SLOWING THE SOPHOMORE SLIDE: DO SECOND-YEAR ON-CAMPUS RESIDENCY REQUIREMENTS PREDICT STUDENT SUCCESS FACTORS?

A Dissertation

presented to

the Faculty of the Graduate School

at the University of Missouri-Columbia

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

---

by

ASHLEY GUYER

Dr. Sandy Hutchinson, Dissertation Supervisor

DECEMBER 2021

The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

SLOWING THE SOPHOMORE SLIDE: DO SECOND-YEAR ON-CAMPUS RESIDENCY REQUIREMENTS PREDICT STUDENT SUCCESS FACTORS?

presented by Ashley N. Guyer,

a candidate for the degree of doctor of education,

and hereby certify that, in their opinion, it is worthy of acceptance.

_____

Dr. Sandy Hutchinson

_____

Dr. Barbara N. Martin

_____

Dr. David Kreiner

_____

Dr. Brenda Moeder

Dedication

To the A-Team: My love for you is expansive and fierce. You make my heart happy.

Every song, every hug, every kiss, every love. You make it all worthwhile.

Acknowledgments

Sincere gratitude is barely enough to encapsulate what I want to express to those who helped make this happen, but I'll give my best go:

To my mom and to my dad—you taught me to read and that was the start of something great. I could never get enough of the learning process, and you helped me the recognize the tremendous value of education. Dad, sorry you missed the end of this journey; I really wanted to stand by those columns with you. Mom, thanks for listening, especially to the warp-speed rants. I know it wasn't always fun, but I was glad to have that judgement-free zone when I needed to vent. To my Siblings— thanks for reminding me of my origin story, new superhero status almost unlocked.

To A—I lucked out when we found each other, even if the location is still up for debate. You make me smile every day and challenge me to think in new ways, and for that, I'll be forever grateful. Your love, support, and willingness keep everything balanced, literally made this possible for me and I hope I made you proud. M' having a marvelous time with you by my side. To J & E— you were born during this marathon process, so your lives are intertwined with it in every way. Without even knowing it, you sacrificed for this dream and I'm so glad to put this chapter behind us; especially so I will have more time to be immersed in your awesomeness. Thanks for helping me find a purpose I never knew I needed. I hope someday this inspires you to believe in yourself & persevere.

To B & W—Thanks for hanging out with the gents on class nights, it helped knowing they had that extra attention when I had my head stuck in a book. And thanks for the use of the cabin for those "disser-cations"!

To C.H.— You make me proud of you in every single way. I can't wait for us to write our own book now that this "little" task is complete. I look forward to consulting our ever-growing brainstorm list and seeing what ideas have changed since the start. Thanks for the group project memes and many barely stifled giggles and full out guffaws.

To B.F.—I love the way you get me. And make me feel like a kid again. You helped keep me sane and that was a tall order at times. Thanks for always infusing more fun and goofiness, even when stress levels are high. So glad you're in my life.

To my first IR workmates—J.R., you helped me grow as a professional and you're the reason I had such a giant, tidy dataset for this project. Thanks for the advice and the speedy assists. S.C., thanks for the early brainstorming sessions, the encouragement, and for always treating me like I was smart enough to do this and capable of even more than I ever believed.

To my advisor, S.H. —I was ready to quit before I even started. Literally, before classes began. And you told me I could do it, reminded me of my supportive partner, and you assured me that quitting wasn't an option. Thanks for the gentle prods. And for sticking with me when things went off track. I appreciate it more than you know!

To Dr. K. —You fielded more stats questions than I can even remember and always helped me find my way when I was confused. Your thoughtful patience and thorough explanations are unmatched.

A note to my whole committee—Thanks for your guidance, contributions, subtle suggestions, and overall improvements that made this research and final paper something I could feel good about submitting.

TABLE OF CONTENTS

List of Tables

Table

List of Figures

Figure

List of Abbreviations

Integrated Postsecondary Educational Data System = IPEDS

Missouri Department of Higher Education = MDHE

Missouri Department of Higher Education and Workforce Development = MDHEWD

National Center for Education Statistics = NCES

National Survey of Student Engagement = NSSE

State Higher Education Executive Officer = SHEEO

University of Central Missouri = UCM

Abstract

Residential living requirements benefit students in a variety of meaningful ways. Living on campus can be an effective conduit in helping college students feel more committed and connected to their institutions. Existing research has demonstrated that students who live on-campus tend to be retained at higher rates, achieve higher grade point averages, and are more likely to graduate in four years. Some colleges in the United States have live-on requirements to help maximize the benefits of these academic outcomes for students. Presently, it is unclear if those benefits are extended to students who live-on campus for more than one year. At the same time, universities are adding two-year residential requirements with the hope that second-year students will experience the same or improved success increased outcomes as first-year students. There are relatively limited comprehensive research projects on student housing, and even fewer projects which study academic and student success outcomes of sophomore (second year) students. The purpose of this study was to gain a better understanding of the relationship between living on-campus for the first two years of college and key measures of student success. The study utilized quantitative methodology with a non-experimental comparative design. Variables known to influence retention and graduation rates were analyzed via hierarchical multiple regression analysis and those predictors were used to test models to determine the extent to which there was a significant positive relationship between living on campus for two years and select metrics. Living on campus for two years was found to be a statistically significant positive predictor of retention, GPA, graduation, and student involvement. Future research could address the limitation of the study being conducted at a single institution and hopefully demonstrate broader generalizability.

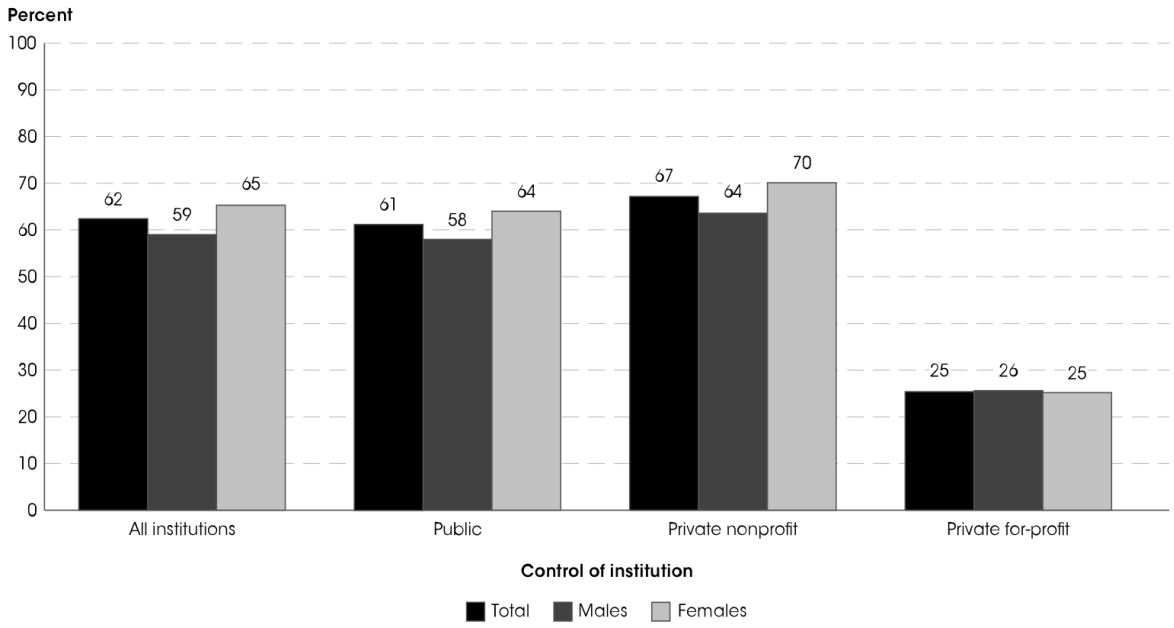
SECTION ONE

INTRODUCTION TO DISSERTATION

Introduction and Background of the Study

A perfect storm is brewing in American higher education. Student enrollment has declined 11% since 2011, which equates to approximately 2.3 million fewer students attending college in the fall of 2019 as compared with the fall of 2011 (Nadworny, 2019). Meanwhile, college graduation rates have remained stagnant or have decreased slightly throughout the past several decades (U.S. Department of Education, Institute of Education Sciences [IES], 2020). Included in Figure 1 are data from the Integrated Postsecondary Educational Data System (IPEDS), which show only 62% of students who enter college have received a bachelor's degree within the following six years (IES, 2020).

Figure 1. Graduation rate within 150 percent of normal time (within 6 years) for degree completion from first institution attended for first-time, full-time bachelor's degree-seeking students at 4-year postsecondary institutions, by control of institution and sex: Cohort entry year 2012



NOTE: Data are for 4-year degree-granting postsecondary institutions participating in Title IV federal financial aid programs. Graduation rates include students receiving bachelor's degrees from their initial institution of attendance only. Although rounded numbers are displayed, the figures are based on unrounded data.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Winter 2018–19, Graduation Rates component

A formidable combination of declining enrollment and fledgling graduation rates have forced college administrators to shift priorities and evaluate their long-term sustainability (Nadworny, 2019). These numbers are concerning to everyone involved, as colleges and universities are under increasing pressure from all sides. The constituents they serve and rely upon have mounting expectations, groups which include the students who enroll at their institutions, the parents and guardians who help pay for their children's education, the taxpayers who contribute to the college's fiscal viability, and the government officials and agencies who determine how much to subsidize and help finance this "public good" (Berger, Blanco Ramírez, & Lyons, 2012).

In 2009, the U.S. government announced a plan to increase the total number of college graduates in the United States (Russell, 2011). In the early 1990s, the U.S. had ranked number one in the world for having the highest proportion of 23-34 year olds with a four-year degree, but by 2009, that rank had fallen to fourteenth (Camera, 2016; Russell, 2011). One of the key education-related goals of the Obama administration was for the U.S. to once again, have the highest proportion of 23-34 year olds with four-year degrees by 2020 (Russell, 2011). Reaching that measure would have required approximately eight million new, first-time graduates (Russell, 2011). Several government groups and funding entities have been working to facilitate this advancement and one of the most prominent is Complete College America (CCA) (Lumina Foundation, 2013). CCA partnered with colleges and universities to improve graduation

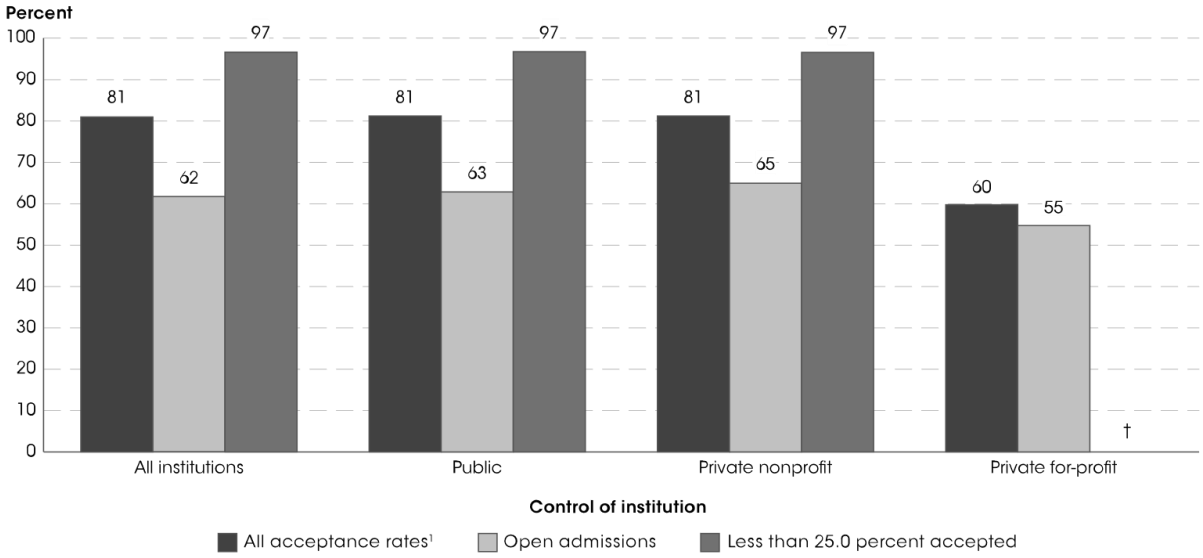
rates by using various incentives and grant initiatives, with the hope of 'closing the gap' (Russell, 2011).

However, this problem is not simply relegated to low graduation and completion rates; it begins much earlier in the college enrollment and attendance chronology. Before students can earn a college degree, they must first enroll and be retained, so many colleges and universities focus their efforts on addressing and improving retention rates to subsequently enhance their graduation rates (Berger, et al., 2012). Although the *intense* focus on graduation rates has increased rapidly in the last several years, retention studies have been conducted since the early 1930s (Berger, et al., 2012).

Based on federal definitions from the Integrated Postsecondary Education Data System (IPEDS), retention is typically "based only on enrollment from the fall of the first year of enrollment to the fall of the next" (Hagedorn, 2012, p. 88). Of the first-time full-time students who started college in fall 2017, 81% were still enrolled in fall 2018, which seems like a success, considering the contingent meager graduation rates (NCES, 2020). However, there is a stark contrast which exists based on the type of institution and the overall acceptance or selectivity rates, as shown in Figure 2. Schools with open admission policies have an average retention rate of 62%, while schools that accept less than 25% of applicants have an average retention rate of 97% (NCES, 2020). Essentially, this means colleges that enroll students who are less academically prepared tend to have much lower retention rates than those that only accept students with strong prior academic performance. Because there are so many open to moderately selective institutions, many schools are experiencing retention rates much lower than the 81% average rate fully suggests (NCES, 2020).

Figure 2

Percentage of first-time, full-time degree-seeking undergraduate students retained at 4-year degree-granting institutions, by control of institution and percentage of applications accepted: 2017 to 2018



NOTE: Data are for 4-year degree-granting postsecondary institutions participating in Title IV federal financial aid programs. Retained first-time undergraduate students are those who returned to the institutions to continue their studies the following fall. Although rounded numbers are displayed, the figures are based on unrounded data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2019, Fall Enrollment component; and Fall 2017, Institutional Characteristics component

Static or slightly declining graduation and retention rates have created many external strains which have contributed to a new era on college campuses. Outside entities have varied but often overlapping interests in the decisions made by university administrators. These expectations have forced colleges and universities to spend more time demonstrating their efforts (Cowan & Kessler, 2015). *Accountability* has continued to grow as a buzzword in American higher education, and it primarily reflects the external demands requiring institutions to prove their worth (Leveille, 2006).

Accountability is a long-standing concept in higher education, but interest in the idea of accountability grew in popularity throughout the 1980s (Leveille, 2006). Since then, the topic has grown exponentially as an issue permeating the landscape of American higher education (Leveille, 2006). As students, families, the government, and the public-at-large have expressed their concerns, the simple underlying question has been: What is the value of a college education? This question is actually rooted in another, even more pragmatic question: How much is an appropriate amount to invest in college education, relative to the overall value?

One of the chief accountability-related pieces of legislation from the past decade is the College Scorecard, which was launched in 2015 (Moon, 2019). The College Scorecard is an online tool which publishes a variety of data on higher education metrics (Koc, 2013; Moon, 2019). The initiative has several key objectives, including: (a) encouraging transparency, (b) improving access to information, and (c) assisting consumers with comparing colleges (Moon, 2019). According to Koc (2013), there are five fundamental components of the College Scorecard:

- Average net price for undergraduate tuition (after grants and scholarships, i.e., "true cost");
- School's graduation rates, which is the percentage of full-time students who started as freshman and earned their degree in six years;
- School's loan default rate (federal borrowers only);
- Median borrowing amount;
- (*not yet operational*) Percentage of students who are employed after graduation and median earnings rates (para. 3).

College administrators and other higher education professionals have been cautious about endorsing the Scorecard, reminding prospective students and families to use the tool for basic, broad comparisons when narrowing a list of colleges that they want to research more thoroughly (Kerr, 2020). Accountability efforts, particularly large-scale, comprehensive studies are often plagued by the limitations of the data collected (Elliott & Jones, 2019). Researchers have indicated that access to student unit record level data would allow for more comparisons and for data to be disaggregated by race and income level and if the data could be connected to K-12 records, it would be even more helpful (Elliott & Jones, 2019). Some higher education analysts have also suggested that instead of focusing on retention and six-year graduation rates, campuses should be tracking students along multiple points of degree attainment (Elliott & Jones, 2019).

Ultimately, regardless of any difficulties defining, collecting, parsing, or interpreting higher education-related data, the public remains skeptical about the overall value of a college education and the government is demanding proof that colleges and universities can achieve particular outcomes. From 2013 to 2014, the federal government spent $126 billion to help finance colleges and universities (Cowan & Kessler, 2015). Funding comes from a variety of sources, including student loans, state appropriations, tax cuts, etc. (Cowan & Kessler, 2015). By contributing billions, the government is essentially entitled to *demand* that colleges and universities provide any information desired. As the government has started to request more reports and data, they have also started to tie funding to their requests (National Conference of State Legislatures, 2014). Colleges and universities already prioritize improving conditions that will increase graduation and retention rates because it is in the best interest of their students, but now

they have even more financial incentive to ensure growth of these particular student success measures.

Statement of the Problem

Problem of Practice

Most public colleges have experienced dwindling financial support from their state governments in the past two decades (Mitchell, Leachman, & Masterson, 2016). From 2008 to 2016, the state of Missouri had a 22.2% decrease in state funding for higher education, which amounted to approximately $1,577 fewer dollars per student (Mitchell et al., 2016). Projections show that if current trends continue, funding for higher education in the United States will reach zero dollars by 2059 (Mortenson, 2012). Missouri is on track to reach that number by 2036 (Mortenson, 2012). In January 2017, the newly elected governor announced another $159 million in cuts for Missouri's higher education system (Alves, 2017). This reduction amounted to approximately 12% of the overall budget for higher education (Alves, 2017).

Further complicating the budget landscape, many state governing and funding bodies have demanded that colleges and universities improve outcomes for students, and several states have forced campuses to adopt 'performance-based funding' models in which they only receive state appropriations or portions of appropriations, if certain pre-determined numbers, metrics, and goals are reached (National Conference of State Legislatures, 2014). Though campuses have received repeated fiscal slashes, they *still* rely heavily on the support they receive from their state funding sources (Mitchell et al., 2016). Therefore, campus administrators are extremely sensitive to these demands and seek to provide the government with prompt and favorable responses to address concerns.

Two of the outcome measures under the most scrutiny are retention and graduation rates (National Conference on State Legislatures, 2014). Colleges are being asked to prove that students are able to succeed and often this is demonstrated by answering two prevailing questions:

1. Did the student stay enrolled?
2. Did the student receive a degree?

Universities have been undertaking massive comprehensive retention efforts to help students reach that *holy grail*- a bachelor's degree. Decades of research have demonstrated the conditions that are most positively associated with retaining students (Astin, 1993; Braxton, et al, 2014; Pascarella & Terenzini, 2005; Tinto, 1975, 1993, 2006). Through social connections, outside the classroom interactions, and participation in certain activities and courses, researchers have dissected the factors that contribute to students' academic and social successes during college (Astin, 1993; Pascarella & Terenzini, 2005; Tinto, 1975, 1993). Theorists have indicated that if college administrators want students to retain and ultimately graduate, efforts must be made to address these conditions and factors (Astin, 1993; Pascarella & Terenzini, 2005; Tinto, 1975, 1993).

As researchers have focused on retention projections and expectations to help inform and document best practices, a wealth of data has been amassed. However, these studies have focused almost exclusively on first-year students (Hunter, Tobolowsky, Gardner, Evenbeck, Pattengale, Schaller, Schreiner, & Associates 2010). Frequently, sophomore students have been absent from retention conversations, since the largest proportion of students depart after the spring of the first year of college (Hunter, et al,

2010). As campus resources are limited, most administrators have elected to focus their time and money on the large loss of students in the first year, and thus much less time and energy has been dedicated to assisting students in their second year (Hunter, et al, 2010).

Furthermore, many of the retention and graduation studies produced results which focus on the impact of ACT scores, high school GPA, and other demographic traits students have before they begin college (Reason, 2009). Some researchers have posited that higher education administrators should focus less on precollege characteristics, since those attributes are outside of the colleges' control (Reason, 2009). However, it would be short-sighted to ignore the influence of those factors when studying campus retention and graduation rates. While practitioners cannot alter those factors, they must be accounted for in data models and research plans.

Conversely, certain variables *can* be controlled by colleges and universities, like requiring developmental coursework, tutoring sessions, meetings with academic advisors, etc. (Braxton, et al, 2014). Also in their retention arsenal, many campuses can and do require students to live on-campus for their first year of college (Blimling, 2015). Researchers have found that students who live on campuses tend to be more engaged, retain, and graduate at higher rates than their peers (Alexander & Robertson, 1998; Blimling, 1989, 1993; Brooks, 2010; Chickering, 1974; Pascarella & Terenzini, 2005; Riker & Decoster, 2008; Schroeder & Mable, 1994; Schudde, 2011; Schuh & Tobin, 1994; Tinto, 1975, 1993; Turley & Wordke, 2010; Yan et al., 2005). Additionally, some colleges have begun to require students to live on campus for multiple years as a way to supplement tuition with the hopes of simultaneously addressing problematic retention and graduation rates (Blimling, 2015).

Low retention and graduation rates are detrimental to institutions, as well as to individual students who attend college with the goal of completing a degree. Establishing policies that require students to live on campus is one of the specific steps or measures that colleges use to address backsliding retention rates. Decades of research have shown that living on campus is beneficial to students and can contribute to increased GPA and increased likelihood that the students will be retained and eventually graduate; However, those studies have centered on first-year students exclusively. Additional data are needed to understand whether students who live on campus for two years, experience similar benefits to those same academic and success factors.

Gap in the Literature

Historical research findings are often quoted as the impetus for creating second year live-on requirements since many studies have found a connection between living on campus and increased retention rates, higher GPA, and other important student success measures (Alexander & Robertson, 1998; Blimling, 1989, 1993; Brooks, 2010; Chickering, 1974; Pascarella & Terenzini, 2005; Riker & Decoster, 2008; Schroeder & Mable, 1994; Schudde, 2011; Schuh & Tobin, 1994; Tinto, 1975, 1993; Turley & Wordke, 2010; Yan, Sheely, & Whalen, 2005). Theoretically, the benefits of residence life would be extended or continued for the duration of a student's time living on campus (Schudde, 2011; Turley & Wordke, 2010), in which case the students and college administrators would both benefit from this arrangement. Nonetheless, while the research describing the benefits of living on campus are robust and have storied historical significance, existing research is outdated and has not been replicated or re-tested in recent decades (Schudde, 2011). Causal effects of other retention efforts have not been

considered in statistical models, and researchers have yet to measure the effects of residence living beyond the first year of college (Schudde, 2011).

Campuses have been adding second-year live-on requirements as a way to address retention rates, but there is a lack of research supporting this notion of improving second to third year (sophomore) retention rates in this manner (Schudde, 2011). Furthermore, some students are given exemptions to these residential living requirements, reducing the likelihood they will benefit from these policies (Blimling, 2015). While evidence indicates living on campus is beneficial to students, researchers still need to connect their policy decisions to empirical evidence.

Purpose of the Study

The purpose of this study is to fill a gap in the literature by providing an updated, in-depth analysis of the relationship between living on campus the first two years of college and various academic and student success measures, such as retention and graduation rates. To better understand campus housing policies and potential impacts, the author will trace the historical development of colleges, campuses, student services, and the creation of 'residential colleges', while demonstrating housing's efforts in relation to overall campus student success strategies. Additionally, this study will review academic measures known to be related to improved retention and graduation rates. Certain sub-groups and populations have routinely had lower retention and graduation rates and the author will review whether a two-year live on policy helps reduce barriers for these groups by analyzing academic measures known to be related to improved graduation and retention rates. Finally, second-year residency requirements will be analyzed as a tool for campus administrators to address the unique needs and experiences of sophomore

students, as that group has traditionally had little representation in retention-related studies.

Due to the significant expense of losing students, both in terms of revenue loss and potential loss of performance-based funding, colleges are under tremendous financial pressure to address retention issues. Since some campuses are using second year live-on requirements as a possible way to improve retention rates and related academic success measures, they need substantial evidence that this plan works. This research will provide essential information for campus officials which may provide evidence that housing policies are one way to solve the complex problem of low retention and graduation rates while also improving academic performance.

Research questions include:

RQ1. Is there a statistically significant difference in retention rates for students who lived on campus for two years and those who did not?

RQ2. To what extent is there a significant positive relationship between living on campus for two years and retention?

RQ3. To what extent is there a significant positive relationship between living on campus for two years and cumulative grade point average?

RQ4. To what extent is there a significant positive relationship between living on campus for two years and four and six-year graduation rates?

RQ5. To what extent is there a significant positive relationship between living on campus and involvement in student activities?

Conceptual/Theoretical Framework

Campus Housing and Student Services

The history of housing and residence life on college campuses closely parallels the development of higher education in the United States (Blimling, 2015). As the colonial colleges expanded in the 1800s, they built new buildings, which were called dormitories. "The word dormitory comes from *dormant,* which means 'to sleep'; a dormitory is literally a place for sleeping" (Blimling, 2015, p. 1). During this time, schools established campus housing to fulfill the need to provide a place for students to live and sleep. However, since faculty typically ran the residence halls, housing centers became places for activity, studying, and time spent learning outside the classroom (Rudolph, 1990). Eventually, residence halls became a standard fixture on college campuses and were considered an essential component of student services, with the potential to contribute to a student's overall learning and engagement in college (Blimling, 2015; Komives, Woodard, & Associates, 2003; Pascarella & Terenzini, 2005).

Student Engagement

Throughout the last several decades, engagement outside the classrooms has been studied from many different angles. There are several well-known theories which help explain the development, engagement, and experiences of students when they attend college. Seminal theorists in this field and related sub-fields include Tinto, Astin, Chickering, Pascarella, and Terenzini. Each of these researchers produced findings which demonstrated the importance of college environment, specific types of engagement and involvement, and student's pre-college characteristics (Astin, 1993; Chickering, 1974; Pascarella & Terenzini, 2005; Tinto, 1975, 1993). Students who stop out or leave college

before completing their degree tend to have less connections or sense of belonging and conversely, students who have more engagement outside the classroom are more likely to stay enrolled, retain, and have better grades (Astin, 1993; Chickering 1974; Pascarella & Terenzini, 2005; Upcraft & Gardner, 1989). Student engagement outside the classroom takes on several different forms, and one of the most substantial is related to living on campus (Astin, 1993; Blimling, 1993, 1998, 2015; Pascarella & Terenzini, 2005).

Residence Life as Component of Engagement and Retention

One of those most comprehensive and rich experiences that exists outside the classroom is living on campus. Students living in university housing benefit from their residency in various ways. Many of the benefits are related to social integration and experiences related to interacting with others (Astin, 1993; Blimling, 1993; Chickering 1974; Pascarella & Terenzini, 2005). Students who live on campus also tend to be more active in campus groups and organizations (Blimling, 1993; Schudde, 2011). They are more pleased with their experiences on campus and more satisfied with their overall college attendance (Astin, 1993; Blimling, 1993, 2015; Chickering 1974; Pascarella & Terenzini, 2005). Another major advantage to living on campus is that students who live on campus tend to have higher retention rates than their off-campus peers (Blimling, 1993; Schudde, 2013). Campus visits play a large role in the admissions and enrollment process for students, and when prospective or incoming students are selecting a college to attend, facilities have a significant impact on their impression of the campus as a whole (Reynolds, 2007). In particular, housing professionals are under pressure to provide state-of-the-art, modern facilities to attract students, which is even more true for campuses that have housing requirements.

