of the effectiveness of the program (Healy, 2014).

Future research using different student variables such as grade point average, credit hours attempted, and the number of credit hours enrolled could drive additional discussion around factors influencing retention. Additionally, this study was focused on first-time enrollees at one institution; future studies may choose to look at multiple institutions, nontraditional students, and institutions in other regions of the county.

In future student retention studies, a mixed-methods approach could be used. The use of quantitative and qualitative data together could help the researcher gain a complete understanding of each of the research questions and the outcomes (Mertes & Jankoviak, 2016). Through faculty and staff interviews, a more holistic view of attitudes and perceptions of student retention could be collected and studied to make sense of or interpret the meanings people bring to student supports (Mertens, 2014). A mixed methods study could provide multiple different perspectives while analyzing both individual perspectives with trend data.

In future student retention studies, a qualitative approach to study student retention could be used. Qualitative data could help the researcher gain perspectives using focus groups, individual interviews, participating in the programming, and making observations to gain an understanding of the underlying reasons, opinions, and motivations of stakeholders' views on student retention. The researcher could interview first-year students to gain an understanding of what most impacted their college success

and failures. The qualitative research data collected directly from students as they are engaging in the programs and activities would allow students to share their perceptions and opinions about retention and engagement.

Future research on college student persistence and completion needs to lead to more than just making institutional based decisions. This research should lead to stakeholders advocating for new policy and strategies or the next big idea. All stakeholders should take the time to reflect on existing policies and strategies to seek to combine the most effective options to improve upon said policies (John, Daun-Barnett, & Moronski-Chapman, 2018). Rather than wasting resources required to build consensus and start new policies, stakeholders should use research data to advocate for the advancement of current policies.

Educational administrators need to stress to government officials the importance of examining relationships and outcomes between current policies and maximize student supports which have proven to work within a policy's framework. By doing so, colleges may better maximize the impact of funding and resources by aligning their strategies with the knowledge of best practices in their state. Knowing policies will be molded to fit proven best practices for student success rather than creating new policies influenced by political views would bring about data-based changes focused on the priorities set forth by the college (John et al., 2018).

What is needed is more open dialogue focused on strategies and outcomes for student success. Less political positioning for elections by politicians telling their base

what they believe they want to hear would be beneficial. Tinto (1998) stated:

> If colleges and universities were to examine carefully the results of research on student persistence, they would find several ways to change their academic organization to promote greater educational community among students, faculty, and staff, including supporting connected learning experiences; reorganizing the first year of college; and reorganizing faculty work to allow disciplinary boundaries to be crossed. (p. 167)

Institutional personnel should focus future research on the impact of expanding upon its already established peer mentoring program. Widening the base of the student population eligible and served through the peer mentoring program is one way to expand the program. The goal of expanding the peer mentoring program would be to connect with students who are enrolled less than part-time or are unable to attend organized peer mentoring.

Research on effective implementation of learning communities and study groups by discipline to support all learners and their schedules may benefit student outcomes (DuFour & Eaker, 2009). Future research on the impact of faculty-led retention efforts is needed (Graham, 2017). Assigning engagement activities for first-year students through coursework has proven extremely beneficial in building students (Umbach & Wawrzynski, 2005).

Faculty who create, lead, encourage, and follow-up on activities which occur outside of class has been proven to have a positive effect on students predictive of student achievement in their classrooms (Nilson, 2016). Activities range may include peer

mentoring and study groups. Additionally, important are non-curricular activities which introduce and enforce team building and networking assignments.

The course for academic success in college is established in the earlier years, long before students matriculate (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006). Academic rigors and student support of pre-kindergarten through 12th grade are instrumental to postsecondary and career choices (Rothman, 2012). To truly move the needle and make long-term gains in the areas of retention and graduation rates, additional research focused on the relationships between secondary, postsecondary institutions, state and local policymakers, and local and state businesses is needed (Dalton & John, 2017).

The aforementioned stakeholders' roles in developing partnerships with direct curricular outcomes which measure and predict postsecondary success in any number of academic and career pathways could prove to be crucial to student success at a Midwest community college. Each state legislature, in partnership with stakeholders, should develop benchmarked college and post-K-12 career assessments. Doing so, with college and career explorations as the focus, while embedding assessment measuring for readiness would provide each student a profile of their growth as a college and career ready individual (Gordon & Steele, 2015). Research supporting such policy would ensure each student, and their families, have access to a long-term developing assessment which provides their strengths and interests for future college and career planning.

Summary

The goal of this study was to answer three questions focused on student retention. This study adds to the collection of research on the influence student variables and peer mentoring have on retention rates of specific student groupings of first-time community

college students. From the findings and conclusions of this study, educators are provided with information to better inform their decision making about using the CCSSE results and peer mentoring practices to improve student retention rates at a Midwest community college.

The basis of this study was that many community college students are not persisting and completing certificates and degrees. To view this problem, Tinto's (1975) student persistence model was selected as the theoretical framework. The statement of the problem and many barriers impacting student achievement were also introduced. An overview of the study's purpose, to add meaningful information to the shallow pool of community college student retention, was also provided. Research questions which guided data collection, definitions of key terms, and limitations and assumptions were presented in Chapter One.