Design of the Study

This study utilized quantitative methodology with a non-experimental comparative design. Data were analyzed via multiple regression analysis. Quantitative studies are conducted with the goal of taking measurements and finding numbers or figures which will answer the proposed research questions (Creswell, 2013). A key feature of quantitative research is the inclusion of variables, which are essentially characteristics, with various levels or values (McMillian, 2012). According to McMillian (2012), "a precise definition of each variable communicates clearly the researcher's intent and enhances the usefulness of the results" (p. 38).

Since there are decades of robust retention and college completion research, a plethora of different studies have already identified variables which are known to contribute to retention (Seidman, 2012; Tinto, 1993). Retention rates are impacted by many different variables, including academic preparation, high school grade point average, ACT Composite scores, high school percentile rank, age, financial need, Pell eligibility, first-generation status, gender, and ethnicity, just to name a few (Morrison & Silverman, 2012; Seidman, 2012). This study utilized the variables which are known to influence retention and will determine if living on campus can further explain eventual retention rates, graduation rates, cumulative GPA, and campus engagement, when holding constant for other variables. The correlational design of this study allowed the researcher to determine if there was a relationship between living on campus and retention rates, graduate rates, grade point average, and campus involvement. While the multiple regression techniques used for this study provide valuable insights as to the predictive power of the independent variables, these techniques are unable to produce evidence of a causal relationship between the variables (Field, 2013).

Setting and Participants

Analysis was completed using existing institutional data from a mid-sized Midwestern, four-year, public university. This institution adopted a two-year live-on residency requirement in 2013 (University of Central Missouri, 2013). Students who entered as first-time, first-year students in the fall of 2013 were required to adhere to the new policy. Institutional data will be assessed for the five years prior to the policy adoption and for five years after the policy took effect.

Obtaining and Coding the Data

If the data were to demonstrate a relationship between living on campus for two years and student success measures, that would provide administrators with important insights related to two-year, live-on policy. UCM was selected as the setting for this study because upper-level administrators are concerned with improving retention rates to maintain current levels of performance-based funding from the state (National Conference on State Legislators, 2014). In addition, the participants and population were chosen based on the years that correspond with organizational policy changes and initiatives. The overall regression models for predicting and estimating retention were determined based on past theory, research, and commonly accepted practices for developing logistic regression models (Braxton, et al, 2014; Seidman, 2012).

Since existing institutional data provided the all the necessary information to answer the research questions, no new data were collected or obtained directly from participants. The research was still be collected in an ethical and appropriate manner, by requesting a non-human subjects' exemption from the Institutional Review Board (Pritchard, 2002). Data were requested from campus administrators and were de-

identified to protect student anonymity. Since the dataset consists of student records, it was be stored on a university server which is protected by encryption software. A university login and unique password is required to access the data files. After the data were received, variables will be coded, and in some instances re-coded, with "dummy variables" (Pallant, 2007, p. 13). Dummy variables are employed to indicate the presence or absence of a variable characteristic (Pallant, 2007). Table 1 displays the data and variables that will be used to answer the research questions.

Table 1

Independent Variables for Research Questions Two through Five

Number	Independent Variables	Codes	Meaning
1	Sex/Gender		
		1	Male
		2	Female
		3	Prefer not to respond
2	Race/Ethnicity		
		1	White or Caucasian
		2	Black or African American
		3	American Indian or Alaskan Native
		4	Native Hawaiian or Pacific Islander
		5	Asian
		6	Two or more races
		7	Hispanic
		8	International
		9	Unknown
3	Pell Eligible		
		0	No
		1	Yes
4	Residence		
		0	Did not live on campus for first two years
		1	Lived on campus for one year, but not two
		2	Lived on campus for the first two years
5	HS GPS		0.1 to 4.0 (continuous scale)
6	ACT composite		0-36 (fixed continuous variable)
7	First generation status		
		0	No
		1	Yes
8	Campus Involvement (year 1 and year 2)		
		0	No
		1	Yes

Data Analysis

While various methods can be used to analyze datasets which include more than one independent variable, multiple regression is commonly used when there several different *types* of variables or when those variables are highly correlated (Field, 2013). According to Hoyt, Imel, and Chan (2008):

> Regression models can accommodate multiple correlated predictor variables, including nominal (categorical) variables, and can be used to test sophisticated models involving…(statistical interactions). They can be used to statistically control for confounding variables and to examine the predictive power of sets of predictor variables as well as the unique association of a single predictor with the dependent variable (DV). (p. 321)

When conducting a multiple regression analysis, the main purpose is to determine the relationship between independent (predictor) variables and dependent (outcome) variables (Field, 2013). "Regression models 'control' for certain variables, while assessing how much variation in the dependent variable(s) can be accounted by the other 'predictor' variables" (Mitzi, 2007).

There are a few different ways to conduct multiple regression analysis, including standard, stepwise (forwards or backwards), and hierarchical, each with slightly different usage, benefits, and drawbacks (Field, 2013). For a standard multiple regression analysis, all predictor variables (independent variables) are entered into the model at one time (Field, 2013). Hierarchical regression analysis (HRA) is particularly suitable when there are many known predictor variables, especially if those variables have been previously found to be highly correlated (Mitzi, 2007). "Hierarchical regression can be useful for

evaluating the contributions of predictors above and beyond previously entered predictors, as a means of statistical control, and for examining incremental validity" (Mtizi, 2007, p. 9).

As previously discussed, predictive retention models and their associated variables have been studied for decades. HRA is appropriate when performing a multiple regression analysis with a long list of variables that are related, and variables that are known to influence the dependent variable (Mitzi, 2007). The variables will be entered into the model in "blocks" of variables which are complementary and interrelated. Blocks are used to control for certain variables while also determining which variables can significantly improve the model's ability to predict variation in the dependent variable (i.e., how does one variable impact the relationship between the other variables) (Mitzi, 2007). As an example of a block, one could add a variable representing the interaction between age and alcohol use as a third predictor variable. If the interaction term (Variable 1 × Variable 2) statistically predicts the dependent variable beyond what the two variables separately would have predicted, then one can conclude there is a moderation effect (Mitzi, 2007).

Using theoretical rationale to determine appropriate predictor variables, the researcher will perform a regression analysis for each step (block) to determine whether there is a significant coefficient of the selected variable and then will verify whether any additional changes to the model are statistically significant (Mitzi, 2007). The researcher will use HRA to study the relationship between the predictor variables and the dependent variables, based on the list of dependent variables included in Table 2.

Table 2

Dependent Variables for Research Questions Two through Five

Research Question Number	**Dependent Variable**	**Codes**	**Scale/Meaning**
RQ2	Retention to the Year Three (through Sophomore/2nd Year)		
		0	Not Retained
		1	Retained
RQ3	Cumulative GPA at the end of Year 2		
		0.00-4.00	Scale
RQ4	Graduated in 4 years; Graduated in 6 Years		
		0	No
		1	Yes
RQ5	Student Involvement in Year 1; Student Involvement in Year 2; Student Involvement in Year 1 or 2		
		0	No
		1	Yes

The Hierarchical regressions utilized the following blocks:

1. Block 1 consisted of "demographic traits", including: (a) Sex, and (b) Race/Ethnicity.
2. Block 2 consisted of "social and economic attributes", including (a) Unmet Need or Pell Eligibility, and (b) First-generation status (i.e., whether or not the students' legal guardian(s) have a college degree).
3. Block 3 consisted of "pre-college characteristics", including (a) HS GPA, and (b) composite ACT score.

4. Block 4 consisted of "residential life" status, including categories (a) living on campus for the first two years of college, (b) living on campus for the first year, but not the second year of college, and (c) not living on campus for the first or second year of college.

Data were analyzed using the Statistical Program for the Social Sciences (SPSS) 27.0 software. The classification of the dependent (outcome) variables referenced in each of the research questions dictated which type of statistical test would be used. Utilizing SPSS, the research questions were analyzed using the following statistical tests:

1. RQ1 was analyzed using a *z*-test
2. RQ2 was analyzed using logistic hierarchical regression.
3. RQ3 was analyzed using linear hierarchical regression (because GPA has an interval/ratio outcome).
4. RQ4 was analyzed using logistic hierarchical regression, and was run two separate times, once for 4-year graduation gates and once for 6-year graduation rates.
5. RQ4 was analyzed using logistic hierarchical regression.

RQ1 was the only research question that was not analyzed using the specified blocks for hierarchical regression. The *z*-test is the appropriate statistical test for RQ1 because it involves a large sample, with two independent populations (pre- and post-policy) that are normally distributed. The analysis allowed for a comparison of the population means.

Limitations, Assumptions, and Design Controls

First, the study is limited to one institution, so it is unclear as to whether the same outcomes would be experienced by other similar institutions. Additionally, UCM adopted

a massive overhaul of retention programs and service between 2012 and 2014, so any consideration or comparison of the data would be tempered as it is difficult to isolate which treatments and, subsequently, which variables had the greatest effect. Since many of the strategies were system-wide, or overall institutional policy changes, it is impossible to know if students received some of the treatments, as some would not have been tracked in any database or formal method.

Furthermore, many of the strategies and policy changes are still in their infancy and it is difficult to pinpoint if specific programs and services have changed enough to have contributed to changes in retention and graduation rates. Furthermore, the 2013 cohort was the first to enroll as first-year students when many of the system-wide changed had been put in place. That cohort of students is the only group that has been enrolled in college for four years, so the study only includes one year of graduation related data.

Definition of Key Terms

Retention = student enrollment during the one academic year, from fall to the following fall semester

Attrition = students leaving the institution after one semester, or after one year

Cohort = a group of students who enter the university during the same semester, typically measured as a first time, full-time freshman group

Departure = leaving before completing a bachelor's degree

Significance of the Study

Since 2000, several campuses have added multi-million-dollar housing facilities, with the hopes of attracting and impressing students and their families (Blimling, 2015).

Some colleges are even adding second year live-on requirements to make additional revenue (Blimling, 2015). Dwindling state resources and increased government expectations have forced administrators to justify their actions, particularly actions with significant costs. College officials could benefit from evidence that the policies and decisions they are making are in the best interest of students, and that these actions really do benefit students (Blimling, 2015).

Educators often rely upon data to help their decision-making processes. For college administrators, this includes information about overall student characteristics, enrollment numbers, institutional tallies, number of professors with terminal degrees, etc. When making financial decisions, administrators have even more of a responsibility to use past research and evidence that their investments will result in improved outcomes for students (Seidman, 2012).

As mentioned previously, there is a wealth of data which verifies the improved retention rates and academic success of students who live on campus. However, this research is dated and fails to examine whether those same outcomes can be expected based on living on campus for a second year (Schudde, 2011). This study has broad implications for housing officials and other campus administrators who are considering adding additional residency requirements for their students, or even modifying existing policies as it is more common for campuses to require students to live on campus for the first year of college, as opposed to the first two.

Statistical Analysis

The population for this study included more than 16,000 student records, spanning a decade of campus enrollment (five years before the two-year campus

residency requirement and five years after). While the research questions (See Table 3) established a variety of essential categorical and demographical data points which were needed for the regression analysis, the sheer size of the sample, and the overall scope of the project, also led to the identification of a few potentially interesting sub-groups to further investigate and compare.

Table 3

Research Questions and Null Hypothesis

	Research Question and Pre-Questions	Null Hypothesis
A.	What are the descriptive summary statistics for relevant sample sub-groupings when broken down by classification as pre or post campus residency requirement and campus living distinctions?	
B.	How do these sub-groups compare based on race/ethnicity, gender, Pell eligibility, First Generation student status, average ACT score, average HS GPA, and student co-curricular involvement?	
1.	Is there a statistically significant difference in retention rates for students who lived on campus for two years and those who did not?	$H_0$1: This is no difference in retention rates for students who live on campus for two years and those who do not.
2.	To what extent is there a significant positive relationship between living on campus for two years and retention?	$H_0$1: This is no relationship between living on campus for two years and retention.
3.	To what extent is there a significant positive relationship between living on campus for two years and cumulative grade point average?	$H_0$1: This is no relationship between living on campus for two years and cumulative grade point average.
4.	To what extent is there a significant positive relationship between living on campus for two years and four and six-year graduation rates?	$H_0$1: This is no relationship between living on campus for two years and four or six-year graduation rates.
5.	To what extent is there a significant positive relationship between living on campus and involvement in student activities?	$H_0$1: This is no relationship between living on campus for two years and involvement in student activities?

The two primary comparison sub-groups of interest were: a) Pre or Post residential policy requirement, and b) Students who lived on campus for two years and those who did not live on campus for the first two years. Statistical tests or processes for this study included descriptive statistical analysis, two-proportions z-test for hypothesis testing, binary logistic regression, and multiple regression analysis (See Table 4).

To establish a better understanding of the large sample, descriptive statistics were run for the complete sample, as well as the primary sub-groups. Results were reviewed to uncover any discrepancies or irregularities in the data, as well as to begin building the groundwork for the subsequent and more in-depth statistical analysis for the core research questions. The foundation of these findings helped provide data elements to answer research questions one through five.

Table 4

Summary of Statistical Analysis Used for Research Questions

	Research Questions	Analysis Type	Variables
A. B.	Population descriptive Sub-population descriptive	Frequencies, Cross-tabulations	
1.	Retention rates compared for student who lived on campus for two years	z-test	Living on campus for Two Years or not; Being Retained to Year Three or not; Pre or Post Residency Policy Cohort;
2.	Retention (relationship between living on campus)	Binary Logistic Regression	DV: Retained to Year 3; IV: Block 1 (Gender, Race/ethnicity), Block 2 (Pell Eligibility, First Generation student status); Block 3 (HS GPA, ACT score); Block 4 (Living on Campus for Two years);
3.	GPA (relationship between living on campus)	Linear Regression	DV: GPA at the End of Year 2; IV: Block 1 (Gender, Race/ethnicity), Block 2 (Pell Eligibility, First Generation student status); Block 3 (HS GPA, ACT score); Block 4 (Living on Campus for Two years);
4.	Graduation (relationship between living on campus)	Binary Logistic Regression	DV: Graduated in 4 years; Graduated in 6 years; IV: Block 1 (Gender, Race/ethnicity), Block 2 (Pell Eligibility, First Generation student status); Block 3 (HS GPA, ACT score); Block 4 (Living on Campus for Two years);
5.	Campus Involvement (relationship between living on campus)	Binary Logistic Regression	DV: Campus Involvement; IV: Block 1 (Gender, Race/ethnicity), Block 2 (Pell Eligibility, First Generation student status); Block 3 (HS GPA, ACT score); Block 4 (Living on Campus for Two years);

Individual counts for each cohort revealed the numbers to be consistent over time, with Pre cohorts having an average of 1604.6 students and Post cohorts having an average of 1663.4. Table 5 includes the count for each cohort and what percentage that cohort represents in the total sample.

Table 5

Overall Cohort Counts for Sample

	n	**Percent**
Total Students or Records in Sample	16,340	
Number of Cohorts	10	
Cohorts Before Housing Policy Change	5	
Cohorts After Housing Policy Change	5	
Students per Cohort		
2008	1586	9.7
2009	1479	9.1
2010	1547	9.5
2011	1649	10.1
2012	1762	10.8
2013	1746	10.7
2014	1687	10.3
2015	1641	10.0
2016	1578	9.7
2017	1665	10.2

Each cohort made up approximately 9.1% - 10.8% of the total sample of 16,340 student records. The highest year for enrollment was 2012, with 1,762 first-year students, and 2009 was the lowest year of enrollment, with 1,479 students. Table 6 displays the demographic for the entire sample.

Table 6

Demographics for Entire Sample

	n	**Percent**
Total Students	16340	100%
Gender	16340	
Female	9015	55.2
Male	7305	44.8
Missing (*not valid percent*)	(20)	
Race/Ethnicity	16340	
American Indian or Alaskan Native	51	.3
Asian	116	.7
Black or African American	1961	12.0
Hispanic	576	3.5
International	310	1.9
Native Hawaiian or Other Pacific Islander	16	.1
Two or more races	688	4.2
Unknown	222	1.4
White or Caucasian	12400	75.9
Pell Eligibility	16340	
Pell Eligible	6505	43.9
Not Pell Eligible	8322	56.1
Missing (*not valid percent*)	(1513)	
First Generation Status	14827	
First Generation Student	7873	48.4
Not a First-Generation Student	8404	51.6
Missing (*not valid percent*)	(74)	
Mean High School GPA	3.28	
Mean ACT	21.91	

After the descriptive statistics were thoroughly inspected, primary data analysis for research question one began. RQ1 was used to establish group differences for students who lived on campus for the first two years, compared with those who did not live on for the first two years. To compare the groups, a two proportions z-test was applied to determine if the groups were retained at different rates, and if those differences were statistically significant. The sub-groups for Pre and Post policy were also analyzed to supplement RQ1 findings. Research questions two through five were examined using various regression analyses, including linear regression and binary logistic regression. Retention, graduation, and campus involvement are all dichotomous categorical variables (i.e., retained or not retained), so those variables were evaluated with binary logistic regression. GPA is a continuous, scale variable and was analyzed using linear regression.

Research Question One

One of the initial guiding forces behind this study was discovering whether students who lived on campus for two years experienced different student outcomes than students who did not live on campus. As such, Research Question 1 was whether retention rates were different between these two groups. The samples were compared using a two proportions *z*-test. A two-proportions *z*-test requires that both samples have at least ten records or observations, which all the groups in this series of *z*-tests had samples of more than three thousand. As evidenced in Table 7, students who lived on campus for the first two years were statistically more likely to be retained to year three (through the sophomore/second year). For Research Question 1, the null hypothesis is rejected.

Table 7

Results of z-Test Comparing Retention Rates for Students Who Lived On-Campus for the First Two Years, and Those Who Did Not

	Lived On-Campus for the First Two Years			**Did not Live On-Campus for the First Two Years**				
	N	*N* retained	Proportion	*N*	*N* retained	Proportion	*z*	*Sig*
Retained to Year 3	6616	5587	.860	9724	4374	.450	*43.46*	*.001*

The overall sample had a Phi coefficient, φ =0.373 and Cohen's H, H= 0.855 which revealed the effect size or magnitude of the difference was considered large (Field, 2013). A quick review of Table 8 shows that prior to the two-year residential requirement (Pre), students who lived on-campus for the first two years were statistically more likely to be retained to the third year when compared with their peers who did not live on campus for the first two years. For the Pre-subgroup, the two-proportions z-test was significant, z = 72.23, p < .001, φ =0.658, Cohen's H= 1.888. Those findings were replicated with students after the policy was passed (Post), evaluating those who lived on-campus for the first two years, compared with those who did not. Again, Table 8 shows that after the two-year residential requirement (Post), students who lived on-campus for the first two years were statistically more likely to be retained to the third year when compared with their peers who did not live on campus for the first two years.

Table 8

Results of z-Tests Comparing Retention Rates for Students Who Lived On-Campus for the First Two Years, and Those Who Did Not, for the Pre and Post Sub-Groups

	Lived On-Campus for the First Two Years			**Did not Live On-Campus for the First Two Years**			
Retained to Year 3	*N*	*N* retained	Proportion	*N*	*N* retained	Proportion	*z*
Pre (2008-2012)	2468	2107	.854	5555	2862	.515	*72.23***
Post (2013-2017)	4148	3580	.863	4169	1512	.362	*46.88***

Note: Possible responses were (0) Not Retained or (1) Retained

*$p < 0.05$, **$p < 0.000$, $\alpha = 0.05$, CI% = 95%.

Summary for Research Question One

The two-proportions *z*-test analyzed data with the purpose of determining a relationship between living on-campus for the first two years of college and retentions to the third year of college (through the sophomore/second year).

Finding were as follows:

- Research Question One: Is there a statistically significant difference in retention rates for students who lived on campus for two years and those who did not?
    - The Null Hypothesis: H01: There is no difference in retention rates for students who lived on campus for two years and those who did not.
- There was a statistically significant difference between the two groups. Students who lived on camps for the first two years had significantly higher retention rates than students who did not live on campus.
    - For question one, the Null Hypothesis was rejected.

Regression Analysis for Research Questions Two through Five

Regression analysis is used to determine relationships between variables, and it can take many forms depending on the type and number of variables that will be analyzed. Since this study has several predictor variables, all the analyses are within the category of multiple regression. More specifically, hierarchical regression will be the type of multiple regression used for the remaining research questions.

Purpose of Hierarchical Regression Analysis

Hierarchical regression is used when prior research has determined significant predictor variables (Field, 2013). When a researcher is familiar with predictor variables and their relationship with outcome variables, it is possible to enter predictors into the regression models in a purposeful or more intentional manner (Field, 2013). In hierarchical regression analysis, researchers can see if this set of known predictor variables (IV) are able to explain a significant about of the variance in a DV, after accounting for all the other variables (Field, 2013). Additionally, it is possible to see if the newly added variables (in each block) show a significant improvement in the R^2, which is the proportion of explained variance in the DV (Field, 2013). The last independent variable entered to the model is particularly important, since it is the final one considered to account for any variation that can help describe the variation that remains after holding constant for all other variable (Field, 2013).

The primary purpose of this study is to determine the extent to which living on campus for the first two years of college predicts a variety of student success outcomes, related to retention, graduated, earned GPA, and student involvement. Thus, it is imperative that all other known predictors for those outcomes have been considered

before determining if any remaining variation can be attributed to living on campus for two years. The study included eight predictor, or independent variables (IV) that were used in the analysis for of the first four research questions. Each of the variables was assigned to one of four blocks to be entered into the Hierarchical regression. The order used to enter variables was based on known predictors discussed in retention and graduation related studies and existing literature. In hierarchical regression analysis, the researcher can enter each variable into groups of related or similar categories called blocks. For this study, four blocks were used, with four sets of related variables: a) Gender, b) Race/ethnicity, c) Pell Eligibility, d) First Generation status, e) HS GPA, f) composite ACT score, g) Living on Campus for Two years.

Research Question Two

To approach Research Question Two (RQ2), a binary logistic regression analysis was conducted to evaluate the prediction of retention (DV) to the third year (through Sophomore/second year), from the following independent variables (IV): a) Gender, b) Race/ethnicity, c) Pell Eligibility, d) First Generation status, e) HS GPA, f) composite ACT score, g) Living on Campus for Two years. Retention is a categorical outcome variable (retained or not retained), therefore it cannot be evaluated using linear regression as it would violate the assumptions of linearity and would not fit a linear model (Field, 2013). Instead, binary logistic regression allows the researcher to predict the probability of a participant following into each of the two categories for the outcome variable. The first two independent variables, gender and race/ethnicity, were categorical variables which were dummy coded to meet the assumptions of logistic regression.

Block One

The first block of independent variables in the hierarchical analysis were the demographic predictors, Gender and Race/Ethnicity. The logistic regression for block one revealed the model to have a model Chi-square of 201.922 and was statistically significant ($p < .001$). The Nagelkerke R^2 (referred to as a "pseudo-R-square") had a value of .019 for the first step, which means that the demographic independent variables accounted for 1.6% of variance in retention rates to year three. The Hosmer and Lemeshow Tests established that the model was a good fit for the data, as the p value > 0.05 (0.446). After adding variables in block one, the model was able to correctly predict retention in 62.9% of cases, which was a slight increase from the prediction rate of 62.4% for the null model (aka- Block Zero).

Block Two

For the second block of hierarchical analysis for research question two, the socio-economic indicators of Pell Eligibility and First-Generation student status were added to the model. This step of the model had a Chi-square of 475.976 and was statistically significant ($p < .001$). The Nagelkerke value was .045, which means that the socio-economic variables increased the explained variance in retention rates to 4.5%. Hosmer and Lemeshow Tests found the model to be a good fit for the data, with a significance of 0.776. After adding variables in Block Two, the model was unable to predict additional cases, maintaining the prediction rate of 62.9% established after the first block was entered. However, as demonstrated in Table 9, First-Generation status was a statistically significant ($p < .001$) positive predictor of retention to the third year.

Table 9

Research Question Two: Block Two- Beta Coefficients, Wald Statistics, Significance, and Odds-Ratio for Predictor Variables

	B	Wald	Sig.	Exp(B)
Gender		51.775	<.001	
Gender(1)	-.255	51.676	<.001	.775
Gender(2)	-.271	.266	.606	.763
Race		71.093	<.001	
Race(1)	.404	1.068	.301	1.499
Race(2)	.061	.034	.854	1.063
Race(3)	.145	.185	.667	1.156
Race(4)	.998	2.240	.134	2.713
Race(5)	-.086	.065	.799	.918
Race(6)	.140	.151	.698	1.150
Race(7)	.390	1.423	.233	1.477
FirstGen2	-.424	125.851	<.001	.654
PellEligible2	.328	79.334	<.001	1.388
Constant	.349	1.134	.287	1.418

Block Three

With the third block of logistic regression analysis, pre-college academic attributes were added to the model as independent variables HS GPA and composite ACT score. For this step, the model had a Chi-Square of 1652.679 and was statistically significant ($p < .001$). The Nagelkerke value was .149, which means that the pre-college attributes increased the explained variance in retention rates to 14.9%. The Hosmer and Lemeshow Tests indicated that the model may not be a good fit for the data, p value = .043, which sometimes happens in large datasets (Field, 2013). This model was able to correctly predict the outcome in 67.0% of cases.

Block Four

For the final block in this set of logistic regression models, the primary independent variable of interest was entered. Two existing columns from the dataset were collapsed and a new dummy variable was created for students "Living On-Campus for Two years": a) Score = 0, did not live on campus for the first two years; and b) Score = 1, lived on campus for the first two years.

Adding this final predictor variable created a model with a Chi-Square of 4064.244, which was statistically significant ($p < .001$). The Nagelkerke value was .337, which means that the pre-college attribute increased the explained variance in retention rates to 33.7%. Again, the Hosmer and Lemeshow tests indicated that the model may not be a good fit for the data, p value = 0.060. This model was able to correctly predict the outcome in 74.2% of cases. As a predictor variable, living on campus a Wald Chi-square statistic of 1963.199, which was statistically significant ($p < .001$). Overall, block four indicated that living on campus was a statistically significant predictor of retention. The Odds Ratio, denoted by Exp(B) in Table 10, indicates that students who live on campus for the first two years had 7.76 times greater odds of being retained than students who did not live on campus for the first two years.

Table 10

Research Question Two: Block Four- Beta Coefficients, Wald Statistics, Significance, and Odds-Ratio for Predictor Variables

	B	Wald	Sig.	Exp(B)
Gender		17.392	<.001	
Gender(1)	.176	17.388	<.001	1.193
Gender(2)	.026	.002	.963	1.027
Race		38.441	<.001	
Race(1)	.121	.075	.783	1.129
Race(2)	.031	.007	.933	1.031
Race(3)	.073	.037	.847	1.076
Race(4)	.963	1.598	.206	2.620
Race(5)	-.002	.000	.996	.998
Race(6)	.277	.467	.494	1.320
Race(7)	.349	.905	.341	1.418
FirstGen2	-.380	77.189	<.001	.684
PellEligible2	.206	23.781	<.001	1.229
ACT	-.018	7.272	.007	.982
HS_GPA	1.219	727.554	<.001	3.382
LivedOnCampus First2Yrs	2.050	1963.199	.000	7.766
Constant	-4.054	102.163	<.001	.017

Summary for Research Question Two

The hierarchical regression analysis analyzed data with the purpose of determining a relationship between living on-campus for the first two years of college and retention to the third year of college (through the sophomore/second year).

Findings were as follows:

- Research Questions Two: To what extent is there a significant positive relationship between living on campus for two years and retention?

    - The Null Hypothesis: H01: This is no relationship between living on campus for two years and retention.
- Living on campus for two years was found to be a statistically significant predictor of retention to year three.
    - For Research Question Two, the Null Hypothesis was rejected.

Research Question Three

To approach Research Question Three (RQ3), a hierarchical linear regression analysis was conducted to evaluate the prediction of cumulative grade point average at the end of year two (DV), from the following independent variables (IV): a) Gender, b) Race/ethnicity, c) Pell Eligibility, d) First Generation status, e) HS GPA, f) composite ACT score, g) Living on Campus for Two years.).

Linear regression was selected for this analysis because GPA is a continuous, scale variable, as opposed to the dichotomous dependent variable used for the binary logistic regression used for research question two. While the predictor variables for this regression were the same ones used in research question two, the output for linear regression is interpreted differently, with attention to different key elements. Table 11 shows the summary of the model for research question three.

Table 11

Research Question Three: Relationship Between Living on Campus for Two Years and GPA- Linear Regression Model Summary

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.327[a]	.107	.106	.63291	.107	155.945
2	.358[b]	.128	.128	.62519	.022	130.748
3	.653[c]	.426	.425	.50737	.298	2709.314
4	.655[d]	.428	.428	.50634	.002	43.370

Review of Data for RQ3

For linear regression, R is used as a measure of the relationship between the set of independent variables and the dependent variable. For this model, the R = 0.65, which indicated there was a strong relationship between the variables in the model and the dependent variable (Table 11). Furthermore, the R^2 value = .428, which means that 42.8% of the variation in GPA can be explained by our model. Based on results from the ANOVA shown in Table 12, the model was a very small significant predictor of GPA.

Table 12

Research Question Three: Relationship Between Living on Campus for Two Years and GPA- ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	499.738	8	62.467	155.945	.000
	Residual	4186.385	10451	.401		
	Total	4686.123	10459			
2	Regression	601.948	10	60.195	154.003	.000
	Residual	4084.175	10449	.391		
	Total	4686.123	10459			
3	Regression	1996.826	12	166.402	646.416	.000
	Residual	2689.296	10447	.257		
	Total	4686.123	10459			
4	Regression	2007.946	13	154.457	602.448	.000
	Residual	2678.177	10446	.256		
	Total	4686.123	10459			

Block One

The first block included the demographic variables of Gender and Race/Ethnicity. Results shown in Table 12 of the hierarchical analysis for block one revealed the model to be statistically significant ($p < .001$). Additionally, the R^2 value of .107 associated with this regression model indicates that the demographic variables entered in block one, accounted for 10.7% of the variation in cumulative grade point average at the end of year two.

Block Two

For the second block of analysis, socio-economic indicators of Pell Eligibility and First-Generation student status were added, and the results were also found to be significant ($p < .001$). Block two had an R^2 value of .128 associated with the regression model, which means that 12.8% of the variation in cumulative grade point average at the end of year two can be explained by the two socioeconomic indicator variables that were added in in the second block of the model. The first two models can account for 23.5% of the variation in the dependent variable. Though the findings were statistically significant, 75% of the variation in the model could not be explained by the independent variables after step two of the linear regression.

Block Three

With the third block of hierarchical regression analysis, pre-college academic attributes were added to the model as independent variables HS GPA and composite ACT score. Adding these additional independent variables created a model that was also found to be significant ($p < .001$). Block three had an R^2 value of .426 associated with the regression model, which means that 42.6% of the variation in cumulative grade point average at the end of year two can be explained by the variables in the first three blocks of the model.

Block Four

For the final block in this set of regression models, the primary independent variable of interest was entered. Two existing columns from the dataset were collapsed and a new dummy variable was created for students, “Living On-Campus for Two years”: a) Score = 0, did not live on campus for the first two years; and b) Score = 1, lived on

campus for the first two years. Adding this variable created a model that was also found to be significant ($p < .001$). Block four had an R^2 value of .428 associated with the regression model, which means that 42.8% of the variation in cumulative grade point average at the end of year two can be explained by the variables in the model. Living on campus for the first two years was a statistically significant predictor of retention to year three, though it accounts for only 0.02% of the variance in GPA.

Summary for Research Question Three

The hierarchical, linear regression analysis analyzed data with the purpose of determining a relationship between living on-campus for the first two years of college and cumulative GPA at the end of year two (sophomore year).

Findings were as follows:

- Research Question Three: To what extent is there a significant positive relationship between living on campus for two years and GPA?
    - The Null Hypothesis: H01: This is no relationship between living on campus for two years and GPA.
- Living on campus for two years was found to be a statistically significant, but very small predictor of cumulative GPA at the end of year two.
    - For Research Question Three, the Null Hypothesis was rejected.

Research Question Four

To approach Research Question Four (RQ4), a binary logistic regression analysis was conducted to evaluate the prediction of graduation (DV), from the following independent variables (IV): a) Gender, b) Race/ethnicity, c) Pell Eligibility, d) First Generation status, e) HS GPA, f) composite ACT score, g) Living on Campus for Two

years. Graduation is a categorical outcome variable (graduated or did not graduate). For this research question, the logistic regression was run two separate times, once for "four-year graduation" and once for "six-year graduation" rates. These two specific intervals have been selected as colleges in the United States are required to report graduation rates for these segments. A bachelor's degree is intended to be completed in four years, so reporting is done at 100% (4 years) and 150% (6 years) to track college completion rates.

Predictor Variables for Four-Year Graduation Rates

Block One. The first block of independent variables in the hierarchical analysis were the demographic predictors, Gender and Race/Ethnicity. The logistic regression for block one revealed the model to have a Chi-square of 648.280 and was statistically significant ($p < .000$). The Nagelkerke R^2 had a value .062 for the first step, which means that the demographic independent variables accounted for 6.2% of variance in four-year graduation rates. The Hosmer and Lemeshow Tests indicated that the model may not be a good fit, for the data, p value = .039, which sometimes happens in large datasets (Field, 2013). After adding the demographic variables in block one, the model was able to correctly predict retention in 67.2% of cases.

Block Two. For the second block of hierarchical analysis for research question tow, the socio-economic indicators of Pell Eligibility and First-Generation student status were added to the model. This step of the model had a Chi-square of 992.465 and was statistically significant ($p < .001$). The Nagelkerke value was .093, which means that the socio-economic variables increased the explained variance in graduation rates to 9.3%. Hosmer and Lemeshow Tests found this step of the model to be a good fit for the data, with a significance of 0.934. After adding variables in Block Two, the model was able to

predict 67.8% of cases. Table 13 shows that First-Generation status was a statistically significant ($p < .001$) predictor of four-year graduation rates.

Table 13

Research Question Four: Logistic Regression for Four-Year Graduation Rates, Block 2 (Beta Coefficients, Wald Statistics, Significance, and Odds-Ratio for Predictor Variables)

	B	Wald	Sig.	Exp(B)
Gender		241.179	<.001	
Gender(1)	-.589	239.846	<.001	.555
Gender(2)	.427	.610	.435	1.533
Race		230.517	<.001	
Race(1)	.633	2.027	.154	1.883
Race(2)	-.373	.896	.344	.689
Race(3)	.128	.102	.750	1.136
Race(4)	.176	.063	.802	1.193
Race(5)	-.113	.079	.778	.893
Race(6)	.203	.230	.632	1.225
Race(7)	.566	2.119	.145	1.762
FirstGen2	-.518	163.098	<.001	.596
PellEligible2	.371	93.932	<.001	1.449
Constant	-.877	5.059	.024	.416

Block Three. With the third block of logistic regression analysis, pre-college academic attributes were added to the model as independent variables HS GPA and composite ACT score. For this step, the model had a Chi-Square of 2897.888 and was statistically significant ($p < .001$). The Nagelkerke value was .256, which means that the pre-college attributes increased the explained variance in graduation rates to 25.6%. Hosmer and Lemeshow Tests found the model to be a good fit for the data, with a significance of 0.418. This model was able to correctly predict the outcome in 73.1% of cases.

Block Four. For the final block in this set of logistic regression models, the primary independent variable of interest was entered, Living On-Campus for Two years. Adding this final predictor variable created a model Chi-Square of 3645.937, which was statistically significant ($p < .001$). The Nagelkerke value was .313, which means that living on campus for two years increased the explained variance in four-year graduation rates to 31.3%. Hosmer and Lemeshow Tests found the model may not be a good fit for the data, with a significance of 0.01. This model was able to correctly predict the outcome in 74.5% of cases. As a predictor variable, living on campus a Wald Chi-square statistic of 723.647, which was statistically significant ($p < .001$). Overall, block four included several statistically significant predictor variables, including, High School GPA and First-Generation student status. The Odds Ratio, Exp(B), in Table 14, indicated that students who live on campus for the first two years had 3.04 times greater odds of graduating in four-years, than students who did not live on campus for the first two years.

Table 14

Research Question Four: Logistic Regression for Four-Year Graduation Rates, Block 4 (Beta Coefficients, Wald Statistics, Significance, and Odds-Ratio for Predictor Variables)

	B	Wald	Sig.	Exp(B)
Gender		24.224	<.001	
Gender(1)	-.204	22.270	<.001	.815
Gender(2)	.766	1.678	.195	2.151
Race		64.598	<.001	
Race(1)	.311	.412	.521	1.364
Race(2)	-.092	.047	.829	.912
Race(3)	.050	.013	.908	1.051
Race(4)	-.096	.015	.901	.909
Race(5)	-.058	.018	.893	.943
Race(6)	.303	.432	.511	1.353
Race(7)	.421	.998	.318	1.524
PellEligible2	-.453	101.498	<.001	.636
FirstGen2	.221	26.752	<.001	1.247
ACT	.011	2.627	.105	1.011
HS_GPA	1.697	1037.053	<.001	5.459
LivedOnCampus	1.112	723.647	<.001	3.040
First2Yrs				
Constant	-7.417	261.415	<.001	.001

Predictor Variables for Six-Year Graduation Rates

Block One. The first block of independent variables in the hierarchical analysis were the demographic predictors, Gender and Race/Ethnicity. The logistic regression for block one revealed this block to have a model Chi-square of 422.220 and was statistically significant ($p < .001$). The Nagelkerke R^2 was 0.39 for the first step, which means that the demographic independent variables accounted for 3.9% of variance in six-year graduation rates. The Hosmer and Lemeshow Tests indicated that the model may was a

good fit, for the data, p value = .351. After adding the demographic variables in block one, the model was able to correctly predict retention in 56.5% of cases.

Block Two. For the second block of hierarchical analysis for research question four, the socio-economic indicators of Pell Eligibility and First-Generation student status were added to the model. This step of the regression had a model Chi-square of 804.753 and was statistically significant ($p < .001$). The Nagelkerke value was .073, which means that the socio-economic variables increased the explained variance in six-year graduation rates to 7.3%. Hosmer and Lemeshow Tests found this step of the model to be a good fit for the data, with a significance of 0.708. After adding variables in Block Two, the model was able to predict 59.7% of cases. Table 15 shows that First-Generation status was a statistically significant ($p < .001$), but small predictor of six-year graduation rates.

Table 15

Research Question Four: Logistic Regression for Six-Year Graduation Rates, Block 2 (Beta Coefficients, Wald Statistics, Significance, and Odds-Ratio for Predictor Variables)

	B	Wald	Sig.	Exp(B)
Gender		133.284	<.001	
Gender(1)	-.403	133.245	<.001	.668
Gender(2)	-.055	.011	.917	.947
Race		150.825	<.001	
Race(1)	.771	3.770	.052	2.163
Race(2)	.003	.000	.993	1.003
Race(3)	.172	.243	.622	1.187
Race(4)	.017	.001	.978	1.017
Race(5)	-.035	.010	.921	.966
Race(6)	.171	.214	.644	1.186
Race(7)	.549	2.656	.103	1.732
PellEligible2	-.531	204.670	<.001	.588
FirstGen2	.331	85.447	<.001	1.393
Constant	-.174	.264	.607	.841

Block Three. With the third block of logistic regression analysis, pre-college academic attributes were added to the model as independent variables HS GPA and composite ACT score. For this step, the regression had a model Chi-Square of 2480.090 and was statistically significant ($p < .001$). The Nagelkerke value was .212, which means that the pre-college attributes increased the explained variance in graduation rates to 21.2%. Hosmer and Lemeshow Tests found the model to may not be a good fit for the data, with a significance of 0.05. This model was able to correctly predict the outcome in 67.4% of cases.

Block Four. For the final block in this set of logistic regression models, the primary independent variable of interest was entered, Living On-Campus for Two years. Adding this final predictor variable created a model with a model Chi-Square of 3915.242, which was statistically significant ($p < .001$). The Nagelkerke value was .319, which means that living on campus for two years increased the explained variance in six-year graduation rates to 31.9%. Hosmer and Lemeshow Tests found the model to be a good fit for the data, with a significance of 0.292.

This model was able to correctly predict the outcome in 71.2% of cases. As a predictor variable, living on campus had a Wald Chi-square statistic of 1327.737, which was statistically significant ($p < .001$). Overall, block four included several statistically significant predictor variables, including, High School GPA and First-Generation student status. Table 16 shows the Odds Ratio, Exp(B), which indicated that students who live on campus for the first two years had 4.336 times greater odds of graduating in six years than students who did not live on campus for the first two years.

Table 16

Research Question Four: Logistic Regression for Six-Year Graduation Rates, Block 4 (Beta Coefficients, Wald Statistics, Significance, and Odds-Ratio for Predictor Variables)

	B	Wald	Sig.	Exp(B)
Gender		.192	.908	
Gender(1)	.010	.057	.811	1.010
Gender(2)	.211	.139	.710	1.235
Race		52.405	<.001	
Race(1)	.527	1.442	.230	1.694
Race(2)	.154	.170	.680	1.167
Race(3)	.110	.082	.774	1.116
Race(4)	-.322	.214	.644	.725
Race(5)	.055	.021	.886	1.056
Race(6)	.284	.486	.486	1.328
Race(7)	.482	1.697	.193	1.620
PellEligible2	-.500	142.801	<.001	.606
FirstGen2	.205	25.664	<.001	1.227
ACT	-.014	4.421	.036	.986
HS_GPA	1.480	1043.566	<.001	4.395
LivedOnCampusFirst2 Yrs	1.467	1327.737	<.001	4.336
Constant	-5.470	183.781	<.001	.004

Summary for Research Question Four

The hierarchical, logistic regression analysis analyzed data with the purpose of determining a relationship between living on-campus for the first two years of college and four and six-year graduation rates.

Findings were as follows:

- Research Question Four: To what extent is there a significant positive relationship between living on campus for two years and four and six-year graduation rates?

    - The Null Hypothesis: H01: This is no relationship between living on campus for two years and four and six-year graduation rates.
- Living on campus for two years was found to be a statistically significant predictor of four and six-year graduation rates.
    - For Research Question Four, the Null Hypothesis was rejected.

Research Question Five

To approach Research Question Five (RQ5), a binary logistic regression analysis was conducted to evaluate the prediction of campus involvement from the following independent variables (IV): a) Gender, b) Race/ethnicity, c) Pell Eligibility, d) First Generation status, e) HS GPA, f) composite ACT score, g) Living on Campus for Two years. For this study, campus involvement was included as a dichotomous, categorical outcome variable (involved or not involved). At the site for this study, the internal database system has a column or student attribute for "student involvement". This column is marked in the affirmative if the student has participated in a variety of student activities, including traditional registered student organizations, academic/departmental clubs, intramural or club sports, honor societies, social Greek fraternities or sororities, etc. For the purposes of this study, each student was marked as "involved" if they had an affirmative student involvement attribute marked at any point during their enrollment. To create a dichotomous variable, students were re-coded into two categories with 0 = Not Involved and One = Involved.

Block One

The first block of independent variables in the hierarchical analysis were the demographic predictors, Gender and Race/Ethnicity. The logistic regression for block one

revealed the regression to have a model Chi-square of 118.871 and was statistically significant ($p < .001$). The Nagelkerke R^2 had a value .011 for the first step, which means that the demographic independent variables accounted for 1.1% of variance in student involvement. The Hosmer and Lemeshow Tests established that the model was a good fit for the data, as the p value > 0.05 (0.506). After adding variables in block one, the model was able to correctly predict retention in 58.4% of cases, which was a slight increase from the prediction rate of 57.8% for the null model (aka- Block Zero).

Block Two

For the second block of hierarchical analysis for research question five, the socio-economic indicators of Pell Eligibility and First-Generation student status were added to the model. This step had a model Chi-square of 250.360 and was statistically significant ($p < .001$). The Nagelkerke value was .023, which means that the socio-economic variables increased the explained variance in student involvement to 2.3%. Hosmer and Lemeshow Tests found the model to be a good fit for the data, with a significance of 0.370. After adding variables in Block Two, the model was able to predict slightly more cases, with a rate of 58.6%. First-Generation status was a statistically significant ($p < .001$) positive predictor of student involvement, as evidenced in Table 17.

Table 17

Research Question Five: Logistic Regression for Student Involvement, Block 2 (Beta Coefficients, Wald Statistics, Significance, and Odds-Ratio for Predictor Variables)

	B	Wald	Sig.	Exp(B)
Gender		33.937	<.001	
Gender(1)	-.194	31.569	<.001	.824
Gender(2)	-.928	2.834	.092	.395
Race		47.206	<.001	
Race(1)	.345	.807	.369	1.412
Race(2)	.053	.027	.870	1.055
Race(3)	.411	1.511	.219	1.509
Race(4)	1.168	3.102	.078	3.216
Race(5)	.291	.766	.381	1.338
Race(6)	.105	.087	.768	1.110
Race(7)	.387	1.432	.231	1.473
PellEligible2	-.211	32.457	<.001	.810
FirstGen2	.292	66.433	<.001	1.339
Constant	.023	.005	.944	1.023

Block Three

With the third block of logistic regression analysis, pre-college academic attributes were added to the model as independent variables HS GPA and composite ACT score. For this step, the model had a model Chi-Square of 677.665 and was statistically significant ($p < .001$). The Nagelkerke value was .062, which means that the pre-college attributes increased the explained variance in graduation rates to 6.2%. Hosmer and Lemeshow Tests found the model may not be a good fit for the data, with a significance of 0.078. This model was able to correctly predict the outcome in 61.0% of cases.

Block Four

For the final block in this set of logistic regression models, the primary independent variable of interest was entered, Living On-Campus for Two years. Adding this final predictor variable created a model with a model Chi-Square of 1276.492, which was statistically significant ($p < .001$). The Nagelkerke value was .115, which means that living on-campus increased the explained variance in student involvement to 11.5%. Hosmer and Lemeshow Tests found the model may not be a good fit for the data, with a significance of 0.01. This model was able to correctly predict the outcome in 64.1% of cases. As a predictor variable, living on campus a Wald Chi-square statistic of 579.459, which was statistically significant ($p < .001$). Overall, block four included several statistically significant predictor variables, including, High School GPA and First-Generation student status. The Odds Ratio indicated that students who live on campus for the first two years had 2.439 times greater odds of being involved on campus compared to students who did not live on campus for the first two years (Table 18).

Table 18

Research Question Five: Relationship Between Living On-Campus for the First Two Years Student Involvement- Odds Ratio for Logistic Regression

	B	Wald	Sig.	Exp(B)
Gender		2.079	.354	
Gender(1)	.016	.195	.659	1.017
Gender(2)	-.764	1.857	.173	.466
Race		21.090	.004	
Race(1)	.193	.238	.626	1.213
Race(2)	.098	.085	.771	1.103
Race(3)	.392	1.296	.255	1.481
Race(4)	1.092	2.544	.111	2.980
Race(5)	.360	1.106	.293	1.434
Race(6)	.150	.167	.683	1.162
Race(7)	.324	.945	.331	1.382
PellEligible2	-.141	13.323	<.001	.869
FirstGen2	.201	28.814	<.001	1.222
ACT	.008	1.878	.171	1.008
HS_GPA	.579	221.379	<.001	1.784
LivedOnCampus First2Yrs	.891	579.459	<.001	2.439
Constant	-2.452	46.027	<.001	.086

Summary for Research Questions Five

The hierarchical, logistic regression analysis analyzed data with the purpose of determining a relationship between living on-campus for the first two years of college and student involvement.

Findings were as follows:

- Research Question Five: To what extent is there a significant positive relationship between living on campus for two years and student involvement?

    - The Null Hypothesis: H01: This is no relationship between living on campus for two years and student involvement.
- Living on campus for two years was found to be a statistically significant predictor of student involvement.
    - For Research Question Five, the Null Hypothesis was rejected.

Summary/Conclusion

Abundant research exists exploring retention and graduation rates among college students. Furthermore, a significant portion of the research evaluates the connection between retention and the effects of living on campus. Because these studies are fairly dated and have ignored potential causal effects on retention rates, updated research has been needed. Additionally, most existing research has focused solely on first-year students and this study sought to add to the discourse by exploring student success measures for sophomore students/second year students.

Through z-tests and several multiple regression analyses, this study found that students who lived on campus for two years were statistically more likely to be retained to their third year, graduate in four years or six-years, and to be involved in campus co-curricular activities. Additionally, students who lived on campus for two years tended to have a higher cumulative GPA at the end of their second year. It should be noted that some of those differences, while statistically significant, were small, particularly the one for grade point average. Further analysis could help determine what other variables could add predictive power to the models for those variables and to see if sub-populations experience differences at greater or alternate rates.

SECTION TWO

PRACTITIONER SETTING FOR STUDY

Setting of the Study

In the United States, public higher education receives significant funding from the federal government and, thus, is heavily influenced by initiatives and policy reforms at the national level (St. John et al., 2013). While individual states are able to set legal requirements for their institutions, the objectives and agendas of the U.S. Department of Education impact how those requirements and policies are enacted (St. John et al., 2013). Each state is allowed to create systems for governing and overseeing public higher education and many states entrust specific boards to accomplish these tasks. While their compositions and roles are varied and complex, there are three main models for postsecondary governance at the *state* level: (a) a single, state-wide Coordinating Board/Agency of Higher Education; (b) a single, state-wide Governing Board; (c) one or more system-wide Coordinating or Governing Boards (Education System of the States, 2019).

Missouri is one of 20 states that utilize a Coordinating Board of Higher Education (Education System of the States, 2019). The members of Missouri's Coordinating Board of Higher Education (CBHE) are appointed by the Governor to represent the state's eight congressional districts (Missouri Department of Higher Education and Workforce Development, 2019a). The nine members, one from each of the eight districts and one at-large member, serve six-year terms in a voluntary capacity (Missouri Department of Higher Education and Workforce Development, 2019a). The members of CBHE appoint a Commissioner of Higher Education to provide oversight and guidance to the Missouri Department of Higher Education and Workforce Development (MDHEWD) which was formerly known as the Missouri Department of Higher Education (MDHE) until a

restructuring and name change in August 2019 (Missouri Department of Higher Education and Workforce Development, 2019b). MDHEWD is primarily tasked with several broad categories of responsibilities, including planning, academic programs, institutional relationships, oversight of financial aid for Missouri institutions and students, and federal compliance (Missouri Department of Higher Education and Workforce Development, 2019c).

While CBHE and MDHEWD provide numerous guidelines and policies for how universities and colleges are organized and governed in the state of Missouri, the individual campuses are responsible for setting their own missions, agendas, proposing academic programs, etc. (Missouri Department of Higher Education and Workforce Development, 2019c). Missouri has 14 public, four-year universities: Harris-Stowe State University, Lincoln University, Missouri Southern State University, Missouri State University-Springfield, Missouri University of Science and Technology, Missouri Western State University, Northwest Missouri State University, Southeast Missouri State University, Truman State University, University of Central Missouri, University of Missouri-Columbia, University of Missouri-Kansas City, University of Missouri-St Louis. For the purposes of this case study focused inquiry, the University of Central Missouri has been selected as the research site.

History and Governance of the Setting

The setting for this case study is the University of Central Missouri (UCM), a public, four-year university in the Midwest. UCM was founded in 1871 as a Teacher's College, with the primary mission of training educators in the regional area (UCM's History, n.d.a) The institution has changed names several times due to broadened scope

and mission, becoming Central Missouri State University in 1972, and ultimately University of Central Missouri in 2006 (UCM's History, n.d.a). The institution enrolls approximately 7,500 undergraduate and 2,500 graduate students annually (UCM, 2020).

UCM is governed by an eight-member group known as the Board of Governors (BOG) (UCM, 2017). In 2019, UCM adopted a revised *mission*, pledging their intent to "disseminate(s) knowledge that transforms students into leaders who possess the aptitudes, skills, and confidence to succeed" (UCM, 2019). The university also identifies seven *core values*: (a) learning, (b) excellence, (c) service, (d) responsibility, (e) adaptability, (d) diversity, and (f) community (UCM, n.d.b).

The BOG uses the mission and core values to help make decisions about future directions for the institution, long-term plans, overarching goals, performance-based metrics for success, and a host of other key statutory responsibilities, including:

- general control and management of the university including adoption of rules and regulations for guidance and supervision of students, to appoint and dismiss all officers and teachers and ability to delegate the same (Sections 172.100 and 172.300, RSMo)
- regulation of the admission of students (Sections 174.130 and 172.360, RSMo) and regulation of the terms, compensation, retirement, and workers' compensation of employees (Sections 172.300, 172.330 and 172.340, RSMo)
- determination of causes for removal of the president (Section 172.300, RSMo)
- authority to confer degrees (Section 172.280, RSMo) (UCM, 2017, article VI)

Each BOG member serves on one of three sub-committees (a) Academic Affairs, (b) Student Engagement and Advancement, (c) Finance and Administration (UCM, 2017).

BOG members engage with campus leaders who provide advice and guidance which informs overall decision-making about campus proceedings.

Institutional and Organizational Structure

Academic programs and majors are housed within four colleges at UCM (a) the College of Arts, Humanities, and Social Sciences; (b) the College of Education; (c) the College of Health Science and Technology; and (d) the Harmon College of Business and Professional Studies. The four colleges are responsible for creating academic programs, developing curriculum, designing and re-designing courses, as well as a host of other functions. Outside of the main academic units, the institution has a breadth of departments and offices to help support the primary academic mission of the university.

Beyond the academic departments, the campus has various units to serve students' direct and indirect needs. Groups such as Admissions, Student Financial Services, Advising, and Student Experience and Engagement (SEE, more commonly referred to as "Student Affairs" through most Higher Education institutions) provide supports to help students succeed inside and outside of the classroom. Since this case study and corresponding research are focused on retention and graduation efforts and an analogous policy change, the subsequent leadership and organizational descriptions and analysis will be centered on offices, actions, and initiatives with the strongest connections to retention-related work.

Like most college campuses, UCM has an array of programs and services to help address retention-related issues which are tied directly to helping students achieve their academic goals. These services are designed to provide students with additional support and resources to help with their academic and social success while enrolled at the

university. Some programs or resources are "system-wide" or available to all students, and some are more specific or tailored to students based on their unique needs as individuals.