In Chapter Two, an overview of the theory, research, and literature this study used to relate research to student retention and engagement were provided. The introduction of the theoretical framework was followed by student and institutional factors which affect student retention. Common obstacles for a student such as socioeconomic status, first-generation student status, academic unpreparedness, and employment were more deeply explored. In addition to Tinto's (1975) student present model, Astin's (1985) I-E-O model along with Bean and Eaton's (2002) psychological model of student retention were examined. The importance of student supports, and programming was also discussed.

Chapter Three was focused on the methodology used to conduct this study, along with data collection procedures and ethical considerations used to conduct quantitative research and produce data needed to be the catalyst for decision making (McCaffery,

2018). The population and sample of the study was detailed along with a discussion of the instrument, the CCSSE. The CCSSE benchmarks examined in this study and the dependent variable, retention of first-year students, were presented. Data collection procedures and data analysis procedures were explained.

In Chapter Four, specific types of analysis conducted in the research along with details of the study's findings were presented. Two of the three research questions produced statistically significant findings. Determination of significance of the results was introduced as well. The demographic information, descriptive and statistical analysis, and results of each test conducted were provided. Findings and theoretical framework of this study may serve as a guide to discussion and as a change agent to implement best educational practices rooted in proven research (Patton et al., 2016).

In Chapter Five, a summary of research and data analysis was given. In the chapter were suggestions for modifications to this study for future research along with conclusions drawn from the research. Also presented in this chapter were implications and plans for future use of the study's results along with the author's recommendations for future research related to student retention and success.

Lastly, through the process of this study, it was revealed institutions value what is measured and shine a light on areas deemed valuable enough to extend resources. Hence, focusing on assessing and being accountable for what most matters to student success is vital for institutional decision makers as they work to serve students (Strange & Banning, 2015). Through the use of reliable data, an institution can outline and draw conclusions of and from students' experiences and viewpoints (Sanders et al., 2016).

Studying data, listening to students, and placing quality student supports in place is the responsibility of educators, not because of the hope students can succeed, but because society needs students to succeed (Bailey et al., 2015). Often, the most important light to shine for student success is the light shone on educators, challenging educators to be the change students need as they make their way through a complex and challenging higher-education world. With that said, this researcher challenges fellow educators to be the person for students who they themselves needed when they were a student.

Appendix A

IRB Approval Letter

LINDENWOOD

LINDENWOOD UNIVERSITY ST. CHARLES, MISSOURI

DATE:	October 12, 2017
TO:	Robert Goltra III, Ed.D.
FROM:	Lindenwood University Institutional Review Board
STUDY TITLE:	[1137400-1] Student Retention Matters: A Study of Community College Student Retention Characteristics, Models, and Programs
IRB REFERENCE #:	
SUBMISSION TYPE:	New Project
ACTION:	DETERMINATION OF EXEMPT STATUS
DECISION DATE:	October 12, 2017
REVIEW CATEGORY:	Exemption category # *4*

Thank you for your submission of New Project materials for this research study. Lindenwood University Institutional Review Board has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office.

If you have any questions, please send them to IRB@lindenwood.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Lindenwood University Institutional Review Board's records.

Appendix B

Request for De-Identified Data

To: Institutional Research

From Robert Goltra III

To Whom It May Concern:

My name is Robert Goltra III and I am a graduate student at Lindenwood University currently enrolled in the Higher Education Administration doctoral program. As part of earning a doctoral degree, I am conducting a research study focused on student retention and would like to request the following de-identified data from your institution.

- Student retention data of first-time freshman student groups tracked during the 2014-2015 and 2015-2016 academic years
- Retention rates of first-time freshman students who participated in the peer mentoring program
- Retention rates of first-time freshman students who did not participate in the peer mentoring program
- Retention rates of students on academic probation who successfully transition off probation after participating in peer mentoring
- Retention rates of students on academic probation who successfully transition off probation and did not participate in peer mentoring

I would like this information to be de-identified, sans names or identifying information.

Thank you in advance for your time and response to my request.

Robert Goltra III

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Vita

After completing his undergraduate coursework at the University of Kansas and Pittsburg State University, Robert Joseph Goltra III took a break from education to play in the National Football League (NFL) for two seasons as a member of the Atlanta Falcons. Within months of leaving the NFL, Goltra satisfied the remainder of his undergraduate degree by student-teaching in kindergarten and first-grade classrooms. He earned his Bachelor of Science in Education degree from Pittsburg State University in 1998.

Robert taught at the elementary and middle school levels for four years while earning a Master of Science in Educational Leadership degree at Pittsburg State University in 2002. He accepted his first administrative position as an assistant principal and spent the next decade serving as a principal at the K-12 levels. Goltra moved on to higher education in 2010 and has worked at multiple institutions and held titles including Vice President of Student Affairs and Director of Student Success and Engagement. He is currently an administrator at Metropolitan Community College. His lifelong pursuit of education, for himself and others, continues to the present day.