Academic Support Services, formerly Academic Enrichment, organizes tutoring services and helps connect students with other potential resources to support their experiences inside and outside the classroom. The department is functionally organized in the College of Education and is physically located in the Learning Commons within the James C. Kirkpatrick Library (JCKL). The Learning Commons serves a space for academic tutoring, test preparation, supplemental instruction, and the Writing Center.

UCM is also a participant in the federal Student Support Services (SSS) TRIO grant program, which connects various high-risk groups with additional assistance. SSS TRIO programs serve income eligible, first-generation students, and students with disabilities. Students who use the SSS TRIO program have access to a specialized advisor, in addition to their traditional academic advisors (which are called Student Success Coaches at UCM).

The CARE team is a "cross disciplinary group of experienced and knowledgeable professionals who can review concerns about student behavior, intervene to prevent foreseeable harm or campus disruption, and provide recommendations and advice to University administration" (C. Bowman, personal communication, June 8, 2020). CARE team members work to identify at-risk students and help formulate customized plans for improving their ability to be successful. UCM even has post-hoc "intervention" strategies for students who have been placed on academic probation or suspension. The Suspension

Waiver programs allow students who have been suspended to re-enroll with various stipulations, such as additional required meetings, specialized advising, etc.

Overall, campus administrators have a host of programs and services to help students. However, many of these programs and services have been in a perpetual state of flux and transition as shifting priorities impact budgets, staffing and overall resource allocation. Throughout the past decade, UCM experienced a significant period of transformation, with a plethora of new initiatives, policies, and task forces being implemented immediately prior to a rapid, substantial turnover in leadership. Leadership changes impact the organization and alter the overall composition, structure, and nature of the institution.

UCM Leadership and Organizational Analysis

Leadership and Policy Changes

In August 2012, UCM's then-President introduced a new positioning platform which also served as a comprehensive retention and graduation strategy. The positioning platform and related programs were called "Learning to a Greater Degree". The platform included four tenets which would underpin and guide university efforts. Those four principles were intended to frame the experiences of students and include: (a) engaged learning, (b) future-focused academics, (c) worldly perspective, and (d) culture of service. A core component of the platform was a contract entitled, 'Learning to a Greater Degree' (LtGD), which was a non-binding 'contract', which was one part verbal commitment from the university to the students, and one part implied commitment from the students back to the university. Central to this idea is improving communication about expectations the university has for students.

While LtGD had many tactics to improve graduation and retention rates, the central piece of the policy was a new requirement for students to live on campus for two years (as opposed to the formerly required one year) and to complete 15 hours per semester (Ambrose, 2013). Students who completed 15 hours per semester and lived on campus for their first two years would receive a post-graduation stipend from the university (Ambrose, 2013). The stipend would function comparably to a scholarship, but would be awarded 'post-hoc', as the students would be compensated for completing their degree 'on-time' (i.e., in four years).

In 2018, the Vice Provost for Enrollment Management convened a large cross-section of faculty and staff members to focus on campus-wide efforts to further improve factors that contribute to student success. The taskforce was called the Strategic Enrollment Management Council and it brought together Vice-Provosts, Deans, Associate Deans, department directors, campus outreach, extended studies, student experience and engagement, etc. The goal of the group was to develop comprehensive efforts related to recruitment, retention, graduation, and overall student success. Ultimately, the task force would also be responsible for creating a Strategic Plan for Enrollment Management. The group had two sub-committees, one focused on *Recruitment* and one focused on *Retention and Student Success.*

During this process, the University was awarded a $2.7 million Strengthening Institutions (SIP) grant from the Department of Education. The overall project goal for UCM is to: Increase student success, retention and completion by front-loading academic and social supports for first year and at-risk students. Through the grant funding, the campus has completed, launched, or has plans to introduce numerous projects, including

ones related to mental health first aid training, peer mentoring, embedded tutoring, advising case management training, overhauled freshman seminar courses, academic success workshops, a first-year diagnostic tool, an overhauled summer bridge program, corequisite models for Math and English, and revamped active learning classrooms. Due to the multitude of wide-reaching retention and graduation initiatives that are underway, this research will focus on the cohorts that began prior to 2018.

Leadership Turnover

While UCM was adopting these major policy changes, enacting new requirements, and helping students learn about and adjust to new and sometimes evolving expectations, the institution was also grappling with tremendous organizational changes. From the fall 2017 semester to the fall 2018 semester, UCM experienced massive upheaval in all levels of leadership, office and department structure, and staffing. Due to stringent budgetary circumstances, the organization offered early retirement incentives to avoid drastic position eliminations and cuts. Over 145 staff and faculty members accepted the "voluntary retirement incentive bonus" (VRIB) packages from May 2017 – May 2018, with many of those positions remaining unfilled to help repair the fiscal outlook.

The University President and Provost left within a few months of one another, accepting positions at other organizations. The Chief Financial Officer was already serving in an interim capacity and was tapped as the interim President during the transition period. For a three-month period, the university had an interim- President, Provost, CFO, Vice-Provost of Enrollment Management and three of the four colleges

had interim Deans.

Leadership Changes and the Impact on the Organization

The massive leadership changes had a significant impact on UCM as an organization. Since the strategic leadership team departures seemed to occur every few months, there was no time to get used to one set of changes or expectations before a new set of changes occurred. It became difficult for people to make decisions or to know who was responsible for making decisions, specifically ones which might have wide-spread impact for the future of the institution. According to Bolman and Deal (2013):

> Change undermines existing structural arrangements creating ambiguity, confusion, and distrust. People no longer know what is expected of them or what they can expect from others. Everyone may think someone else is in charge when in fact no one is. (p. 381)

Because typical layers of administrative leadership were missing, even groups such as the SEM task force were forced to pause some potential initiatives and wait to ensure their goals aligned with whoever was in change in an interim capacity, all while questioning whether or not the work would be approved to continue once new leaders were hired and properly vested. Change is notoriously difficult, for individuals, and especially for organizations. Bolman and Deal (2013) also posited:

> Any significant change in an organization may trigger two conflicting symbolic responses. The first is to keep things as they were, to replay the past. The second is to ignore the loss and plunge into the future. Individuals or groups either become struck in denial or bog down vacillating between the two responses. (p. 388)

Some people on campus continued to progress forward, assuming or hoping that new leaders would commend their efforts, while others felt it more important to pause large-scale committee and task force work until new leaders could provide their support and approval for the direction of their work.

Ultimately, strong leadership is key during pivotal times of change and UCM as an organization did not have consistent leadership during this period of transition. In 1996, Kotter introduced his "8-Step process for leading change", which stated that to help their organizations progress through change, leaders must:

- Create a sense of urgency
- Build a guiding coalition
- Form a strategic vision and initiatives
- Enlist a volunteer army
- Enable action by removing barriers
- Generate short-term wins
- Sustain acceleration
- Institute change (p. 25).

The former leaders had done important work to establish the sense of urgency regarding the need to improve graduation and retention rates on campus. Many of the policy changes, like the ones associated with the Learning to a Great degree contract, two-year residential requirement, and intrusive advising model were approved quite rapidly, acknowledging that folks would need to 'build the ship while it was in the air'. The SEM task force helped to establish a coalition of invested stakeholders and that group did considerable work to create a new mission, visions, and initiatives aimed at

improving student success at UCM. Eventually, the SEM taskforce grew and drew in additional campus partners who represented a volunteer army of sorts, who participated in multiple 'accelerator events' to help capitalize on all the work that had been done, while recognizing all of the work that was to come.

Unfortunately, the leadership changes happened at a vulnerable time in the change cycle because progress came to a standstill, as the lack of positional leaders (with real power) made it impossible to remove barriers or to sustain momentum. It was difficult to determine which of the various in-process initiatives would be maintained as new leaders might have different goals or interests. "Loss is an unavoidable by product of improvement and particularly for those who are the target of someone else's change initiative. As change accelerates, executives and employees become mired in endless cycles of grief" (Bolman & Deal, 2013, p. 388). Fortunately, that sense of loss was somewhat short-lived as leadership positions were refilled and similar goals were supported and maintained.

Potential Legislative Implications for Research in the Practitioner Setting

While the leadership turnover and organizational changes presented their own unique set of internal issues, there were also external threats. In February 2017, a state legislator proposed a bill which would prohibit colleges and universities from being able to require students to live on campus for two years. The rationale for the bill was that slim gains in grade point average or related outcomes were not worth the high cost of living on campus for two years (Derosier, 2017). As of the fall 2016 academic year, three colleges in Missouri required students to live on-campus for two years- Southeast Missouri State University, Missouri State University and UCM. The office of University

Relations, which handles press releases and communications outside the university, worked with UCM's President to address concerns with the bill in an Editorial piece. The President documented several ways in which UCM has already seen positive returns from their efforts.

Retention and Degree Completion at UCM

UCM created the two-year policy as part of their comprehensive approach to improving graduation and retention rates. If the university has data that can document the success of these initiatives, it would help demonstrate to outside groups, and particularly state legislators, that the strategy is working, which could help to quell concerns that the policy is self-serving for the institution. Additionally, the data could help identify gaps in the policy or additional sub-groups and populations that may benefit from further intervention techniques.

Historically, retention rates at UCM have fluctuated with slight increases and then decreases every few years. Over the past 20 years, UCM had an average retention rate of 71.3 from the fall of year one to the fall of year two (UCM, 2020). The retention rate from year one to year three (encompassing the "sophomore year") was 62.3 over the same time period (UCM, 2020). From 2006 to 2012, the seven years before the new residential requirement policy, the average retention rate was 71.1% and from 2013 to 2019, the average was 71.7%

Figure 3. University of Central Missouri, 2020 Fact Book, Retention Chart

		Retention			**Graduation**				
Cohort year	Number	One Year	Two Years	Three Years	Four Years	Five Years	Six Years	Seven Years	Eight Years
2000	1,461	72.4%	63.5%	58.2%	26.6%	46.1%	51.1%	53.1%	53.9%
2001	1,442	72.8%	63.0%	60.3%	26.2%	47.9%	53.1%	54.8%	55.8%
2002	1,252	72.8%	63.7%	60.4%	27.2%	46.7%	51.9%	53.8%	54.2%
2003	1,358	69.9%	60.6%	57.6%	24.2%	43.8%	48.4%	50.7%	51.6%
2004	1,436	71.0%	64.3%	59.2%	26.4%	45.4%	51.0%	53.3%	53.9%
2005	1,485	68.9%	60.5%	55.8%	28.2%	46.3%	50.4%	52.0%	52.3%
2006	1,507	70.7%	60.7%	56.7%	27.6%	45.3%	49.3%	51.3%	52.0%
2007	1,427	71.9%	64.7%	60.4%	30.0%	49.8%	53.5%	54.8%	55.4%
2008	1,586	72.8%	64.3%	60.5%	29.2%	47.6%	52.9%	54.2%	55.3%
2009	1,479	72.6%	63.6%	58.9%	30.6%	47.9%	52.1%	53.6%	54.2%
2010	1,547	72.5%	64.8%	60.4%	32.1%	48.7%	52.8%	53.9%	54.6%
2011	1,649	68.7%	59.6%	56.1%	28.6%	45.5%	49.1%	50.5%	50.9%
2012	1,762	68.8%	59.1%	55.6%	28.9%	45.1%	49.4%	50.5%	50.7%
2013	1,746	69.7%	60.8%	57.5%	30.0%	47.5%	50.9%	51.8%	
2014	1,687	70.8%	61.7%	56.3%	32.4%	47.4%	50.9%		
2015	1,641	70.8%	63.7%	58.6%	35.8%	48.6%			
2016	1,578	71.9%	62.3%	57.9%	35.4%				
2017	1,665	69.9%	60.2%	55.1%					
2018	1,459	73.8%	64.8%						
2019	1,227	74.8%							
Average	**1,520**	**71.3%**	**62.3%**	**58.0%**	**29.5%**	**46.9%**	**51.1%**	**52.7%**	**53.4%**

Efforts to improve student success measures are on track as graduation rates at UCM have been steadily climbing since the major policy changes and requirements were adopted in 2013. According to Murphy (2019):

> Statistics recently released by the Missouri Department of Higher Education (MDHE) show that between fiscal years 2015-2017, UCM's degree completion rate per full-time equivalent (FTE) was 50.5 percent. This figure is the highest among all of Missouri's public universities. It also is 10 percent higher than the university with the next highest percentage of FTE completions and

> double the state's 25 percent benchmark. What's more, UCM's FTE completion rate signifies a 7.6 percent increase from FY2014-2016 data, the largest increase among all state public four-year institutions. (para. 3)

Summary

Campuses and universities continually seek to improve the programs and services they offer for students in an attempt to help create conditions in which students are more likely to succeed. Research has shown that efforts related to graduation and retention rates need to be comprehensive to have the best impact. UCM has made notable strides at creating and improving the conditions known to have the more significant impact on student success measures. As retention and graduation rates are on the rise, it appears the changes and investments are having the intended effect on students. The next crucial step is analyzing the data more thoroughly, to see if differences are statistically significant, if changes can be attributed to any of the policy changes, and to see if specific population and sub-populations are experiencing the effects in different ways or to different degrees. The results from this case study and subsequent data analysis will help provide additional documentation and support for the essential work that has been done.

SECTION THREE

SCHOLARLY REVIEW FOR THE STUDY

Literature Review Introduction

Higher education administrators and researchers have been studying retention and factors contributing to retention for decades (Berger, et al., 2012). The first retention studies were conducted in the early 1930s (Morrison & Silverman, 2012). College officials were interested in finding out why students departed from the university without earning a college degree. At that time, most studies were conducted looking only at single institutions, since the information was evaluated internally (Berger, et al., 2012). As degree attainment became more of a concern, so did retention and, in order to create systems to help students succeed, college officials needed to research what was *actually* occurring (Seidman, 2012). While colleges and universities have changed significantly over the past 80 years, administrators' motivations for understanding student success measures and related phenomenon have been a consistent fixture.

Despite concerted efforts to make improvements, graduation and retention rates have remained largely unchanged since the 1980s (Braxton, Doyle, Hartly III, Hirschy, Jones, & McLendon, 2014). Approximately 28% of students at four-year colleges leave their institutions at the end of their first year (American College Testing Program, 2012). Additionally, four and six-year graduation rates have barely waivered for the past several cohorts (Nadworny, 2019).

With a fervent national focus on increasing the number of college graduates, administrators are desperate to address the retention problem, since it is directly related to eventual graduation rates (Russell, 2011). As retention studies have evolved and become more important, researchers even developed a dedicated academic journal, *The Journal of College Student Retention: Research, Theory and Practice* (Berger, et al., 2012).

Unfortunately, many findings indicate that although retention is widely studied, there are still many gaps in our understanding of this issue (Seidman, 2012, Tinto, 2006). Researchers continue to find subtle nuances in the variables that affect retention, and the characteristics which are most salient to study (Seidman, 2012; Tinto, 2006).).

Low graduation and retention rates are problematic for many reasons, but one of the most threatening for colleges is related to the cost of losing students. Fiscal stability is a challenge for all organizations, but higher education experiences some unique challenges. State appropriations for higher education have been dwindling in the past decade, although most public universities still receive substantial state allocations which they rely upon to operate (State Higher Education Executive Officer Association, 2012). Unfortunately, higher education tends to be a 'discretionary' budget item, which means it is not subject to mandatory minimum spending (Delaney & Doyle, 2011). Decreased resources from the state and unstable budget patterns make it difficult for campus administrators to plan appropriately. In addition, policy makers in several states have started tying funding for public institutions to their performance related to certain key measures (Braxton, et al., 2014; National Conference on State Legislatures, 2014). Under these performance-based funding models, universities lose money if they fail to improve their metrics, and two of the most commonly assessed measures are freshman retention and four and six-year graduation rates (Braxton, et al., 2014; National Conference on State Legislatures, 2014).

Funding is a complex concern for higher education administrators and most colleges cannot afford to risk losing money from state appropriations based on low or decreasing graduation and retention rates (Cowman & Kessler, 2015; Schuh &

Gansemer-Topf, 2012). The risk extends beyond state funding, since losing students also means that colleges have lost potential revenue from the student's tuition dollars. Colleges and universities spend a significant amount of fiscal and human resources to keep students retained and eventually graduate. Schuh and Gansemer-Tops (2012) identified three main institutional costs of non-persistence:

- Immediate direct institutional costs, which includes recruiting, financial aid, tuition, housing, and dining.
- Immediate indirect institutional costs, which includes faculty and staff salaries and facilities.
- Long-term potential institutional costs, which includes outcomes which are difficult to predict or quantify, such as possible alumni giving, recommendations to the university, etc. (p. 102)

Institutions study graduation and retention rates to learn about enrollment patterns and to hopefully prevent students from departing the university before earning a college degree. Some of their actions are to benefit the school financially, but many attempts are focused on the overall goal of helping the students succeed. One benefit of the abundance of retention studies is that campuses are very familiar with certain actions, programs, and services which promote retention. Campus officials know that certain behaviors in college are connected to improved retention rates (Astin, 1993; Braxton, et al., 2014; Chickering, 1974; Pascarella & Terenzini, 2005; Seidman, 2012; Tinto, 1975, 1993) One of the primary differences between students who are retained and students who are not retained is their level of engagement and connection to the institution (Astin, 1993; Chickering 1974; Pascarella & Terenzini, 2005; Seidman, 2012; Tinto, 1975, 1993).

The review of relevant literature will serve three main purposes:

1. It will summarize the highlights of the creation and development of the American system of higher education, particularly how residential living became part of the collegiate experience.
2. It will describe how retention is impacted by student's interactions and experiences outside the classroom, with a special interest on the effects of living on campus.
3. It will dissect how the experiences of sophomore or second-year students differ from freshman or first-year students, who are typically the focus of most retention-related studies.

An examination of the relevant literature will include a brief overview of the historical foundations of baccalaureate education in the United States and the philosophical underpinnings of residential education. In addition, the modern notions of student departure, retention, and involvement will be evaluated with particular attention to the major research theories of Tinto, Astin, and Pascarella and Terenzini. Finally, those seminal theories will be intersected with related research centered on housing and residence life.

History of American Higher Education

During its inception, the American model of higher education was primarily influenced by English models and traditions (Rudolph, 1990). The original nine colonial colleges were founded with similar structures and ideals as Oxford and Cambridge (Brubacher, 1977; Rudolph, 1990). The main goal of obtaining a college education was for young men to learn the classics, as well as religion, character, and moral development

(Rudolph, 1990). Under this prototype, faculty and students were able to develop close relationships, as they spent significant time together (Rudolph, 1990). The philosophy of a liberal arts education was that it would produce scholars who were knowledgeable, open-minded, and independent (Brubacher, 1977).

During the expansion of the colonial colleges and universities in the United States, there were very few students enrolled at each university (Berger, Blanco Ramírez, & Lyons, 2012). In fact, by 1850, the average college only had 174 students (Berger, et al., 2012). The main goal was to educate students, and colleges put very little emphasis on degree completion or attainment (Berger, et al., 2012). During that time, "there was no need to consider retention as an important issue" due to the low enrollment levels (Berger, et al., 2012, p.14). The colonial colleges were more concerned with "attracting new students with little or no attention to concern about persistence toward and graduation with degree" (Berger, et al., 2012, p14).

Around the 1800s, there was a clear shift in the approach to American colleges (Brubacher, 1977). Several members of the professoriate were educated in Europe during this time, and the colleges began to adopt and incorporate German principals and ideologies into their practices (Rudolph, 1990). Faculty became more interested in specializing in specific fields or content areas and conducting research, therefore, had less time to dedicate to their students (Rudolph, 1990). For a short period, residence halls were looked at as an 'old-fashioned' or a somewhat obsolete component of college campuses (Blimling, 2015). This impersonal approach was viewed as unavoidable, in the interest of providing stringent 'intellectual training' for students (Lloyd-Jones, 1952).

However, when the Morrill Land Grant Acts were passed in 1862 and 1890, residence halls were again seen as a necessity, since the cities and towns where colleges were built did not have sufficient space to house students off campus (Blimling, 2015). Once women started attending college, university-run housing became an even more pressing issue because "it was one thing to let a group of young men fend for themselves in the community but quite another to abandon young women in unsupervised environments" (Blimling, 2015, p. 10).

While the college model had come full circle and providing student housing was once again accepted as part of the college's role in educating the 'whole student', most faculty were uninterested in forgoing their research interests to tend to the more 'personal' needs of students (Blimling, 2015). On April 16, 1937, the American Council on Education (ACE) appointed a small group of educators to brainstorm and discuss a new philosophy and direction for higher education. From that meeting, the Student Personnel Point of View (SPPV) was adopted, and it served as the foundation for the work of student personnel administrators on college campuses (ACE, 1937). The SPPV "rejected the idea that the purpose of college was only the development of intellect as reflected by the completion of set of college courses. It placed the student at the center of learning, and it made it the responsibility of colleges to develop the individual student" (Blimling, 2015, p. 12).

As the student affairs profession developed and evolved throughout time, administrators' roles in helping students reach their potential changed slightly. Various student services were added to help address the ever-changing needs of students (Komives, Woodard, & Associates 2003). Schools created 'student affairs divisions',

which typically included offices such as academic support services, academic advising, admissions, alcohol and drug education programs, career services, counseling, financial aid, food services, fraternities and sororities, health centers, housing and residence life, multicultural programs, orientation, recreational and club sports, service learning, student activities, student discipline, and wellness programs (Komives, et al., 2003).

Each of these various departments and offices were created to help students with the broad range of events, experiences, and interactions which take place 'outside the classroom' (Komives, et al., 2003). While each area under the student services umbrella serves an important function, housing and residence life departments have significant ability to impact students, because they work with students directly in their living environments (Blimling, 2015, Komives, et al., 2003). Housing and residence life offices and models have developed and grown over time, and typically vary greatly across different campuses (Blimling, 2015).

Housing Models

Classifying the types of housing models can be somewhat difficult, as it is common for campuses to use different names to describe similar programs, or the same names to describe programs or models which are extremely different (Blimling, 2015). According to Blimling (2015), there are "eight general types of university-controlled student housing: conventional RHs [residence halls], LLCs [living learning communities], homogenous assignment programs, theme housing, cooperative housing, independent living programs, special housing programs, and transitional housing" (p. 91). Conventional residence halls are the most prevalent model (Blimling, 2015). In these settings, educational programs are typically co-created by residents and housing staff

members; some form of student governance is utilized for creating rules and expectations, and most services are provided by the housing and residence life staff (Blimling, 2015). Conventional residence halls and early campus housing offerings were able to provide for the most basic needs of students (Blimling, 2015).

As a result of the G.I. Bill and Title IV of the Housing Act of 1950, residence life expanded significantly during the 1950s and 1960s (Schroeder & Mabel, 1994). Campuses built new buildings to accommodate the influx of students during this period of enrollment growth (Schroeder & Mabel, 1994). There were several new developments in student housing as administrators created halls with innovative options, such as suite-style rooms, apartment-style buildings, and cluster units (Schroeder & Mable, 1994). Students tend to be more likely to continue living on campus if housing makes improvements and building updates (Yan, Sheely, & Whalen, 2005). While residence life departments changed the types of buildings and physical structures they were providing for students, they also began to change their philosophical ideas of what a college housing office 'should do' or should provide for students (Blimling, 2015).

According to Schroeder and Mabel (1994), "programmatic initiatives reflected renewed efforts to focus on the education of the whole student, highlight connections between academic affairs and student affairs, and incorporate human/student development into the work of both faculty and student affairs staff" (p. 9). By this time, educators had started to notice patterns related to student engagement and student involvement, but those patterns had not been researched or connected in relation to retention rates (Braxton, et al., 2014). Soon, researchers began studying student involvement and learning why students chose to withdraw from their universities

(Braxton, et al., 2014). Many of these seminal theories of higher education were developed through the 1970s and 1980s (Braxton, et al., 2014).

Tinto's Theory of Student Departure

Vincent Tinto's studies on student departure and retention are among the most comprehensive, commonly cited, and well-known research on this complex topic. Based on the results of his original research, Tinto developed the Student Integration Model (SIM), which was partially related to his theory that students who are the most likely to persist and retain are those who have fully connected themselves into their college environments (Tinto, 1975). Throughout the years, Tinto has edited and revised the model, but many key factors have remained constant.

Tinto identified four key stages that contribute to retention. The first stage takes place while students are recruited and admitted to the institution (Tinto, 1988). In this phase, it is important for schools to accurately present themselves so prospective students can select appropriate institutions (Tinto, 1988). Next, colleges and universities must use orientation programs to communicate the requirements and expectations students will experience once they begin college (Tinto, 1988). Then, counselors and advisors must assess student needs so they can be placed in logical and appropriate courses (Tinto, 1988). Finally, colleges need to provide high-quality programs and services to help students transition into their first year of college (Tinto, 1988).

Based on the SIM, persistence is primarily related to how connected students feel with or to their college. Students depart because they are not fully integrated into the campus and campus community or fail to form a sense of belonging (Tinto, 1975, 1988,

1993). Tinto found that housing was one of the best ways for students to develop a sense of belonging and connection (Tinto, 1975, 1988, 1993).

Astin's Theory of Student Involvement

Alexander Astin's theory of Student Involvement was groundbreaking in the field of higher education. Educators had noticed particular behaviors and patterns regarding students, but they needed research to confirm their theories (Astin, 1977, 1984, 1993). Astin found that students who participated in more activities and engaged more in college life were more satisfied, had better grades, and were more likely to remain in college (Astin, 1977, 1984, 1993; Astin & Osegura 2012).

Astin also had a second popular theory, known as the I-E-O model (Astin, 1993). The model was based on three main components he found to be essential: a) inputs, b) environment, and c) outcomes (Astin 1993). *Inputs* include all the characteristics a student comes to college with, such as demographics, pre-college experiences and expectations, family and personality traits, etc. (Astin, 1993). *Environment* includes all the experiences that students have during college, such as participation in particular courses, programs, clubs, etc. (Astin, 1993). *Outcomes* include the knowledge, attitudes, beliefs, and values that students have after they attend college. Overall, Astin found that housing contributed to a student's development and the likelihood of remaining enrolled in college until obtaining a college degree.

How College Affects Students

Pascarella and Terenzini studied college students extensively and provided a significant amount of the research regarding college students. The main goal of their research was to determine which aspects of college life had the greatest effect on students

(Pascarella & Terenzini, 1990, 2005). Their early research was conducted in the 1990s but was updated in 2005 to assess possible changes over time.

One reason their research was considered groundbreaking was because they considered the effects of college attendance from various vantage points (Pascarella & Terenzini, 1990, 2005). The *net effects of college* were studied to find whether students change cumulatively while or after attending college (Pascarella & Terenzini, 1990, 2005). They theorized that institutional type and selectivity differences could cause students to be affected by college differently and called this *between-college effects* (Pascarella & Terenzini, 1990, 2005). *Within-college effects* are the differences that exist based on students' individual choices, actions, and behaviors while in college (Pascarella & Terenzini, 1990, 2005). According to Pascarella and Terenzini (2005) "living on campus (vs. living off campus or commuting) was the single most consistent within college determinant of the impact of college" (p. 603). Their research also reaffirmed the importance of student involvement and that students who lived on campus were more likely to be involved (Pascarella & Terenzini, 1990, 2005).

Benefits of Living on Campus

Once college student involvement had been connected to improved retention rates (and loosely related to eventual graduation rates), numerous researchers sought to understand what specific types of involvement and experiences were the most likely to increase or improve retention (Blimling, 2015). By the late 1990s, a significant amount of research had evaluated the effects of college housing on academic performance, but there were conflicting results (Blimling, 1989, 1993, 2015). While some studies seemed to indicate that living on campus was positively associated with improved grades and

successful course completion, other studies indicated the differences were minimal (Blimling, 1989, 1993, 2015).

Academic Benefits

Residence life has the ability to facilitate additional curricular activities in the halls. Living-learning centers and learning communities are one way housing officials have helped extend and enhance the academic support of students on campus (Blimling, 2015; Schroeder & Mabel, 1994). Both of these types of housing provide opportunities for students to take courses with at least some of their peers in the residence halls (Blimling, 2015; Schroeder & Mabel, 1994). Some of these centers even include faculty offices, lectures taught in the residence halls, and various cultural and social events to complement the coursework (Blimling, 2015; Schroeder & Mabel, 1994). Most of the evidence suggests these types of centers offer advantages over traditional or 'conventional' residence halls (Blimling, 2015; Pascarella & Terenzini, 2005; Schroeder & Mabel, 1994). A few studies have found that students who take part in these facilities and programs experience improved cognitive development (Blimling, 2015; Pascarella & Terenzini, 2005; Schroeder & Mabel, 1994). However, like many housing studies, the results have been mixed, and some research has indicated there are no significant differences in the outcomes and experience of students who live in living-learning communities vs. students who do not (Blimling, 2015; Pascarella & Terenzini, 2005; Schroeder & Mabel, 1994).

Social Benefits

Housing programs also contribute to students' social and psychosocial development (Blimling, 1989, 1993; Chickering, 1974; Komives, et al., 2003; Pascarella

& Terenzini, 2005; Schroeder & Mabel, 1994). The communities that students develop in their residence halls mimic traditional city neighborhoods in many ways. Students can practice good citizenship skills as they learn how to be part of the overall community and various sub-communities (Blimling, 1989, 1993; Komives, et al., 2003; Pascarella & Terenzini, 2005; Schroeder & Mabel, 1994). There are also many involvement opportunities because of the governance and hall council groups, which also provide leadership development experiences (Blimling, 1989,1993; Komives, et al., 2003; Pascarella & Terenzini, 2005; Schroeder & Mabel, 1994).

Retention Benefits

College officials have decades of research to indicate that living on campus increases the likelihood students will be retained, (Alexander & Robertson, 1998; Blimling, 1989, 1993, 2015; Brooks, 2010; Chickering, 1974; Pascarella & Terenzini, 2005; Riker & Decoster, 2008; Schroeder & Mable, 1994; Schudde, 2011; Schuh & Tobin, 1994; Tinto, 1975, 1993; Turley & Wordke, 2010; Yan et al., 2005). However, most of the comprehensive studies are outdated and need to be updated to reflective current housing practices and realities (Blimling 2015, Schudde, 2011).

Additionally, none of the seminal studies have looked at living on campus beyond the first year of college. This problem permeates all retention research, as there are relatively few studies that consider retention in the second year of college and beyond (Nora & Crisp, 2012). Most practitioners think that the factors and variables known to impact retention carry over in the subsequent year (Nora & Crisp, 2012). More research is needed and studies which utilize ‘survival analyses and other logistic regression models to predict retention beyond the first year would benefit higher education

administrators (Nora & Crisp, 2012). Additionally, new evidence supporting improved retention rates from the second to third year of college would help colleges justify the recent trend of requiring two years of living on campus (Blimling 2015, Schudde, 2011).

Sophomore or Second-Year Students

To study the impact of living on campus for two years, it is necessary to analyze retention from the second to third year of college, which for most students is the same as the "sophomore year", though that can vary based on hours earned and institutional or operational definitions. When parsing through historical research on sophomore students, it becomes evident that sophomores have been studied significantly less than freshman or first-year students (Sanchez, 2008). Even a cursory look at the titles of articles and dissertations on sophomores indicates the overall perception of them to be downtrodden, as they are described or pigeonholed as 'forgotten', 'middle children' and 'wanderers'. The term "sophomore slump" was coined in the 1950s (presumedly by Freedman, but not officially attributed to him), after research first found a pattern of detachment and angst as sophomore students struggled academically and lacked inspiration and motivation (Freedman, 1956; Gahagan & Hunter, 2006).). According to Gahagan and Hunter (2006):

> the term sophomore slump is widely used to describe students who lack motivation, feel disconnected, and flounder academically. Although research has been conducted for more than forty years on this issue, a comprehensive definition of the sophomore slump has remained elusive. (p.18)

Sophomore students often feel a lack of support and attention from their organizations as the majority of campus programs, services, and initiatives are for first-year students. (Gahagan, 2018; Schreiner et al., 2018). Additionally, sophomores are typically in a

pivotal point in their college careers as they select their majors, at times change the majors they have already selected, and experience a host of transformative and development identity changes during the second year of college (Gahagan, 2018; Schreiner et al., 2018).

Summary

Abundant research exists exploring retention among college students, and colleges continue to seek possible solutions and ways to improve and address stagnant or fledgling graduation and retention rates. While "no single intervention strategy will adequately prevent all student from departing college", universities are still committed to coming up with "many different and varying interventions, services, and programs" to improve their institutions retention rates (Morrison & Silverman, 2012, p. 76). While college officials are responsible for continuing to assess and evaluate how to help give students the best odds of retaining and graduating, it is important to remember that student success involves a relationship between two parties (1993). According to Tinto (1993):

> The limits of institutional actions are also a reflection of the dialectical nature of human actions, namely that actions in one domain of human endeavor eventually give rise to opposite or countervailing actions in other domains of endeavor. In the case of college retention programs, it may well be that the efforts of institutions to retain a particular type of student or deal with a given type of student departure also serve to increase the likelihood of other types of student departure. For example, it is often the case that efforts to produce a more cohesive and tight-knit community of persons may induce persons who prefer greater

> independence to leave… Once more the questions of institutional choice arises. Once more it is apparent that the beginning point of effective retention efforts lies in decisions regarding educational mission. (p.209)

A significant segment of retention research has evaluated the connection between retention and the effects of student engagement and living on campus. Many of these studies are outdated and have failed to parse out potential causal effects on retention rates (Schudde, 2011). This case study will fill a gap in the literature and should lead to a study which is historically relevant due to current conditions in higher education. Furthermore, the focus on sophomore (second year) students will investigate a sub-population which has been largely ignored or omitted from past exploratory inquiries.

SECTION FOUR

CONTRIBUTION TO PRACTICE

University of Central Missouri: Second-Year Student Housing Report

Background and Historical Context

In March of 2013, the Board of Governors (BOG) at the University of Central Missouri (UCM) unanimously approved a new residential policy requiring all incoming first-year students to live on campus for the first two years of college. Prior to adopting the two-year live-on policy, students were required to live in university housing for their first year at UCM.

Past higher education research has indicated that living on campus can benefit students in a variety of meaningful ways. Residential living can be an effective conduit in helping college students feel more connected and committed to their institutions. Existing research has demonstrated that students who live on-campus tend to be retained at higher rates, achieve higher grade point averages, and are more likely to graduate in four years. Some college campuses have live-on requirements to help maximize the benefits of these academic outcomes for students.

Presently, it is unclear if those benefits are extended to students who live-on campus more than one year. The purpose of this study was to gain a better understanding of the relationship between living on-campus for the first two years of college and key measures of student success. The study utilized quantitative methodology with a non-experimental comparative design to determine the extent to which living on campus for two years is predictive of retention, graduation, grade point average, and campus involvement.

This data has been analyzed and reported as part of a dissertation study.

For more information, including additional tables, references, and sources, contact:
Dr. Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UNIVERSITY OF CENTRAL MISSOURI

UCM: Second-Year Housing Report

Report Organization, Purpose, and Goals

This report will be comprised of three primary sections:

1. Overview of the Dissertation Research
    a. Purpose of the Study, Relevant Literature, and Campus Phenomena
        i. National challenges regarding retention and graduation at U.S. colleges
        ii. Existing research regarding: Retention, Housing, Sophomore Students, Student Development/Involvement
        iii. Local (campus) work towards addressing retention and graduation rates

2. Research Questions (RQ)
    a. List of Statistical Tests for Each RQ
    b. Population Characteristics and Descriptive Statistics

3. Findings and Conclusion
    a. Results for Each RQ
    b. Limitations and Future Research Suggestions

Key abbreviations and definitions:

a. Retention rate = percent of students enrolling in consecutive fall terms (e.g., Fall 2015 and Fall 2016). Retention rates are based on a cohort of students who enter as first-time, full-time, first-year students (FTC). This rate is calculated by dividing the number of students who were enrolled in both terms, dividing by those enrolled in term one
b. FTC = students who have not previously attended college (summer session/dual credit are not considered prior enrollment)
c. Graduation rate = based on completing a bachelor's degree; 4-year rate (100%) and 6-year rate (150%)
d. Pell eligibility = eligible to receive Pell grant funding based on the Free Application for Federal Student Aid (FAFSA); used a proxy for income/absence of financial security
e. First-generation = neither of the student's parents earned a bachelors' degree
f. Grade Point Average = GPA

**Important note*:
This data will not match completely with official University counts. To meet requirements for certain statistical tests, cases and records were deleted or removed from analysis based on missing values for key variables.

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UNIVERSITY OF CENTRAL MISSOURI

UCM: Second-Year Housing Report

Purpose of the Study and Relevant Literature (part 1)

Higher education administrators and researchers have been studying retention and factors contributing to retention for decades (Berger, et al., 2012). College officials were interested in finding out why students departed from the university without earning a college degree. At that time, most studies were conducted looking only at single institutions, since the information was evaluated internally (Berger, et al., 2012). As degree attainment became more of a concern, so did retention, and to create systems to help students succeed, college officials needed to research what was *actually* occurring (Seidman, 2012). While colleges and universities have changed significantly over the past 80 years, administrators' motivations for understanding student success measures and related phenomenon have been a consistent fixture.

Despite concerted efforts to make improvements, graduation and retention rates have remained largely unchanged since the 1980s (Braxton, Doyle, Hartly III, Hirschy, Jones, & McLendon, 2014). Approximately 28% of students at four-year colleges leave their institutions at the end of their first year (American College Testing Program, 2012). Additionally, four and six-year graduation rates have barely waivered for the past several cohorts (Nadworny, 2019). Low graduation and retention rates are problematic for many reasons, but one of the most threatening for colleges is related to the cost of losing students. Fiscal stability is a challenge for all organizations, but higher education experiences some unique challenges.

Institutions study graduation and retention rates to learn about enrollment patterns and to hopefully prevent students from departing the university before earning a college degree. Some of their actions are to benefit the school financially, but many attempts are focused on the overall goal of helping the students succeed. One benefit of the abundance of retention studies is that campuses are very familiar with certain actions, programs, and services which promote retention. Campus officials know that certain behaviors in college are connected to improved retention rates (Astin, 1993; Braxton, et al., 2014; Chickering, 1974; Pascarella & Terenzini, 2005; Seidman, 2012; Tinto, 1975, 1993) One of the primary differences between students who are retained and students who are not retained is their level of engagement and connection to the institution (Astin, 1993; Chickering 1974; Pascarella & Terenzini, 2005; Seidman, 2012; Tinto, 1975, 1993).

During the expansion of the colonial colleges and universities in the United States, there were very few students enrolled at each university (Berger, Blanco Ramírez, & Lyons, 2012). The main goal was to educate students, and colleges put very little emphasis on degree completion or attainment (Berger, et al., 2012). Around the 1800s, there was a clear shift in the approach to American colleges (Brubacher, 1977). When the Morrill Land grant acts were passed in 1862 and 1890, residence halls were again seen as a necessity, since the cities and towns where colleges were built did not have sufficient space to house students off campus (Blimling, 2015). While the college model had come full circle and providing student housing was once again accepted as part of the college's role in educating the 'whole student', most faculty were uninterested in forgoing their research interests to tend to the more 'personal' needs of students (Blimling, 2015).

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UCM: Second-Year Housing Report

Purpose of the Study and Relevant Literature (part 2)

While each area under the student services umbrella serves an important function, housing and residence life departments have significant ability to impact students, because they work with students directly in their living environments (Blimling, 2015, Komives, et al., 2003). As a result of the G.I. Bill and Title IV of the Housing Act of 1950, residence life expanded significantly during the 1950s and 1960s (Schroeder & Mabel, 1994). Campuses built new buildings to accommodate the influx of students during this period of enrollment growth (Schroeder & Mabel, 1994). By this time, educators had started to notice patterns related to student engagement and student involvement, but those patterns had not been researched or connected in relation to retention rates (Braxton, et al., 2014.

Vincent Tinto's studies on student departure and retention are among the most comprehensive, commonly cited, and well-known research on this complex topic. Students depart because they are not fully integrated into the campus and campus community or fail to form a sense of belonging (Tinto, 1975, 1988, 1993). Tinto found that housing was one of the best ways for students to develop a sense of belonging and connection (Tinto, 1975, 1988, 1993). Alexander Astin's theory of Student Involvement was groundbreaking in the field of higher education. Astin found that students who participated in more activities and engaged more in college life were more satisfied, had better grades, and were more likely to remain in college (Astin, 1977, 1984, 1993; Astin & Osegura 2012). Overall, Astin found that housing contributed to a student's development and the likelihood of remaining enrolled in college until obtaining a college degree.

While some studies seemed to indicate that living on campus was positively associated with improved grades and successful course completion, other studies indicated the differences were minimal (Blimling, 1989, 1993, 2015). College officials have decades of research to indicate that living on campus increases the likelihood students will be retained. However, most of the comprehensive studies are outdated and need to be updated to reflective current housing practices and realities (Blimling 2015, Schudde, 2011).

Additionally, none of the seminal studies have looked at living on campus beyond the first year of college. This problem permeates all retention research as there are relatively few studies that consider retention in the second year of college and beyond (Nora & Crisp, 2012). Most practitioners think that the factors and variables known to impact retention carry over in subsequent years (Nora & Crisp, 2012). When parsing through historical research on sophomore students, it becomes evident that sophomores have been studied significantly less than freshman or first-year students (Sanchez, 2008). Sophomore students often feel a lack of support and attention from their organizations as most campus programs, services, and initiatives are for first-year students. (Gahagan, 2018; Schreiner et al., 2018).

While "no single intervention strategy will adequately prevent all students from departing college", universities are still committed to coming up with "many different and varying interventions, services, and programs" to improve their retention and graduation rates (Morrison & Silverman, 2012, p. 76).

UCM: Second-Year Housing Report

Purpose of the Study and Relevant Literature (part 3)

Brief Overview of UCM Retention Efforts, 2012-2020

Most colleges in the United States are in a perpetual state of searching for ways to address challenges with retention and graduation, and while there are some established tactics, campuses need to customize their approach to match their students and their own institutional realities. Throughout the past several decades, UCM has initiated a host of these strategies, but this study will focus on efforts from 2012-2020.

In August 2012, UCM adopted a new platform, "Learning to a Greater Degree", which also helped serve as a comprehensive retention and graduation strategy. It included four tenets which would guide university efforts. Those principles were intended to frame the experiences of students and include: (a) engaged learning, (b) future-focused academics, (c) worldly perspective, and (d) culture of service. While LtGD had many tactics to improve graduation and retention rates, the central piece of the platform was a new policy requiring students to live on campus for two years (one year was required previously) and to complete 15 hours per semester. Students who completed 15 hours per semester and lived on campus for their first two years would receive a post-graduation stipend from the university. The stipend would function comparably to a scholarship, but would be awarded 'post-hoc', as the students would be compensated for completing their degree 'on-time' (i.e., in four years).

From 2018 to 2020, the campus experienced a host of leadership changes, which frequently precede shifting organizational priorities. In 2018, the Vice Provost for Enrollment Management convened a large cross-section of faculty and staff members to focus on campus-wide efforts to further improve factors that contribute to student success. The taskforce was called the Strategic Enrollment Management Council and it brought together leaders throughout the campus. The goal of the group was to develop comprehensive efforts related to recruitment, retention, graduation, and overall student success. Ultimately, the task force would also be responsible for creating a Strategic Plan for Enrollment Management. The group had two sub-committees, one focused on *Recruitment* and one focused on *Retention and Student Success.*

During this process, the University was awarded a $2.7 million Strengthening Institutions (SIP) grant from the Department of Education. The overall project goal for UCM is to: **Increase student success, retention and completion by front-loading academic and social supports for first year and at-risk students**. Through the grant funding, the campus has completed, launched, or has plans to introduce numerous projects, including ones related to mental health first aid training, peer mentoring, embedded tutoring, advising case management training, overhauled freshman seminar courses, academic success workshops, a first-year diagnostic tool, an overhauled summer bridge program, corequisite models for Math and English, and revamped active learning classrooms. Due to the multitude of wide-reaching retention and graduation initiatives that are underway, this research will focus on the cohorts that began prior to 2018.

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UCM: Second-Year Housing Report

Research Questions, Variables, and Statistical Tests

The population for this study included more than 16,000 student records, spanning a decade of campus enrollment (five years before the two-year campus residency requirement and five years after or 2008-2012 and 2013-2017). While the research questions established a variety of essential categorical and demographical data points which were needed for the regression analysis, the sheer size of the sample, and the overall scope of the project, also led to the identification of a few potentially interesting sub-groups to further analyze and compare.

Research Questions	Analysis Type	Variables
A. Population descriptive B. Sub-population descriptive	Frequencies, Cross-tabulations	
1. Is there a statistically significant difference in retention rates for students who lived on campus for two years and those who did not?	z-test	Living on campus for Two Years or not; Being Retained to Year Three or not; Pre or Post Residency Policy Cohort;
2. To what extent is there a significant positive relationship between living on campus for two years and retention?	Binary Logistic Regression	DV: Retained to Year 3; IV: Block 1 (Gender, Race/ethnicity), Block 2 (Pell Eligibility, First Generation student status); Block 3 (HS GPA, ACT score); Block 4 (Living on Campus for Two years);
3. To what extent is there a significant positive relationship between living on campus for two years and cumulative grade point average?	Linear Regression	DV: GPA at the End of Year 2; IV: Block 1 (Gender, Race/ethnicity), Block 2 (Pell Eligibility, First Generation student status); Block 3 (HS GPA, ACT score); Block 4 (Living on Campus for Two years);
4. To what extent is there a significant positive relationship between living on campus for two years and four and six-year graduation rates?	Binary Logistic Regression	DV: Graduated in 4 years; Graduated in 6 years; IV: Block 1 (Gender, Race/ethnicity), Block 2 (Pell Eligibility, First Generation student status); Block 3 (HS GPA, ACT score); Block 4 (Living on Campus for Two years);
5. To what extent is there a significant positive relationship between living on campus and involvement in student activities?	Binary Logistic Regression	DV: Campus Involvement; IV: Block 1 (Gender, Race/ethnicity), Block 2 (Pell Eligibility, First Generation student status); Block 3 (HS GPA, ACT score); Block 4 (Living on Campus for Two years);

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UCM: Second-Year Housing Report

Descriptive Statistics and Overall Population Characteristics

The population for this study included more than 16,000 student records, spanning a decade of campus enrollment, 2008-2017.

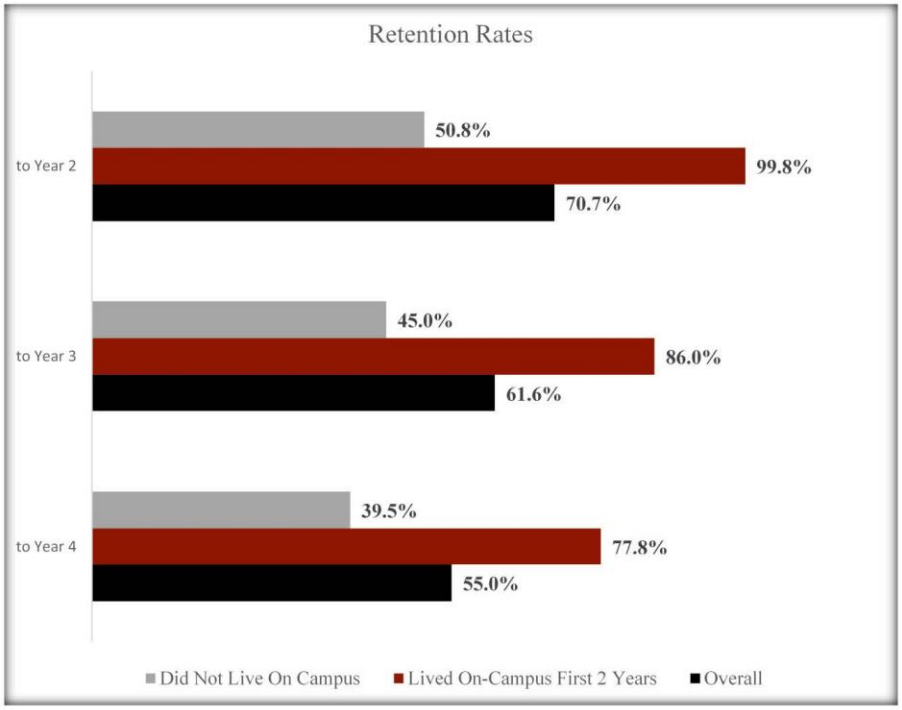
	n	Percent
Total Students	16340	100%
Gender	16340	
Female	9015	55.2
Male	7305	44.8
Missing (*not valid percent*)	(20)	
Race/Ethnicity	16340	
American Indian or Alaskan Native	51	.3
Asian	116	.7
Black or African American	1961	12.0
Hispanic	576	3.5
International	310	1.9
Native Hawaiian or Other Pacific Islander	16	.1
Two or more races	688	4.2
Unknown	222	1.4
White or Caucasian	12400	75.9
Pell Eligibility	16340	
Pell Eligible	6505	43.9
Not Pell Eligible	8322	56.1
Missing (*not valid percent*)	(1513)	
First Generation Status	14827	
First Generation Student	7873	48.4
Not a First-Generation Student	8404	51.6
Missing (*not valid percent*)	(74)	
Mean High School GPA	3.28	
Mean ACT	21.91	

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UCM: Second-Year Housing Report

Descriptive Statistics and Overall Population Characteristics

Two of the research questions for this study are centered on retention data, so it was meaningful to review overall and sub-group frequencies before conducting the statistical tests. These averages are based on traditional fall Cohorts for first-time students. If someone enters as an FTC student in fall 2014: Retained to Year 2 means they returned in fall 2015; Retained to Year 3 means they returned in fall 2016; Retained to Year 4 means they returned in fall 2017. There are 10 cohorts included, one for each year (2008-2017).



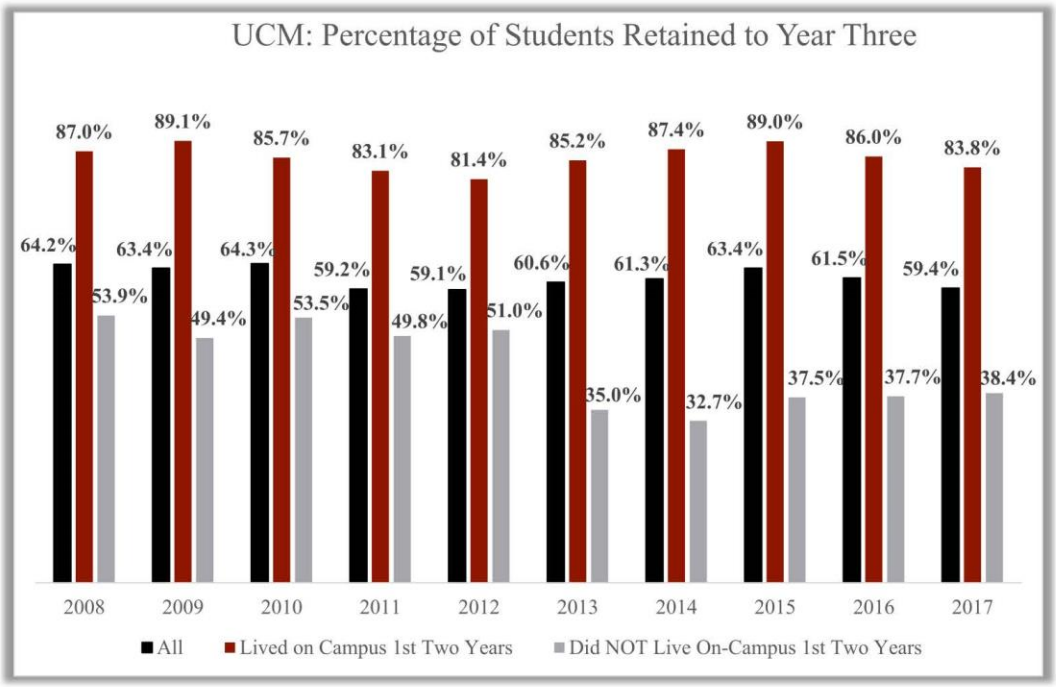
This chart displays the overall retention rates to Year 2 (Sophomore), Year 3 (Junior), and Year 4 (senior). Students who lived on campus for the first two years had higher retention rates when compared to students who did not live on campus in each instance. Retention to Year 4 is particularly interesting, because at that point, many of the students who lived on for the first two years would have moved off campus.

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UCM: Second-Year Housing Report

Descriptive Statistics and Overall Population Characteristics

One of the main purposes of this study, was to better understand living on campus for the first two years, so Retention to Year 3 is a key focal point. The chart below looks at the overall Retention Rate to Year 3, for each entering cohort. The cohorts are further sectioned into groups for: 1) Overall; 2) Lived on Campus First 2 Years; 3) Did Not Live On-Campus.



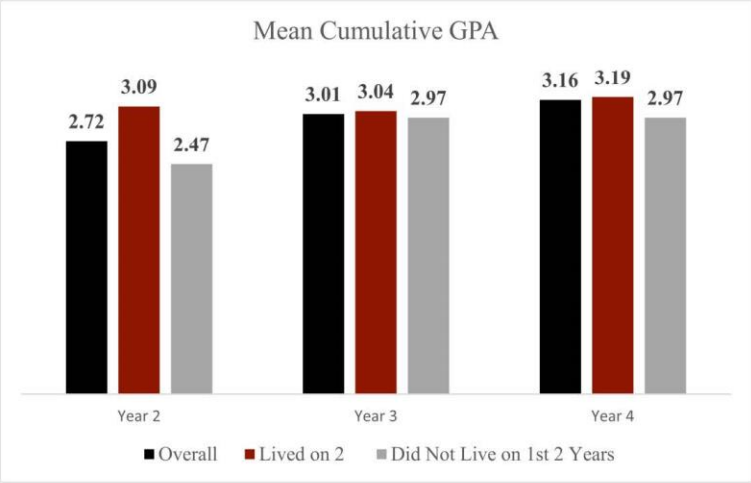
For all ten years in this study, students who lived on campus for the first two years, had higher retention rates than students who did not live on campus. The differences between the two groups became larger in 2013, which was the first Cohort to enroll after the two-year live-on policy was adopted. The average Retention Rate to Year 3 for students who lived on campus for the first two years remained consistence for the five years before and after the policy too effect. Average retention to Year 3 fluctuated between 81.4% -89.1% for students who lived on for both years, compared to 32.7% - 53.5% for students who did not.

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UCM: Second-Year Housing Report

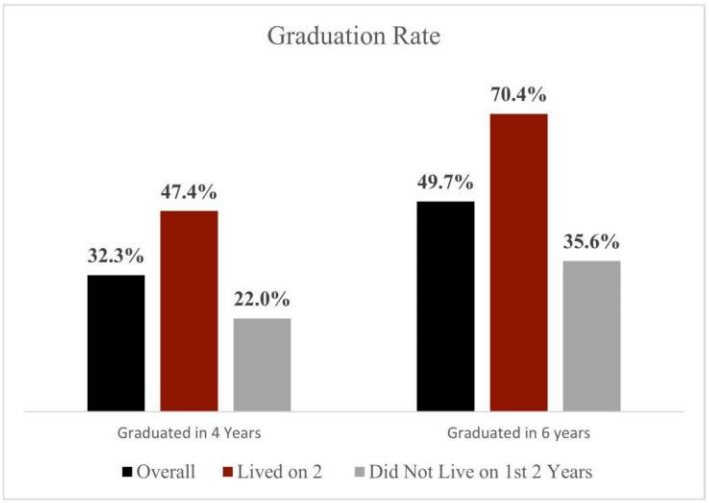
Descriptive Statistics and Overall Population Characteristics

The next two charts display the mean, cumulative GPA and the overall four- and six-year graduation rates. Since the study is centered on the relationship between living on campus for the first two years, cumulative GPA was captured at the end of the second year of enrollment.



There were minimal differences in GPA at the end of the second year, with the mean GPA for students who lived on campus for two years equal to 3.04 and for students who did not live on campus for two years, it was 2.97.

Both the four- and six-year graduation rates were higher for students who lived on campus for two years. Additionally, students who lived on campus for two years had higher graduation rates than the overall average as well. Approximately 70% of students who live on campus for two years have graduated in six years, compared to the average of 50% of students graduating within six years.



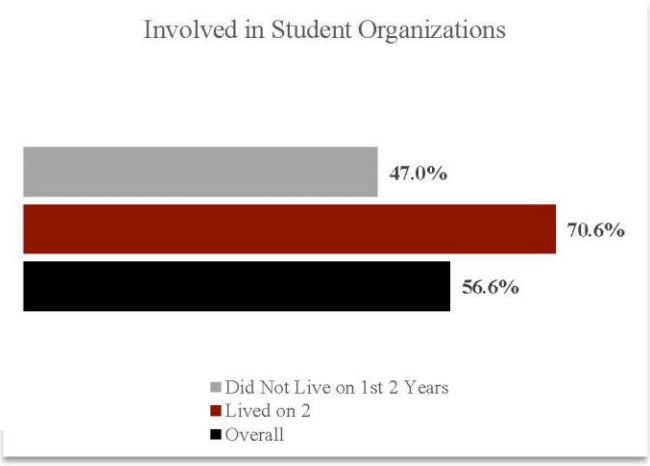
For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UNIVERSITY OF CENTRAL MISSOURI

UCM: Second-Year Housing Report

Descriptive Statistics and Overall Population Characteristics

This chart looks at student involvement for each of the three primary comparison groups. Here at UCM, the internal database system has a place to track "student involvement", which is marked if the student has participated in a variety of student activities, including traditional registered student organizations, academic clubs, intramurals/club sports, honors societies, social fraternities or sororities, etc.



For the purposes of this study, each student was marked as "involved" if they had an affirmative student involvement attribute marked at any point during their enrollment. Approximately 70% of the students who lived on campus for two years were involved in student organizations during their enrollment at UCM, and that includes at any point in their enrollment.

UCM: Second-Year Housing Report

Descriptive Statistics and Overall Population Characteristics

After evaluating the overall Retention Rates to the Third Year, a few cross-tabulations were used to analyze the data for specific populations.

Retention to Year Three

All Students

Lived on First 2 Years

Did Not Live on First 2 Years

Specific Population Highlights:

◦ Black/African American students represent the second largest racial/ethnic group on campus (the largest group is White/Caucasian). Of the Black students who lived on campus for the first two years, 78.5% of them were retained, compared to 23.4% retention for Black students who did not live on campus for the first two years.

◦ First-generation students tend to experience lower retention and graduation rates nationally. Of the first-generation students who lived on campus for the first two years, 88.6% of them were retained, compared to 50.9% retention for first-generations students who did not live on campus for the first two years.

◦ Pell-eligible students also tend to experience lower retention and graduation rates nationally. Of the Pell-eligible students who lived on campus for the first two years, 81.1% of them were retained, compared to 35.5% retention for Pell-eligible students who did not live on campus for the first two years.

◦ Students are asked to enter their gender on their application to UCM. Students who identify as male also tend to experience lower retention and graduation rates nationally. Of the male students who lived on campus for the first two years, 84.6% of them were retained, compared to 44.3% retention for male students who did not live on campus for the first two years.

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UNIVERSITY OF CENTRAL MISSOURI

UCM: Second-Year Housing Report

Research Question One: Retention Rates- Two proportions z-test

(comparing rates for students who lived on campus for two years with students who did not)

Research Question 1 examined whether retention rates were different between these two groups. The samples were compared using a two proportions z-test. A two-proportions z-test requires that both samples have at least ten records or observations, which all the groups in this series of z-tests had samples of more than three thousand. **Students who lived on campus for the first two years were statistically more likely to be retained to year three (through the sophomore/second year).** For Research Question 1, the null hypothesis is rejected.

	Lived On-Campus for the First Two Years			Did not Live On-Campus for the First Two Years				
	N	*N* retained	Proportion	*N*	*N* retained	Proportion	z	*Sig*
Retained to Year 3	6616	5587	.860	9724	4374	.450	*43.46*	*.001*

Prior to the two-year residential requirement (Pre), students who lived on-campus for the first two years were statistically more likely to be retained to the third year when compared with their peers who did not live on campus. After the two-year residential requirement (Post), students who lived on-campus for the first two years were statistically more likely to be retained to the third year when compared with their peers who did not live on campus for the first two years. These Pre and Post analyses were evaluated out of interest, based on test results from the official RQ.

	Lived On-Campus for the First Two Years			Did not Live On-Campus for the First Two Years			
Retained to Year 3	*N*	*N* retained	Proportion	*N*	*N* retained	Proportion	z
Pre (2008-2012)	2468	2107	.854	5555	2862	.515	*72.23***
Post (2013-2017)	4148	3580	.863	4169	1512	.362	*46.88***

Note: Possible responses were (0) Not Retained or (1) Retained

*$p < 0.05$, **$p < 0.000$, $\alpha = 0.05$, CI% = 95%.

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UCM: Second-Year Housing Report

Research Question Two: Relationship between Living on Campus for Two Years and Retention

To approach Research Question Two, a binary logistic regression analysis was conducted to evaluate the prediction of retention (DV) to the third year (through Sophomore/second year).

	B	Wald	Sig.	Exp(B)
Gender		17.392	<.001	
Gender(1)	.176	17.388	<.001	1.193
Gender(2)	.026	.002	.963	1.027
Race		38.441	<.001	
Race(1)	.121	.075	.783	1.129
Race(2)	.031	.007	.933	1.031
Race(3)	.073	.037	.847	1.076
Race(4)	.963	1.598	.206	2.620
Race(5)	-.002	.000	.996	.998
Race(6)	.277	.467	.494	1.320
Race(7)	.349	.905	.341	1.418
First Generation Status	-.380	77.189	<.001	.684
Pell Eligible	.206	23.781	<.001	1.229
ACT	-.018	7.272	.007	.982
HS GPA	1.219	727.554	<.001	3.382
Lived On Campus First 2 Years	2.050	1963.199	<.001	7.766
Constant	-4.054	102.163	<.001	.017

Each of the four steps in the hierarchical regression were found to add statistically significant predictive power to the model. Over, the model was able to correctly predict the outcome in 74.2% of cases. As a predictor variable, living on campus a Wald Chi-square statistic of 1963.199, which was statistically significant ($p < .001$). Overall, block four showed that living on campus was a statistically significant predictor of retention. **The Odds Ratio, denoted by Exp(B), indicates that students who live on campus for the first two years, had 7.76 times greater odds of being retained, than students who did not live on campus for the first two years.**

Findings were as follows:

- Living on campus for the first two years was found to be a statistically significant predictor of retention to year three.
    - For Research Question Two, the Null Hypothesis was rejected.

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

Research Question Three: Relationship between Living on Campus for Two Years and GPA

Linear regression was selected for this analysis because GPA is a continuous, scale variable, as opposed to the dichotomous dependent variable used for the binary logistic regression used for research questions two, four, and five. While the predictor variables for this regression were the same ones in the used in research question two, the output for linear regression is interpreted differently, with attention to different key elements. For linear regression, R is used as a measure of the relationship between the set of independent variables and the dependent variable. For this model, the R = 0.65, which indicated there was a strong relationship between the variables in the model and the dependent variable (GPA).

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.327[a]	.107	.106	.63291	.107	155.945
2	.358[b]	.128	.128	.62519	.022	130.748
3	.653[c]	.426	.425	.50737	.298	2709.314
4	.655[d]	.428	.428	.50634	.002	43.370

For the final block in this set of regression models, the primary independent variable of interest was entered. Two existing columns from the dataset were collapsed, and a new dummy variable was created for students "Living On-Campus for Two years": a) Score = 0, did not live on campus for the first two years; and b) Score = 1, lived on campus for the first two years. Adding this variable created a model that was also found to be significant ($p < .001$). Block four had an R^2 value of .428 associated with the regression model, which means that 42.8% of the variation in cumulative grade point average at the end of year two can be explained by the variables in the model. Living on campus for the first two years was a statistically significant predictor of retention to year three, though it accounts for only 0.02% of the variance in GPA.

Findings were as follows:

- Living on campus for two years was found to be a statistically significant, but very small predictor of cumulative GPA at the end of year two.
    - For Research Question Three, the Null Hypothesis was rejected

Research Question Four: Relationship between Living on Campus for Two Years and Graduation Rates (4 year)

To approach Research Question Four, a binary logistic regression analysis was conducted to evaluate the prediction of four-year graduation (DV). Graduation is a categorical outcome variable (graduated or did not graduate). For this question, the logistic regression was run two separate times, once for "four-year graduation" and once for "six-year graduation" rates.

	B	Wald	Sig.	Exp(B)
PellEligible2	-.453	101.498	<.001	.636
FirstGen2	.221	26.752	<.001	1.247
ACT	.011	2.627	.105	1.011
HS_GPA	1.697	1037.053	<.001	5.459
LivedOnCampusFirst2Yrs	1.112	723.647	<.001	3.040
Constant	-7.417	261.415	<.001	.001

**Important note: Regression Table has been abbreviated for space*

For the final block, the primary independent variable of interest was entered- Living On-Campus for Two years. Adding this predictor created a model Chi-Square of 3645.937, which was statistically significant ($p < .001$). The Nagelkerke value was .313, which means that the living on campus for two years increased the explained variance in four-year graduation rates to 31.3%. This model was able to correctly predict the outcome in 74.5% of cases. As a predictor variable, living on campus a Wald Chi-square statistic of 723.647, which was statistically significant ($p < .001$). Overall, block four included several statistically significant predictor variables, including, High School GPA and First-Generation student status.

The Odds Ratio, Exp(B), indicated that students who live on campus for the first two years, had 3.04 times greater odds of graduating in four years, than students who did not live on campus for the first two years.

Findings were as follows:

- Living on campus for two years was found to be a statistically significant predictor of four and six-year graduation rates.
    - For Research Question Four, the Null Hypothesis was rejected

Research Question Four: Relationship between Living on Campus for Two Years and Graduation Rates (6 year)

To approach Research Question Four, a binary logistic regression analysis was conducted to evaluate the prediction of four-year graduation (DV). Graduation is a categorical outcome variable (graduated or did not graduate). For this question, the logistic regression was run two separate times, once for "four-year graduation" and once for "six-year graduation" rates.

	B	Wald	Sig.	Exp(B)
PellEligible2	-.500	142.801	<.001	.606
FirstGen2	.205	25.664	<.001	1.227
ACT	-.014	4.421	.036	.986
HS_GPA	1.480	1043.566	<.001	4.395
LivedOnCampusFirst2Yrs	1.467	1327.737	<.001	4.336
Constant	-5.470	183.781	<.001	.004

**Important note: Regression Table has been abbreviated for space*

For the final block in this set of logistic regression models, the primary independent variable of interest was entered, Living On-Campus for Two years. Adding this final predictor variable created a model with a model Chi-Square of 3915.242, which was statistically significant ($p < .001$). The Nagelkerke value was .319, which means that the living on campus for two years increased the explained variance in six-year graduation rates to 31.9%. Hosmer and Lemeshow Tests found the model to be a good fit for the data, with a significance of 0.292. This model was able to correctly predict the outcome in 71.2% of cases. As a predictor variable, living on campus had a Wald Chi-square statistic of 1327.737, which was statistically significant ($p < .001$). Overall, block four included several statistically significant predictor variables, including, High School GPA and First-Generation student status.

The Odds Ratio, Exp(B), indicated that students who live on campus for the first two years, had 4.336 times greater odds of graduating in six years, than students who did not live on campus for the first two years.

Findings were as follows:

- Living on campus for two years was found to be a statistically significant predictor of four and six-year graduation rates.
    - For Research Question Four, the Null Hypothesis was rejected

UCM: Second-Year Housing Report

Research Question Five: Relationship between Living on Campus for Two Years and Campus Involvement

To approach RQ5, a binary logistic regression analysis was conducted to evaluate the prediction of campus involvement. For this study, campus involvement was included as a dichotomous, categorical outcome variable (involved or not involved).

	B	Wald	Sig.	Exp(B)
PellEligible2	-.141	13.323	<.001	.869
FirstGen2	.201	28.814	<.001	1.222
ACT	.008	1.878	.171	1.008
HS_GPA	.579	221.379	<.001	1.784
LivedOnCampusFirst2Yrs	.891	579.459	<.001	2.439
Constant	-2.452	46.027	<.001	.086

**Important note: Regression Table has been abbreviated for space*

For the final block in this set of logistic regression models, the primary independent variable of interest was entered, Living On-Campus for Two years. Adding this final predictor variable created a model with a model Chi-Square of 1276.492, which was statistically significant ($p < .001$). The Nagelkerke value was .115, which means that the living on-campus increased the explained variance in student involvement to 11.5%. This model was able to correctly predict the outcome in 64.1% of cases. As a predictor variable, living on campus a Wald Chi-square statistic of 579.459, which was statistically significant ($p < .001$).

The Odds Ratio indicated that students who live on campus for the first two years, had 2.439 times greater odds of being involved on campus, compared to students who did not live on campus for the first two years.

Findings were as follows:

- Living on campus for two years was found to be a statistically significant predictor of student involvement.
    - For Research Question Five, the Null Hypothesis was rejected.

For more information, contact:
Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

Conclusion: Limitations, Implications and Recommendations

Limitations- While efforts were taken to assure sound design and to minimize the limitations of this study, the research did present a few constraints. The most prominent limitation was that the study analyzed data from only one university. Although the sample population and all subgroups had a substantial number of records from a statistical perspective, for potential researchers to determine if the study is generalizable, it would be necessary to collect data from additional universities, with attention to campus size, geographic location, and institutional selectivity type. Another limitation is the existence of unknown confounding variables. Retention and graduation-related studies have been thoroughly researched in higher education, thus there are many variables that are already known to predict those outcomes. However, with behavioral studies involving humans, there tend to be an array of unknown elements affecting the participants as individuals, the overall organization, etc. Additionally, the study utilized a non-experimental design, which prevents the possibility of determining causation. The study provides evidence of relationships between variables but cannot definitively claim which variables created differences between groups.

Implications and Recommendations Abundant research exists exploring retention and graduation rates among college students. Furthermore, a significant portion of the research evaluates the connection between retention and the effects of living on campus. Because these studies are fairly dated and have ignored potential causal effects on retention rates, updated research has been needed. Additionally, most existing research has focused solely on first-year students and this study sought to add to the discourse by exploring student success measures for sophomore students/second year students. Through z-tests and several multiple regression analyses, this study found that students who lived on campus for two years were statistically more likely to be retained to their third year, graduate in four years or six-years, and to be involved in campus cocurricular activities. Additionally, students who lived on campus for two years tended to have a higher cumulative GPA at the end of their second year. It should be noted the GPA difference, while statistically significant, was very small. Further analysis could help determine what other variables could add predictive power to the models, and to see if sub-populations experience differences at statistically different rates. One recommendation would be to continue updating this data annually, to see how these differences hold over time. Finally, it may be beneficial to conduct interviews or focus groups with students to further explore how students perceive the experience of living on campus and how students reflect on potential benefits after living on campus for two years.

For more information, contact: Ashley Guyer, guyer@ucmo.edu or anguyer@gmail.com

UNIVERSITY OF CENTRAL MISSOURI

SECTION FIVE

CONTRIBUTION TO SCHOLARSHIP

Slowing the Sophomore Slide: Do Second-Year Live-On Residency Requirements Predict Student Success Factors?

ASHLEY GUYER

Senior Research Analyst,

University of Central Missouri

guyer@ucmo.edu

anguyer@gmail.com

660-543-8108

RESIDENCY REQUIREMENTS BENEFIT STUDENTS in a variety of meaningful ways. Living on campus can be an effective conduit in helping college students feel more committed and connected to their institutions. Existing research has demonstrated that students who live on-campus tend to be retained at higher rates, achieve higher grade point averages, and are more likely to graduate in four years. Some college campuses have live-on requirements to help maximize the benefits of these academic outcomes for students. Presently, it is unclear if those benefits are extended to students who live-on campus for more than one year. At the same time, universities are adding two-year residential requirements with the hope that second-year students will experience the same beneficial outcomes as first-year students. There are relatively limited comprehensive research projects on student housing, and even fewer projects which study academic and student success outcomes of sophomore (second year) students. The purpose of this study was to gain a better understanding of the relationship between living on-campus for the first two years of college and key measures of student success. The study utilized quantitative methodology with a non-experimental comparative design. Previously established predictor variables were used in hierarchical multiple regression analyses to test the extent to which living on campus for two years contributed additional predictive power to the models. Findings indicate a statistically significant positive relationship between living on campus for two years and retention, grade point average, graduation rates, and campus involvement.

Higher education administrators and researchers have been studying retention and factors contributing to retention for decades (Berger, et al., 2012). The first retention studies were conducted in the early 1930s (Morrison & Silverman, 2012). College officials were interested in finding out why students departed from the university without earning a college degree. At that time, most studies were conducted looking only at single institutions, since the information was evaluated internally (Berger, et al., 2012). As degree attainment became more of a concern, so did retention and, in order to create systems to help students succeed, college officials needed to research what was *actually* occurring (Seidman, 2012). While colleges and universities have changed significantly over the past 80 years, administrators' motivations for understanding student success measures and related phenomenon have been a consistent fixture. As a result of the G.I. Bill and Title IV of the Housing Act of 1950, residence life expanded significantly during the 1950s and 1960s (Schroeder & Mabel, 1994). Campuses built new buildings to accommodate the influx of students during this period of enrollment growth (Schroeder & Mabel, 1994).

According to Schroeder and Mabel (1994), "programmatic initiatives reflected renewed efforts to focus on the education of the whole student, highlight connections between academic affairs and student affairs, and incorporate human/student development into the work of both faculty and student affairs staff" (p. 9). By this time, educators had started to notice patterns related to student engagement and student involvement, but those patterns had not been researched or connected in relation to retention rates (Braxton, et al., 2014). Soon, researchers began studying student involvement and learning why students chose to withdraw from their universities

(Braxton, et al., 2014). Many of these seminal theories of higher education were developed through the 1970s and 1980s (Braxton, et al., 2014).

THEORECTICAL FOUNDATIONS

Vincent Tinto's studies on student departure and retention are among the most comprehensive, commonly cited, and well-known research on this complex topic. Based on the results of his original research, Tinto developed the Student Integration Model (SIM), which was partially related to his theory that students who are the most likely to persist and retain are those who have fully connected themselves into their college environments (Tinto, 1975). Based on the SIM, persistence is primarily related to how connected students feel with or to their college. Students depart because they are not fully integrated into the campus and campus community or fail to form a sense of belonging (Tinto, 1975, 1988, 1993). Tinto found that housing was one of the best ways for students to develop a sense of belonging and connection (Tinto, 1975, 1988, 1993).

Alexander Astin's theory of Student Involvement was groundbreaking in the field of higher education. Educators had noticed particular behaviors and patterns regarding students, but they needed research to confirm their theories (Astin, 1977, 1984, 1993). Astin found that students who participated in more activities and engaged more in college life were more satisfied, had better grades, and were more likely to remain in college (Astin, 1977, 1984, 1993; Astin & Osegura 2012).

Pascarella and Terenzini studied college students extensively and provided a significant amount of the research regarding college students. The main goal of their research was to determine which aspects of college life had the greatest effect on students (Pascarella & Terenzini, 1990, 2005).

One reason their research was considered groundbreaking was because they considered the effects of college attendance from various vantage points (Pascarella & Terenzini, 1990, 2005). The *net effects of college* were studied to find whether students change cumulatively while or after attending college (Pascarella & Terenzini, 1990, 2005). According to Pascarella and Terenzini (2005) "living on campus (vs. living off campus or commuting) was the single most consistent within college determinant of the impact of college" (p. 603). Their research also reaffirmed the importance of student involvement and that students who lived on campus were more likely to be involved (Pascarella & Terenzini, 1990, 2005).

College officials have decades of research to indicate that living on campus increases the likelihood students will be retained, (Alexander & Robertson, 1998; Blimling, 1989, 1993, 2015; Brooks, 2010; Chickering, 1974; Pascarella & Terenzini, 2005; Riker & Decoster, 2008; Schroeder & Mable, 1994; Schudde, 2011; Schuh & Tobin, 1994; Tinto, 1975, 1993; Turley & Wordke, 2010; Yan et al., 2005). However, most of the comprehensive studies are outdated and need to be updated to reflective current housing practices and realities (Blimling 2015, Schudde, 2011).

Additionally, none of the seminal studies have looked at living on campus beyond the first year of college. This problem permeates all retention research as there are relatively few studies that consider retention in the second year of college and beyond (Nora & Crisp, 2012). Most practitioners think that the factors and variables known to impact retention carry over in subsequent year (Nora & Crisp, 2012). More research is needed and studies which utilize 'survival analyses and other logistic regression models to predict retention beyond the first year would benefit higher education administrators

(Nora & Crisp, 2012). Additionally, new evidence supporting improved retention rates from the second to third year of college would help colleges justify the recent trend of requiring two years of living on campus (Blimling 2015, Schudde, 2011).

METHODS

This study utilizes quantitative methodology with a non-experimental comparative design. Data were analyzed via multiple regression analysis. Quantitative studies are conducted with the goal of taking measurements and finding numbers or figures which will answer the proposed research questions (Creswell, 2013). A key feature of quantitative research is the inclusion of variables, which are essentially characteristics, with various levels or values (McMillian, 2012). According to McMillian (2012), "a precise definition of each variable communicates clearly the researcher's intent and enhances the usefulness of the results" (p. 38).

Since there are decades of robust retention and college completion research, a plethora of different studies have already identified variables which are known to contribute to retention (Seidman, 2012; Tinto, 1993). Retention rates are impacted by many different variables, including academic preparation, high school grade point average, ACT Composite scores, high school percentile rank, age, financial need, Pell eligibility, first-generation status, gender, and ethnicity, just to name a few (Morrison & Silverman, 2012; Seidman, 2012). This study will utilize the variables which are known to influence retention and will determine if living on campus can further explain eventual retention rates, graduation rates, cumulative GPA, and campus engagement, when holding constant for other variables. The correlational design of this study will allow the researcher to determine if there is a relationship between living on campus and retention

rates, graduation rates, grade point average, and campus involvement. While the multiple regression techniques used for this study provide valuable insights as to the predictive power of the independent variables, these techniques are unable to produce evidence of a causal relationship between the variables (Field, 2013).

Research questions include: a) Is there a statistically significant difference in retention rates for students who lived on campus for two years and those who did not?; b) To what extent is there a significant positive relationship between living on campus for two years and retention?; c) To what extent is there a significant positive relationship between living on campus for two years and cumulative grade point average?; d) To what extent is there a significant positive relationship between living on campus for two years and four and six-year graduation rates?; e) To what extent is there a significant positive relationship between living on campus and involvement in student activities?

Population

Analysis was completed using existing institutional data from a mid-sized Midwestern, four-year, public university. This institution adopted a two-year live-on residency requirement in 2013 and students who entered as first-time, first-year students in the fall of 2013 were required to adhere to the new policy. Institutional data were assessed for the five cohorts/years prior to the policy adoption (2008-2012) and for five cohorts/years after (2013-2017) the policy took effect.

Data Analysis

The dataset for this project included 16,340 deidentified student records, spanning ten years of enrollment at a single institution. After obtaining non-human subjects' distinction and receiving the data as a Microsoft Excel file, the first step was cleaning and

re-coding the data. SPSS 27.0 was used to complete the analysis. Descriptive statistics were used to review for outliers or inconsistencies in the data and to assess missing values. Inferential statistics were used to evaluate the *z*-test for research question one and hierarchical multiple regression analyses were used for the other four research questions.

To investigate if there was a statistically significant difference in retention rates between students who lived on campus for the first two years and students who did not, a two-proportions *z*-test was conducted to compare the groups. To investigate the extent to which there was a statistically significant positive relationship between living on campus for two years and retention, graduation, and student involvement, binary logistic regressions were conducted for each question. Lastly, the extent to which there was a statistically significant positive relationship between living on campus for two years and grade point average, a linear regression was conducted.

Variables with missing values were removed on a case-wise basis only for specific questions which measured those datapoints (Field, 2013). Each of the regression analyses used the same hierarchical model for entering blocks of predictor variables. The blocks included:

1. Block 1 consisted of "demographic traits", including: (a) Sex, and (b) Race/Ethnicity.
2. Block 2 consisted of "social and economic attributes", including (a) Unmet Need or Pell Eligibility, and (b) First-generation status (i.e., whether the students' legal guardian(s) have a college degree).
3. Block 3 consisted of "pre-college characteristics", including (a) HS GPA, and (b) composite ACT score.

4. Block 4 consisted of "residential life" status, including categories (a) living on campus for the first two years of college, (b) living on campus for the first year, but not the second year of college, and (c) not living on campus for the first or second year of college.

FINDINGS

Prior to running statistical tests, populations frequencies were evaluated. Figure 1 illustrates the differences in retention rates between the overall population, students who lived on campus for the first two years, and those who did not live on campus.

Research question one. Building on those findings, the *z*-test for research question one showed that students who lived on campus or the first two years had higher retention rates than students who did not, and that those differences were statistically significant. The Z-Value, Z = 43.46, Significance Level, p (2-tailed) = 0.001. The overall sample had a Phi coefficient, φ =0.373 and Cohen's H, H= 0.855, which revealed the effect size or magnitude of the difference was considered large (Field, 2013).

Research question two. To approach research question two, a binary logistic regression analysis was conducted to evaluate the prediction of retention to the third year (through Sophomore/second year). Each of the four steps in the hierarchical regression were found to add statistically significant predictive power to the model. Over, the model was able to correctly predict the outcome in 74.2% of cases. As a predictor variable, living on campus a Wald Chi-square statistic of 1963.199, which was statistically significant ($p < .001$). Overall, block four showed that living on campus was a statistically significant predictor of retention. The Odds Ratio, denoted by Exp(B),

indicates that students who live on campus for the first two years, had 7.76 times greater odds of being retained than students who did not live on campus for the first two years.

Research question three. Linear regression was selected for research question three because GPA is a continuous, scale variable, as opposed to the dichotomous dependent variable used for the binary logistic regression used for research questions two, four, and five. While the predictor variables for this regression were the same ones in the used in research question two, the output for linear regression is interpreted differently, with attention to different key elements. For linear regression, R is used as a measure of the relationship between the set of independent variables and the dependent variable. For this model, the R = 0.65, which indicated there was a strong relationship between the variables in the model and the dependent variable (GPA). In the final block in this set of regression models, the primary independent variable of interest was entered. Two existing columns from the dataset were collapsed, and a new dummy variable was created for students "Living On-Campus for Two years": a) Score = 0, did not live on campus for the first two years; and b) Score = 1, lived on campus for the first two years. Adding this variable created a model that was also found to be significant ($p < .001$), as evidenced in Table 1. Block four had an R^2 value of .428 associated with the regression model, which means that 42.8% of the variation in cumulative grade point average at the end of year two can be explained by the variables in the model. Living on campus for the first two years was a statistically significant predictor of retention to year three, though it accounts for only 0.02% of the variance in GPA.

Research question four. To approach this question, a binary logistic regression analysis was conducted to evaluate the prediction of graduation (DV). Graduation is a

categorical outcome variable (graduated or did not graduate). For this research question, the logistic regression was run two separate times, once for "four-year graduation" and once for "six-year graduation" rates. These two specific intervals have been selected as colleges in the United States are required to report graduation rates for these segments. A bachelor's degree is intended to be completed in four years, so reporting is done at 100% (4 years) and 150% (6 years) to track college completion rates.

For four-year graduation rates, in the final block in this set of logistic regression models, the primary independent variable of interest was entered, Living On-Campus for Two years. Adding this final predictor variable created a model Chi-Square of 3645.937, which was statistically significant ($p < .001$). The Nagelkerke value was .313, which means that the living on campus for two years increased the explained variance in four-year graduation rates to 31.3%. Hosmer and Lemeshow Tests found the model may not be a good fit for the data, with a significance of 0.01. This model was able to correctly predict the outcome in 74.5% of cases. As a predictor variable, living on campus a Wald Chi-square statistic of 723.647, which was statistically significant ($p < .001$). Overall, block four included several statistically significant predictor variables, including, High School GPA and First-Generation student status. The Odds Ratio, Exp(B) displayed in Table 2 indicates that students who live on campus for the first two years, had 3.04 times greater odds of graduating in four-years than students who did not live on campus for the first two years.

For six-year graduation rates, in the final block in this set of logistic regression models, the primary independent variable of interest was entered, Living On-Campus for Two years. Adding this final predictor variable created a model with a model Chi-Square

of 3915.242, which was statistically significant ($p < .001$). The Nagelkerke value was .319, which means that the living on campus for two years increased the explained variance in six-year graduation rates to 31.9%. Hosmer and Lemeshow Tests found the model to be a good fit for the data, with a significance of 0.292. This model was able to correctly predict the outcome in 71.2% of cases. As a predictor variable, living on campus had a Wald Chi-square statistic of 1327.737, which was statistically significant ($p < .001$). Overall, block four included several statistically significant predictor variables, including, High School GPA and First-Generation student status. The Odds Ratio, Exp(B), indicated that students who live on campus for the first two years, had 4.336 times greater odds of graduating in six years than students who did not live on campus for the first two years.

Research question five. To approach RQ5, a binary logistic regression analysis was conducted to evaluate the prediction of campus involvement, from the following independent variables (IV): a) Gender, b) Race/ethnicity, c) Pell Eligibility, d) First Generation status, e) HS GPA, f) composite ACT score, g) Living on Campus for Two years. For this study, campus involvement was included as a dichotomous, categorical outcome variable (involved or not involved). At the site for this study, the internal database system has a column or student attribute for "student involvement". This column is marked in the affirmative if the student has participated in a variety of student activities, including traditional registered student organizations, academic/departmental clubs, intramural or club sports, honors societies, social Greek fraternities or sororities, etc. For the purposes of this study, each student was marked as "involved" if they had an affirmative student involvement attribute marked at any point during their enrollment. To

create a dichotomous variable, students were re-coded into two categories with 0 = Not Involved and One = Involved.

For the final block in this set of logistic regression models, the primary independent variable of interest was entered, Living On-Campus for Two years. Adding this final predictor variable created a model with a model Chi-Square of 1276.492, which was statistically significant ($p < .001$). The Nagelkerke value was .115, which means that living on-campus increased the explained variance in student involvement to 11.5%. Hosmer and Lemeshow Tests found the model may not be a good fit for the data, with a significance of 0.01. This model was able to correctly predict the outcome in 64.1% of cases. As a predictor variable, living on campus a Wald Chi-square statistic of 579.459, which was statistically significant ($p < .001$). Overall, block four included several statistically significant predictor variables, including High School GPA and First-Generation student status. The Odds Ratio indicated that students who live on campus for the first two years, had 2.439 times greater odds of being involved on campus compared to students who did not live on campus for the first two years. Living on campus for two years provided slightly higher odds of predicting that someone would have involved in co-curricular activities.

Findings and Results Summary

Each of the statistical tests for the five research questions revealed statistically significant differences between students who lived on campus for two years and students who did not, so the Null Hypothesis was rejected in all five cases. Students who lived on campus for the first two years had statistically greater odds of being retained, graduating in four or six years, and of being involved in campus activities. In other words, living on campus

for two years was a significant predictor of retention, graduation, and involvement. While the difference in cumulative GPA at the end of year two was also statistically significant, that difference was very small. The two proportions z-test also showed the difference in retention rates between the two groups to be statistically significant. Additionally, students who lived on campus for the first two years had higher retention rates in in cohort/year, when compared with their peers who did not live on campus (Table 3).

LIMITATIONS

While efforts were taken to assure sound design and to minimize the limitations of this study, the research did present a few constraints. The most prominent limiting characteristic of this study was that it analyzed data from only one university. Although the sample population and all subgroups had a substantial number of records from a statistical perspective, for potential researchers to determine if the study is generalizable, it would be necessary to collect data from additional universities, with attention to campus size, geographic location, and institutional selectivity type.

Another limitation is the existence of unknown confounding variables. Retention and graduation-related studies have been thoroughly researched, thus there are many variables that are already known to predict those outcomes. However, when it comes to behavioral studies, there tend to be an array of unknown elements affecting the participants as individuals, the overall organization, etc. Additionally, the study utilized a non-experimental design, which prevents the possibility of determining causation. The study provides evidence of relationships between variables but cannot definitively claim which variables created differences. Furthermore, there may be variables which were not considered, that could improve the predictive power of the model.

CONCLUSION, IMPLICATIONS, AND FUTURE RESEARCH

Abundant research exists exploring retention and graduation rates among college students. Furthermore, a significant portion of the research evaluates the connection between retention and the effects of living on campus. Because these studies are fairly dated, updated research has been needed. Most existing research has focused solely on first-year students and this study sought to add to the discourse by exploring student success measures for sophomore students/second year students. The purpose of this study was to fill a gap in the literature by providing an updated, in-depth analysis of the relationship between living on campus first two years of college and various academic and student success measures, such as retention and graduation rates.

Through z-tests and several multiple regression analyses, this study found that students who lived on campus for two years were statistically more likely to be retained to their third year, graduate in four years or six-years, and to be involved in campus cocurricular activities. Additionally, students who lived on campus for two years tended to have a higher cumulative GPA at the end of their second year. It should be noted the GPA difference, while statistically significant, was very small. Further analysis could help determine what other variables could add predictive power to the models, and to see if sub-populations experience differences at statistically different rates. One recommendation would be to continue updating this data annually, to see how these differences hold over time. Finally, it may be beneficial to conduct interviews or focus groups with students to further explore how students perceive the experience of living on campus and how students reflect on potential benefits after living on campus for two years.

Figure 1.

Overall Retention Rates: Cohorts from 2008 – 2017

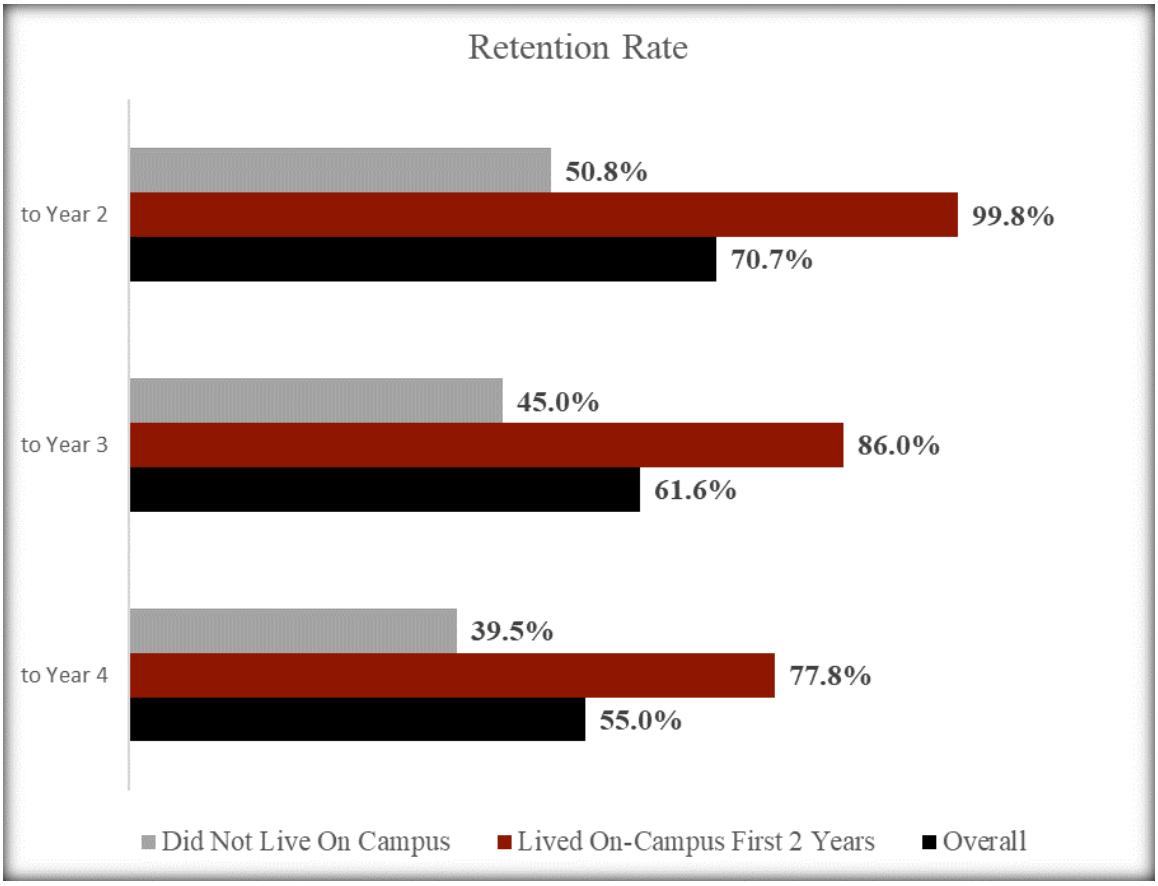


Table 1.

Research Question Three: Relationship Between Living on Campus for Two Years and GPA- Linear Regression Model Summary

					Change Statistics	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.327[a]	.107	.106	.63291	.107	155.945
2	.358[b]	.128	.128	.62519	.022	130.748
3	.653[c]	.426	.425	.50737	.298	2709.314
4	.655[d]	.428	.428	.50634	.002	43.370

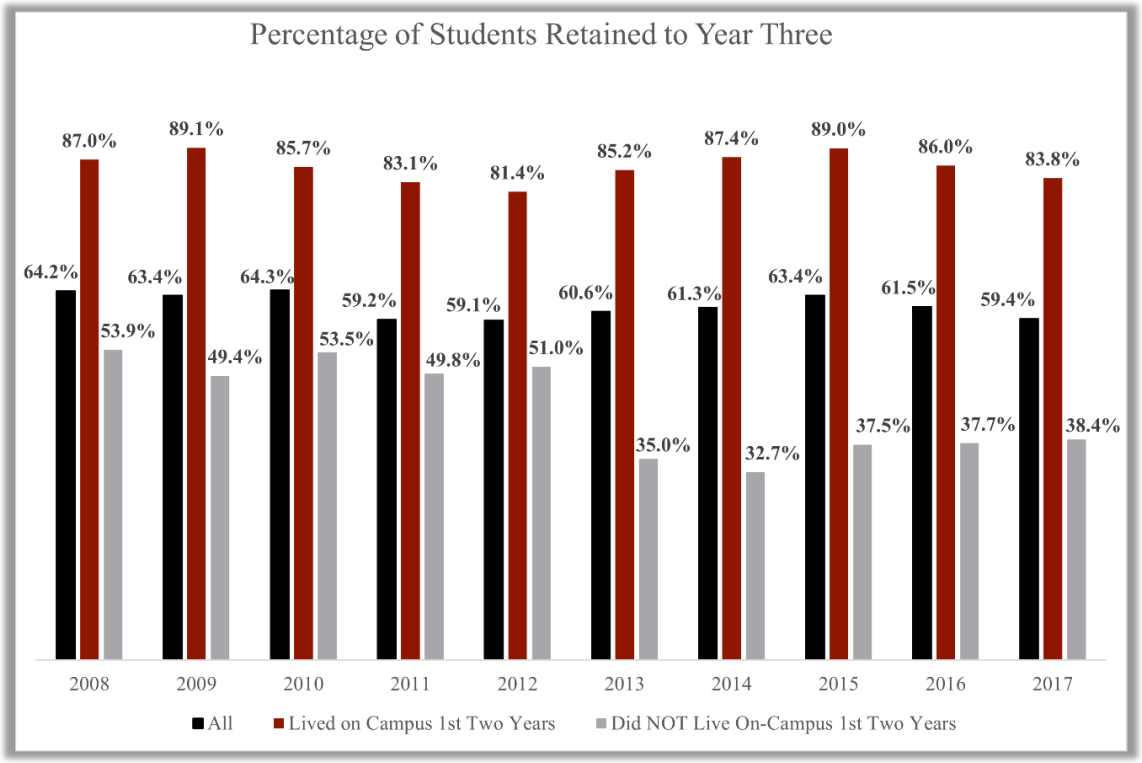
Table 2.

Research Question Four: Logistic Regression for Four-Year Graduation Rates, Block 4 (Beta Coefficients, Wald Statistics, Significance, and Odds-Ratio for Predictor Variables)

	B	Wald	Sig.	Exp(B)
Gender		24.224	<.001	
Gender(1)	-.204	22.270	<.001	.815
Gender(2)	.766	1.678	.195	2.151
Race		64.598	<.001	
Race(1)	.311	.412	.521	1.364
Race(2)	-.092	.047	.829	.912
Race(3)	.050	.013	.908	1.051
Race(4)	-.096	.015	.901	.909
Race(5)	-.058	.018	.893	.943
Race(6)	.303	.432	.511	1.353
Race(7)	.421	.998	.318	1.524
PellEligible2	-.453	101.498	<.001	.636
FirstGen2	.221	26.752	<.001	1.247
ACT	.011	2.627	.105	1.011
HS_GPA	1.697	1037.053	<.001	5.459
LivedOnCampus	1.112	723.647	<.001	3.040
First2Yrs				
Constant	-7.417	261.415	<.001	.001

Table 3.

Percentage of Students Retained to Year Three, By Residency Status



References

Alexander, F. K., & Robertson, D. E. (Eds). (1998). *Residential colleges: Reforming American higher education*. Louisville: Oxford International.

Astin, A. W. (1977). *Four critical years: Effects of college on beliefs, attitudes, and knowledge.* San Francisco: Jossey-Bass.

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

Astin, A. W. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey-Bass.

Astin, A., & Osegura, L. (2012). Pre-college and institutional influences on degree attainment. In A. Seidman (Ed.), *College student retention: Formula for student success* pp. 119-145. Plymouth, United Kingdom: Rowman and Littlefield.

Berger, J. B., Blanco Ramírez, G., & Lyons, S. (2012). Past to present: A historical look at retention. In A. Seidman (Ed.), *College student retention: Formula for student success* pp. 7-34. Plymouth, United Kingdom: Rowman and Littlefield.

Blimling, G. S. (1989). A meta-analysis of the influence of college residence halls on academic performance. *Journal of College Student Development*, *30,* 298-308.

Blimling, G. S. (1993). The influence of college residence halls on students. In J. Smart (Ed.), *Higher education: Handbook of theory and research*. (Vol. IX) (pp. 248-307). New York: Agathon Press.

Blimling, G. S. (2015). *Student learning in residence halls*. San Francisco: Jossey-Bass.

Braxton, J. M., Doyle, W. R., Hartly III, H. V., Hirschy, A. S., Jones, W. A., & McLendon, M. K. (2014). *Rethinking college student retention*. San Francisco: Jossey-Bass.

Chickering, A. (1974). *Commuters vs. residents*. San Francisco: Jossey-Bass.

Creswell, J. W. (2014). *Research design: Quantitative, qualitative, and mixed methods approaches.* (4th ed.). Thousand Oaks, CA: Sage.

Field, A. (2013). *Discovering Statistics Using IBM SPSS.* (4th ed.). London: Sage.

McMillan, J. H. (2012). *Education research: Fundamentals for the consumer.* (6th ed.). Boston: Pearson.

Morrison, L., & Silverman, L. (2012). Retention theories, models, and concepts. In A. Seidman (Ed.), *College student retention: Formula for student success.* pp. 7-34. Plymouth, United Kingdom: Rowman and Littlefield.

Nora, A., & Crisp, G. (2012). Student persistence and degree attainment beyond the first year of college: Existing knowledge and directions for future research. In A. Seidman (Ed.), *College student retention: Formula for student success* pp. 229-250. Plymouth, United Kingdom: Rowman and Littlefield.

Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students: Findings and insights from 20 years of research.* San Francisco: Jossey-Bass.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students.* San Francisco: Jossey-Bass.

Riker, H. C., & Decoster, D. A. (2008). The educational role in college student housing. *Journal of College & University Student Housing, 35* (2), 80-85.

Reynolds, G. L. (2007). The impact of facilities on recruitment and retention of students.

Seidman, A. (2012). Taking action: A retention formula and model for success. In A. Seidman (Ed.), *College student retention: Formula for student success* pp. 267-28 Schroeder, C., & Mable, P. (Eds). (1994). *Realizing the educational potential of residence halls*. San Francisco: Jossey: Bass.

Schudde, L. (2011). The causal effect of campus residency on college student retention. *Review of Higher Education, 34* (4), 581-610.

Schroeder, C., & Mable, P. (Eds). (1994). *Realizing the educational potential of residence halls*. San Francisco: Jossey: Bass.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89-125.

Tinto, V. (1988). Stages of student departure: Reflections on the longitudinal character of student leaving. *The Journal of Higher Education*, *59*(4), 438-455.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.

Tinto, V. (2006). Research and practice of student retention: What next? *Journal of College Student Retention, 8*(1), 1-19.

Turley, R., & Wordtke, G. (2010). College residence and academic performance: Who benefits from living on campus? *Urban Education, 45*(4), 506-532.

Yan. L., Sheely, M. C., & Whalen, D. F. (2005). Contributors to residence hall student retention: Why do students leave or stay? *Journal of College & University Student Housing.33* (2), 28-36.

SECTION SIX

SCHOLARLY PRACTITIONER REFLECTION

Leadership Reflection

Before starting this doctoral program, I was still clinging to outdated and unsophisticated assumptions of what it meant to be a leader. To me, being a leader equated to having a charismatic and charming personality, being a dynamic and compelling public speaker, or someone who (as a function of their job) had several employees or subordinates to lead and manage. I underestimated how complex and nuanced leadership can be conceptually and in practice.

While writing my dissertation, my leadership style and my opinions and notions about leadership have changed which, in turn, have changed my overall approach to working on various leadership-related tasks and roles. I would say those changes and realizations fall into four main categories: a) the volume and variety of essential leadership skills and traits, b) symbiotic nature of leadership and professional relationships, c) the true impact of disruptive change and conflict in the context of leadership, and d) leadership as a component of social change. Through the framework of various leadership and organizational theories, my reflection will offer insights into how my doctoral coursework and the process writing a dissertation have influenced and shaped my leadership experiences, style, and beliefs.

Leadership Theory and Practice

Leadership is inherently complicated to conceptualize or define. It has been assessed as a trait or skill, tied to position or personality, or even connected to behavior and performance (Northouse, 2013). Northouse (2013) describes leadership as "a process whereby an individual influences a group or individuals to achieve a common goal" (p. 5). People who engage in leadership roles can utilize many different techniques, and the

types of leadership approaches often vary greatly throughout time (Northouse, 2013). Each approach has unique strengths and weaknesses. According to Kotter (1990), leadership is "about coping with change" (p. 38) and it requires introspection and adaptability.

Before beginning this doctoral program, I would have classified my leadership type as *diplomat* with a small element of *expert* (Rooke & Torbert, 2005). This odd combination routinely caused problems because I would spend the majority of my time striving to keep the peace or relying upon subject-content knowledge to thrive. At the time, I believed avoiding conflict or finding ways to minimize conflict was one of my duties when serving in leadership roles. Levi (2014) references this issue and asserts "because people try to avoid conflict, problems within teams often go unspoken or unaddressed" (p. 133). As I sensed tension building, I attempted to divert attention away, hoping the distraction would help the group move on and continue with their work. I did not realize that part of the group's work involved creating communication plans and methods for dealing with the conflict, with an aim at a peaceful and mutually agreeable resolution (Levi, 2014).

After a few years as a professional, my leadership style transitioned and I began to rely more upon *expert* leadership or power (Rooke & Torbert, 2005). This style of leadership tends to work well for leaders who are focused on completing tasks and initiating structure (Northouse, 2013). In the field of Institutional Research, expert subject knowledge is expected to complete most tasks, so most IR professionals I have met would probably be described as using *expert* power when contributing to teams, groups, and committees. Expert leaders are one of the most commonly represented sub-types, and

while they make wonderful individual contributions to groups, there are potential drawbacks of relying upon expert leadership, such as over-confidence (Rooke & Torbert, 2005).

French and Raven (1959) describe expert power as a *personal* or *soft* power because it involves a person's individual traits and characteristics, as opposed to a person's position within the organization. Upon reflection, I think one reason I relied so much on expert power early in my career was because I did not have any true positional power, so I assumed my primary tool was knowledge in my field (French & Raven, 1959). Levi (2014) reiterates the limitations of relying on *personal* or *soft* expert power, namely, expertise in one area or field does not always translate or transfer to another. The literature mentions a variety of flaws related to expert power, but I also noticed the additional issue of it minimizing other's views of your potential as a leader. If you have demonstrated you are only able to lead using subject-related information you already know, people may think you can only lead in situations which are centered within your content area, so the range of expert power is limited (French & Raven, 1959).

Variety of Leadership Traits

Throughout the dissertation process, I have grown more comfortable with components of leadership that have nothing to do with my functional area of expertise, or specific, field related content. I realized the importance of calmly, but confidently sharing information that may make other folks uncomfortable or frustrated. Again, I hadn't seen that as leadership trait, yet it was so obviously a part of what you must do as you take on various leadership roles. While writing my dissertation, all the staff in my office, including my boss, took promotions and positions at other campuses. I was excited for

them because we all are very supportive of one another, but it was so draining to be the last remaining person in an office responsible for state and federal reporting requirements, accreditation documentation, and various internal and external institutional updates. At that time, I reported to the President of the organization, who also happened to be in the position in an interim capacity. Shortly thereafter, I reported to the newly hired Chief Financial Officer because the month that my former boss left, our office was reorganized and placed in a different division in the organization. Once the new CFO was in place, I helped lead the process of updating job descriptions for the (future) staff in the office and organizing the search for a new Director of my department. Before beginning the doctoral program and gaining confidence from both my coursework and from developing the study for my dissertation, I could not fathom myself feeling confident telling the President of a university that some work would not be able to be completed because of having a 75% reduction in staff, or that he needed to hire someone on a temporary contract to supplement the work. I had to advocate for myself and a potential office full of people who would hopefully be hired after our hiring freeze. I had to adjust my communication style to match not only his style and preferences, but I had to find ways to instantly build trust and respect because of the unique situation.

Most leaders on a college campus have their doctoral degrees so, through the process of writing my dissertation, I began to see myself as their colleague and peer instead of as a pre-professional (or worse- a little kid pretending to be one of the adults). As a first-generation college student, I deal with the extremely common issue of feeling like an imposter, as if at any moment everyone will realize that I don't really belong here (even calling myself "first-gen" feels somewhat like an imposter since my dad did attend

college for a while). As I was developing my research questions and having brainstorming meetings about how my study would be conducted and conceptualizing the entire process, I started to realize that I was going through the same things these campus leaders had gone through when they were doctoral students. Recognizing that I was capable of the same type of work, intellectual demands, etc., was part of me seeing myself as their equal or peer.

I am a naturally curious person who loves to read and to learn new facts and trivia, which is directly related to two of my top 5 strengths according to StrengthsFinder (Learner and Ideation). These characteristics can be very good because, when coupled with components of my other top five Strengths- *individualization*, *restorative*, and *analytical* (Clifton & Anderson, 2001), I find that it helps me connect the unique intersection of seemingly unrelated phenomena, find patterns and relationships, and suggest possible solutions while balancing each option against itself. However, this curiosity and interest in learning must be tempered. Sometimes my love for inquiry and learning serves as an excuse to parlay decision-making. Leaders need to be able to weigh options against one another, but they also must be capable of making smart decisions and improving their decision-making processes (Davenport, 2009).

My investigative spirit created a strange duality during the dissertation process, where I could never stop reading other people's research, journal articles, dissertations, etc., but had trouble translating that effort into progress on my own writing. I have probably 50+ dissertations and theses that I saved and skimmed, some that I read many times over. I will never want to stop learning more, but I did have to learn how to harness that curiosity and couple it with enough discipline to know when to stop gathering

information, and when to start taking all that input to create something new of my own. As a leader, part of growing and becoming self-actualized is knowing yourself and recognizing when a strength has merged with a weakness and how re-route that process. At first, I thought that realization mostly had to do with myself, but now I've realized that when I understand the strengths and weaknesses of my colleagues, it actually helps me be a better partner with them. When I work harder to customize the way I interact with people and tailor how I approach my partnerships with them, we are all able to accomplish more and, hopefully, experience less frustration.

At this stage in my leadership development, I think my leadership style is most closely related to *authentic* leadership (Northouse, 2013). Our curriculum and related discussions helped me learn how I could make changes in my leadership style and improve my ability to work with teams and groups. These processes helped me discover my own personal, authentic leadership style. Authentic leadership is hallmarked by both interpersonal and intrapersonal perspectives (Northouse, 2013). It involves how the leader thinks, feels, and perceives, as well as how the leader interacts with and manages relationships of others (Northouse, 2013).

Developing authentic leadership requires people to reflect on their lives and life experiences and to be steadfast in their values and morals (George, Sims, McLean, & Mayer, 2007). "The values that form the basis for authentic leadership are derived from your beliefs and convictions, but you will not know what your true values are until they are tested under pressure" (George et al., 2007, p. 169). Therefore, one of the biggest changes I have made, and continue to strive towards, is remaining more steadfast in my convictions as a leader, especially in situations which question those ideals.

Interpersonal Communication, Partnerships, and Collaboration

One of my biggest realizations has been the sheer magnitude of how interconnected we all are and how dependent our roles are on the leadership traits we excel at, and those skills in accord with the leadership styles and traits of our colleagues and peers. Somewhat ironically, this is very evident when assembling a dissertation committee—trying to find a balance of the expertise areas you need so that you can be challenged and grow, while also being heard and understood as a researcher and burgeoning scholar. I have been very fortunate to receive excellent support in this process and I feel that each committee member influenced not only the dissertation, but my thoughts on leadership as well.

Though I knew how important relationships and collaboration were, I underestimated the extent to which partnerships drive progress. I guess I'm forever being reminded that improving your ability to form connections and establishing partnerships are requisite to succeeding as a learner, scholar, and leader. The dissertation process can feel very lonely at times, isolated at the computer (like a farmer in a tractor), there are so many moments spent in solitude and contemplation, combing over rows (in my case data instead of soybeans). All the while, a million factors outside of your control are impeding or expediting your progress, and your success will most certainly be more attainable once you know who to ask for help, what to ask for help with, and how to accept the support when it is offered and received. I think that for me as a leader, this has made me realize the importance of reaching out, making myself vulnerable, giving up some fears about being wrong, and finding out whom to trust.

Organizations rely upon structure to provide rules and coordination. But ultimately, organizations would cease to function without people. “Organizations exist to serve human needs rather than the converse” (Bolman & Deal, p.122). Understanding intrinsic and extrinsic motivators are integral to explaining employee performance, behavior, and relationships. As I have learned more about relationships and motivations, I have grown as a leader. I also plan to continue cultivating relationships with my peers and colleagues, as I have come to understand how essential these relationships are to accomplishing goals within our organization. Again, those are aspects of leadership that I probably miscalculated before my doctoral program in general, but especially in the many on again, off again years that I’ve been working on this dissertation.

Campus Leadership During Disruptive Times

Following a somewhat strange series of events, I found myself completing the final stages of my dissertation during a global pandemic caused by the COVID-19 virus (aka- “Coronavirus”). Throughout 2020 and 2021, I was intrigued to witness and observe the many flaws, faults, and fortitudes of leaders on never-ending display. Leadership is always under scrutiny, and the microscope became even more unflinching while leaders dealt with an ever-evolving understanding of the situation, rapidly shifting developments, and staunchly opposing viewpoints about potential strategies and solutions.

While national, state, and local leaders all had their various roles to play in far-reaching decisions related to the pandemic, college campuses had their own interesting microcosms to manage. The campus involved in my study was no exception, where leaders ultimately decided to alter most modalities, shifting away from n-person courses, and suspending many traditional services and activities. Residence Life was dramatically

impacted, as most students were required to move off-campus somewhat abruptly in the middle of the spring 2020 semester. Additionally, in the fall 2020 semester, campus administrators decided to significantly reduce the number of students living on campus, only allowing about 50 percent of the normal capacity. Luckily, my study was set to include cohorts of students who had started prior to the fall of 2017, so my sample was not affected by these changes. But it would be impossible and imprudent not to think about the impact of these transformative circumstances, particularly in relation to a residential college campus and leadership in general.

Eventually, as folks became more worn down from having their personal and professional lives continually upended and rearranged, campus morale began to suffer. Prior to this dissertation process, I never really considered how much responsibility a leader had when managing the morale of their organization. I was keenly aware that leaders help set organizational culture. Before the pandemic I saw that from much more of "structural" perspective—you help set the mission and help others enact the vision, but I believed it was more about connecting people to the work and finding purpose and meaning in their work. Now, I realize the leader is responsible for much of the emotional security and well-being of the organization as well.

When organizational morale is discussed, it is often in relation to trying to figure out how to boost *low* morale. Solutions to improve it are frequently rooted in extrinsic motivators- raises, extra time off, or small perks, like gift cards for coffee, or employee of the month parking spots, etc. Fostering relationships and learning to work with others takes time and purposeful effort. Since the pandemic began, I have seen countless articles on how morale in higher education (and education in general) is dwindling and burnout is

becoming more severe each day. Leaders need to take time to consider how to address these concerns from a place of understanding and empathy, with a focus on how to recapture some of the hope and optimism that is essential for folks working as educators. Becoming a source of inspiration and restoration is another way for leaders to show commitment to their organizations and, hopefully, a way to enact positive change.

Leadership, Change Agents, and Social Justice

While my dissertation topic may not immediately make one think of social justice, my primary interest areas in higher education are situated under the umbrella of social change. As a higher education practitioner, I think a core leadership responsibility is recognizing, challenging, and disrupting systems which are caused by or further perpetuate systems of inequity. When researching retention and graduation rates, it is impossible not to see the disparities that exist between various underserved populations. Knowledge of those differences framed how I synthesized materials and how I considered the language that we commonly use to describe student populations. When I started writing my dissertation (almost 6 years ago), it was fairly common to use "deficit-based" language to describe student characteristics. I think I even said that I wanted to investigate if the success outcomes for students who live on campus were different among "at-risk" groups. Now, just a few years later, I would grimace imaging myself saying that phrase. The dissertation-writing process offers many opportunities to consider the language we use and how to describe more precisely what we want to communicate and share. For example, I have learned how important it is to use phrases like, "historically underserved", which more accurately depicts the experience from a student perspective. Past higher education research has demonstrated that students from

underserved populations tend to be less likely to retain, have lower grade point averages, are more likely to transfer, and are less likely to graduate within four years. Therefore, it is important to consider these student success outcomes from the lens of restorative justice and equity.

Throughout the past several decades, "the increased global competition for educated workers, the rising cost of attending private and public colleges, and the emphasis on public accountability have converged to create a focus on improving degree attainment" (St. John, Daun-Barnett, & Moronski-Chapman, 2013 p. 106). In an effort to better track progression towards degree attainment, higher education officials are particularly concerned with retention and graduation rates. Early in my professional career, I was part of a campus-wide retention committee and, like most retention-related committees, teams, and workgroups, we were tasked with examining factors contributing to declining retention rates. My sub-group gathered most of the supporting evidence and data for the overall group and presented it during a large meeting. At that time, several campus administrators became frustrated because we talked about things like lower retention rates among minority students, although, historically, that has been an issue for most campuses (St. John et al., 2013). One individual seemed very offended and even asked why we were talking about race and ethnicity information, because it was not as if we could or would just 'stop recruiting minority students'. Our work group was trying to highlight the different experiences of minority students and, most certainly never suggested we should stop admitting minority students because of lower retention rates.

This event became a pivotal and *transformational learning experience*, which was a catalyst for me applying to the doctoral program (Merriam & Bierema, 2013). I

realized that many leaders are reticent to talk about race as an element of education and policy analysis even though it is essential. During a policy discussion in summer two, our cohort talked about the Michigan State legal case, *Schuette, Attorney General Of Michigan V. Coalition To Defend Affirmative Action, Integration And Immigration Rights And Fight For Equality By Any Means Necessary (Bamn,* 2014). The previous court cases were upheld and Justice Sotomayor wrote a scathing dissenting opinion:

> In my colleagues' view, examining the racial impact of legislation only perpetuates racial discrimination. This refusal to accept the stark reality that race matters is regrettable. As members of the judiciary tasked with intervening to carry out the guarantee of equal protection, we ought not sit back and wish away, rather than confront, the racial inequality that exists in our society. (Schuette V. BAMN, 2014)

Part of my responsibility as a campus leader is to talk about uncomfortable topics and address issues that are difficult to discuss. Becoming a change agent is undoubtedly the most difficult part of my path as an educational professional. During our first summer in the doctoral program, we had to write down a goal to inspire and motivate ourselves for the next two years and beyond. I cannot remember the exact words I wrote, but the heart of the sentiment was for me to figure out how to be a more effective, ardent, and active agent for change. My main problem is it feels like there is no feasible way to be a change agent without being confrontational. I know realistically this is untrue, but my fear of confrontation and challenging others publicly, make it hard for me to find concrete ways to live as a true change agent.

The reason it seems like confrontation is because an element of change is the very nature of the word change. It inherently implies that something should be different from what it is, and many people hesitate to embrace change, even if they know it is necessary. Gill begins his book with a quote from an unknown author, "If you continue to do things the way you've been doing them, you'll continue to get the results you've been getting" (2010, p. 1). While I think educators know changes must be made to the education landscape, we struggle to find ways to make changes that actually improve outcomes for students. The changes we do make often stem from the best intentions, but the leaders and administrators behind the changes frequently fail to consider all the elements and nuances of the problems at hand.

Nonprofits face a unique set of challenges with regards to change because "unlike for-profit businesses, non-profits are driven by a social and educational mission" (Gill, 2010, p.4). The United States has always been a country that values education for all, but how do we make that happen? How do we ensure equity?

> It is crucial to recognize that the social inequalities in higher education opportunity are serious. Social and academic support are needed to empower a new generation of students to learn how to navigate….Beyond uncovering challenges and raising questions, we also [must] encourage a new generation of education leaders to embrace the challenges in research and activism that promote equal opportunity in higher education. (St. John, Daun-Barnett, & Moronski-Chapman, 2013, p. 279)

I think becoming a more informed and skilled researcher, finding ways to advocate for those who cannot advocate for themselves, making ethical decisions related to data

collection, ensuring and promoting ethical decision-making, and contributing my voice to causes I'm passionate about are just a few of the ways I can become an agent for change in the educational leadership arena.

Another aspect of my leadership working with adults relates to helping my peers and other educational administrators make decisions about data. Rogers and Blenko (2006) describe the importance of decision-driven organizations, emphasizing that good decisions must be made quickly, ambiguity must be avoided, and some decisions must take precedence. In the future, I plan to be more strategic in my use of data and in determining how to best use data as a leader. In addition, I plan to study more techniques for communicating and sharing data with other leaders so we can all make the types of changes and improvements we want to see on campus. Improving my personal leadership skills is an important goal, but I also need to improve my relationships and collaborations with other leaders to truly effect change.

Conclusion

Understanding oneself may be one of the most important and challenging aspects of becoming an effective and successful leader. The educational leadership doctoral program coursework and dissertation-writing process have provided many opportunities to learn about myself, as well as my contributions and potential as a leader. Individuals are constantly learning and adapting to changes in their environments (Merriam & Bierema, 2014). According to Gill (2010), organizational learning "occurs when a person acquires new skills, attitudes, or beliefs that change the way that person perceives the world, understands information, and performs on the job, and this learning contributes to organizational performance" (p.53). Self-reflection is insufficient unless coupled with

action. It is imperative to take what I have learned and use that information to become a more skilled and well-versed leader.

Continuous improvement is a natural extension of learning new things and is necessary to transforming practices as a leader (Mezirow, 2009). As a research analyst, my job revolves around assessment and evaluation, and every assessment or evaluation model that exists incorporates an element of continuous improvement. At the very core, it is one of the most central and integral facets of assessment. I think this is the reason I have gravitated to working in research and assessment in higher education. I love the idea of constantly learning new things so we can improve the way we do what we love to do. As the doctoral journey and dissertation writing process have come to a close, my thoughts are to the future; I hope my self-reflection, introspection, and desire to learn will continue to help me evolve and improve my practices as a leader.

Appendix A

Institutional Review Board (IRB) Approval/Non-Human Subjects Distinction- MU

IRB Determination Notice Project #2055842 Review #312930

MU eCompliance <ecompliance@missouri.edu>

Fri 9/10/2021 3:25 PM

To: Hutchinson, Sandy L. <hutchinsonsa@missouri.edu>; Guyer, Ashley N. (MU-Student) <angq48@mail.missouri.edu>

MU eCompliance

IRB Determination Notice Project #2055842 Review #312930

Project #2055842
Project Title: Slowing the Sophomore Slide: Do Second-Year Residency Requirements Predict Student Success Factors?
Principal Investigator: Ashley N. Guyer (MU-Student)
Primary Contact: Ashley N. Guyer (MU-Student)

Dear Investigator,

The MU Institutional Review Board reviewed your application and supportive documents. It has been determined that this project does not constitute human subjects research according to the Department of Health and Human Services regulatory definitions. As such, there are no further IRB requirements.

If you have questions, please feel free to contact the MU IRB office at 573-882-3181 or email at muresearchirb@missouri.edu.

Sincerely,

MU Institutional Review Board

Appendix B

IRB Approval/Non-Human Subjects Distinction- UCM

UNIVERSITY OF CENTRAL MISSOURI
LEARNING TO A GREATER DEGREE

UCM Research Compliance Committees
Administration 102
Warrensburg, MO 64093
Office: 660-543-8562
researchreview@ucmo.edu

External Protocol Review
9/14/2021
Protocol Number: 1958

Dear Ashley Guyer:

Your research project, 'Slowing the Sophomore Slide: Do Second-Year Residency Requirements Predict Student Success Factors?', was approved by the University of Central Missouri Human Subjects Review Committee (IRB) on 9/13/2021. You may collect data for this project until **9/13/2022**.

If an adverse event (such as harm to a research participant) occurs during your project, you must IMMEDIATELY stop the research unless stopping the research would cause more harm to the participant. If an adverse event occurs during your project, notify the committee IMMEDIATELY at researchreview@ucmo.edu.

The following will help to guide you. Please refer to this letter often during your project.

- If you wish to make changes to your study, submit an "Amendment" to the IRB Committee. You may not implement changes to your study without prior approval of the IRB Committee.
- If the nature or status of the risks of participating in this research project change, submit an "Amendment" to the IRB Committee. You may not implement changes to your study without prior approval of the IRB Committee.
- Near your expiration date (9/13/2022) for collecting data, if you have not finished collecting data:
  - submit your project application to the IRB Committee (include any revisions and/or amendments approved since you submitted your application initially)
  - AND submit a "Renewal Report" to the IRB Committee.
- When you have completed your collection of data, please submit the "Final Report" to the IRB Committee.

If your protocol contained a consent form and the consent form was approved, you will receive an additional email. The email will contain a copy of your consent form with an approval stamp in the top right corner. Do not begin data collection until you receive a copy of your consent form with an approval stamp. Note: One year after your protocol's approval date, a request for renewal OR a final project report is required.

Resources: https://www.ucmo.edu/offices/sponsored-programs-and-research-integrity/forms-and-resources/index.php.

If you have any questions, please feel free to contact the IRB committee at researchreview@ucmo.edu.

Sincerely,

Institutional Review Board
University of Central Missouri

cc: hutchinson@ucmo.edu

Equal Education and Employment Opportunity

Appendix C

Descriptive Statistics for Cohorts before Residential Life Policy: 2008 to 2012 (Pre)

	n	**Percent**
Total Students in Sub-group	8023	
Gender		
Female	4415	55.1
Male	3598	44.9
Missing (*not valid percent*)	(10)	
Race/Ethnicity		
American Indian or Alaskan Native	29	.4
Asian	54	.7
Black or African American	910	11.3
Hispanic	213	2.7
International	197	2.5
Native Hawaiian or Other Pacific Islander	5	.1
Two or more races	260	3.2
Unknown	125	1.6
White or Caucasian	6280	77.7
Pell Eligibility	7205	
Pell Eligible	3046	42.3
Not Pell Eligible	4159	57.7
Missing (*not valid percent*)	(818)	
First Generation Status	7968	
First Generation Student	3677	46.1
Not a First-Generation Student	4291	53.9
Missing (*not valid percent*)	(55)	
Mean High School GPA	3.23	
Mean ACT	21.86	

Appendix D

Descriptive Statistics for Cohorts after Residential Life Policy: 2013 to 2017 (Post)

	n	**Percent**
Total Students in Sub-group	8317	
Gender		
Female	4600	55.4
Male	3707	44.6
Missing (*not valid percent*)	(10)	
Race/Ethnicity		
American Indian or Alaskan Native	22	.3
Asian	62	.7
Black or African American	1051	12.6
Hispanic	363	4.4
International	113	1.4
Native Hawaiian or Other Pacific Islander	11	.1
Two or more races	428	5.1
Unknown	97	1.2
White or Caucasian	6170	74.2
Pell Eligibility	7622	
Pell Eligible	3459	45.4
Not Pell Eligible	4163	54.6
Missing (*not valid percent*)	(695)	
First Generation Status	8309	
First Generation Student	4196	50.5
Not a First-Generation Student	4113	49.5
Missing (*not valid percent*)	(8)	
Mean High School GPA	3.32	
Mean ACT	21.95	

References

Alexander, F. K., & Robertson, D. E. (Eds). (1998). *Residential colleges: Reforming American higher education*. Louisville: Oxford International.

Alves, A. (2017). Higher education hit with biggest cuts under Greitens proposed budget. *The Columbia Missourian*. Retrieved from: http://www.nytimes.com/2015/02/19/opinion/how-to-hold-colleges-accountable.html?_r=3

Ambrose, C. (2013). Learning to a greater degree contract. *The Muleskinner*. Retrieved from: https://www.digitalburg.com/muleskinner/learning-to-a-greater-degree-contract/

American College Testing Program (2012). *National collegiate retention and graduation rates*. Iowa City, IA, Retrieved from: http://www.act.org/research /policymakers/pdf/retain_2012.pdf

American Council on Education (ACE). (1937). *American Council on Education Studies*, Series 1, Vol. 1, No. 3. The student personnel point of view. Washington, DC: Author

Astin, A. W. (1977). *Four critical years: Effects of college on beliefs, attitudes, and knowledge.* San Francisco: Jossey-Bass.

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

Astin, A. W. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey-Bass.

Astin, A., & Osegura, L. (2012). Pre-college and institutional influences on degree attainment. In A. Seidman (Ed.), *College student retention: Formula for student success* pp. 119-145. Plymouth, United Kingdom: Rowman and Littlefield.

Bardach, E. (2012). *A practical guide for policy analysis: The eightfold path to more effective problem solving* (4th ed.). Los Angeles, CA: Sage

Berger, J. B., Blanco Ramírez, G., & Lyons, S. (2012). Past to present: A historical look at retention. In A. Seidman (Ed.), *College student retention: Formula for student success* pp. 7-34. Plymouth, United Kingdom: Rowman and Littlefield.

Blimling, G. S. (1989). A meta-analysis of the influence of college residence halls on academic performance. *Journal of College Student Development, 30,* 298-308.

Blimling, G. S. (1993). The influence of college residence halls on students. In J. Smart (Ed.), *Higher education: Handbook of theory and research*. (Vol. IX) (pp. 248-307). New York: Agathon Press.

Blimling, G. S. (2015). *Student learning in residence halls*. San Francisco: Jossey-Bass.

Bolman, L. G., & Deal, T. E. (2008). *Reframing organizations: Artistry, choice, and leadership*. San Francisco: Jossey-Bass.

Braxton, J. M., Doyle, W. R., Hartly III, H. V., Hirschy, A. S., Jones, W. A., & McLendon, M. K. (2014). *Rethinking college student retention*. San Francisco: Jossey-Bass.

Brooks, S. (2010). The connection between residence life and first-year student retention at the University of Pittsburgh. *Journal of College & University Student Housing*, *37* (1), 12-23.

Brubacher, J. S. (1977). *On the philosophy of higher education*. San Francisco: Jossey-Bass.

Camera, L. (2016). Number of people with degrees in the U.S. lags. *U.S. News & World Report.* Retrieved from: https://www.usnews.com/news/articles/2016-04-11/us-slow-to-increase-number-of-people-with-degrees

Chickering, A. (1974). *Commuters vs. residents*. San Francisco: Jossey-Bass.

Clifton, D. O., & Anderson, E. (2001). *StrengthsQuest: Discover and develop your strengths in academics, career, and beyond*. (1st ed. 2002.). Washington, D.C.: Gallup Organization.

Cowan, J., & Kessler, J. (2014). How to hold colleges accountable. *The New York Times*. Retrieved from: http://www.nytimes.com/2015/02/19/opinion/how-to-hold-colleges-accountable.html?_r=3

Creswell, J. W. (2014). *Research design: Quantitative, qualitative, and mixed methods approaches.* (4th ed.). Thousand Oaks, CA: Sage.

Davenport, T. H. (2009). Make better decisions. In *HBR's 10 must reads: On making smart decisions* (pp. 135-143). Boston, MA: Harvard Business Review Press.

Delaney, J. A., & Doyle, W. R. (2011). State spending on higher education: Testing the balance wheel over time. *Journal of Education Finance*, *36*(4), 343-368

Derosier, A. (2017). *Missouri lawmaker wants to prevent public universities from requiring students to live in campus housing past freshman year.* Retrieved from: https://www.missourinet.com/2017/02/24/missouri-lawmaker-wants-to-prevent-

public-universities-from-requiring-students-to-live-in-campus-housing-past-freshman-year/

Education System of the States (2019). *High-level analysis of state postsecondary governance structures*. Retrieved from: https://www.ecs.org/wp-content/uploads/PS-Gov-Structures-50_State-Analysis_Compacts_Other-States_May2019.pdf

Elliott, K.C., & Jones, T. (2019). Creating accountability for college access and success: Recommendations for the higher education act and beyond. *The Education Trust*. Retrieved from: https://files.eric.ed.gov/fulltext/ED603194.pdf

Field, A. (2013). *Discovering Statistics Using IBM SPSS.* (4th ed.). London: Sage.

French Jr., J.R.P., & Raven, B. (1959). The basis of social power. In J. M. Shafritz, J. S. Ott, & Y. S. Jan (Eds.), *Classics of organization theory* (6th ed., pp. 311-320). Boston, MA: Wadsworth. (Reprinted from *Studies in Social Power* (1959): 150-167.

Gahagan, J. (2018). Institutional policies that impact sophomore success. *New Directions for Higher Education,* 183, 85-95. doi: 10.1002/he.20295

Gahagan, J., & Hunter, M. S. (2006). The second-year experience: Turning attention to the academy's middle children. About Campus, 11(3), 17-22. Retrieved from https://doi.org/10.1002/abc.168

George, B., Sims, P., McLean, A.N., & Mayer, D. (2007). Discovering your authentic leadership. In *HBR's 10 must reads: Leadership* (pp. 163-177). Boston, MA: Harvard Business Review Press.

Gill, S. J. (2010). *Developing a learning culture in nonprofit organizations*. Thousand Oaks, CA: Sage.

Hagedorn, L. S. (2012). How to define retention: A new look at an old problem. In A. Seidman (Ed.), *College student retention: Formula for student success* pp. 81-99. Plymouth, United Kingdom: Rowman and Littlefield.

Hoyt, W. T., Imel, Z. E., & Chan, F. (2008). Multiple regression and correlation techniques: Recent controversies and best practices. Rehabilitation Psychology, 53, 321–339. http:// dx.doi.org/10.1037/a0013021

Hunter, M. S., Tobolowsky, B. F., Gardner, J. N., Evenbeck, S. E., Pattengale, J. A., Schaller, M. A., Schreiner, L. A., & Associates. (2010) *Helping Sophomores Succeed: Understanding and Improving the Second-Year Experience*. San Francisco: Jossey-Bass.

Kerr, E. (2020). How to navigate the college scorecard. *U.S. News & World Report*. Retrieved from: https://www.usnews.com/education/best-colleges/paying-for-college/articles/how-students-should-use-new-college-scorecard-data

Koc, E.W. (2013). Understanding the college scorecard. *National Association of Colleges and Employers*. Retrieved from: https://www.naceweb.org/public-policy-and-legal/legislation-and-regulations/understanding-the-college-scorecard/

Komives, S., & Woodard, D. B., Jr., & Associates. (2003) *Student services: A handbook for the profession.* (4th ed.). San Francisco: Jossey-Bass.

Kotter, J. R. (1990). What leaders really do. In *HBR's 10 must reads: Leadership* (pp. 37-55). Boston, MA: Harvard Business Review Press.

Kotter, J. P. (1996). Leading change. Boston, Mass: Harvard Business School Press.

Leveille, D. E. (2006). *Accountability in higher education: A public agenda for trust and cultural change*. Berkeley: Center for Studies in Higher Education, UC-Berkeley.

Levi, D. (2014). *Group dynamics for teams*. Washington, DC: Sage.

Lewis, M. (2007). Stepwise versus Hierarchical Regression: Pros and Cons. Retrieved from: https://files.eric.ed.gov/fulltext/ED534385.pdf

Lloyd-Jones, E. (1952). Personnel work and general education. In N. B. Henry (Ed.), *General Education (fifty-first yearbook, part 1*) (pp. 214-229). Chicago, IL: National Society for the Study of Education and the University of Chicago Press.

Lumina Foundation. (2013). A stronger nation through higher education: Visualizing data to help us achieve a big goal for college attainment. Retrieved from http://www.luminafoundation.org/publications/A_stronger_nation_through_higher_education-2013.pdf

Mezirow, J. & Taylor, E. (2009). *Transformative learning in practice: Insights from community, workplace, and higher education*. San Francisco, CA: Jossey-Bass

McMillan, J. H. (2012). *Education research: Fundamentals for the consumer.* (6th ed.). Boston: Pearson.

Merriam, S. B. & L. L. Bierema (2014). *Adult learning: Linking theory and practice*. San Francisco, CA: Jossey-Bass.

Mitchell, M., Leachman, M., & Masterson, K. (2016). Funding down, tuition up: State Cuts to higher education threaten quality and affordability at public colleges. *Center on Budget and Policy Priorities*. Retrieved from: http://www.cbpp.org/research/state-budget-and-tax/funding-down-tuition-up

Missouri Department of Higher Education and Workforce Development (2019a). *Coordinating Board of Higher Education: Members*. Retrieved from: https://dhewd.mo.gov/cbhe/members.php

Missouri Department of Higher Education and Workforce Development (2019b). *Department restructuring transforms higher education, workforce development and research*. Retrieved from: https://dhewd.mo.gov/newsapp/newsitem/uuid/bb8cd236-bc54-4da2-83fc-c8d000ac7c40

Missouri Department of Higher Education and Workforce Development (2019c). *Guide to Missouri's government: Department of Higher Education and Workforce Development*. Retrieved from: https://www.mo.gov/government/guide-to-missouris-government/department-of-higher-education/

Moon, K. (2019). The college scorecard just got a revamp, here's how college applicants can benefit from it. *Forbes*. Retrieved from: https://www.forbes.com/sites/kristenmoon/2019/12/19/the-college-scorecard-just-got-a-revamp-heres-how-college-applicants-can-benefit-from-it/?sh=6f24d1b34b87

Morrison, L., & Silverman, L. (2012). Retention theories, models, and concepts. In A. Seidman (Ed.), *College student retention: Formula for student success.* pp. 7-34. Plymouth, United Kingdom: Rowman and Littlefield.

Mortenson, T. G. (2012). State Funding: A race to the bottom. *American Council on Education*. Retrieved from: http://www.acenet.edu/the-presidency/columns-and-features/Pages/state-funding-a-race-to-the-bottom.aspx

Murphy, J. (2019). MDHE data shows UCM a state leader for degree completion. Retrieved from: https://www.ucmo.edu/news/university-news/posts/2019-02-04-mdhe-data-shows-ucm-a-state-leader-for-degree-completion.php

Nadworny, E. (2019). Fewer students are going to college. Here's why that matters. *National Public Radio*. Retrieved from: https://www.npr.org/2019/12/16/787909495/fewer-students-are-going-to-college-heres-why-that-matters

National Conference on State Legislatures. (2014). *Performance-based funding for higher education*. Retrieved from: http://www.ncsl.org/research/education/performance-funding.aspx

National Student Clearinghouse Research Center. (2019). *Overall persistence and retention rates.* Retrieved from: https://nscresearchcenter.org/snapshotreport35-first-year-persistence-and-retention/#Figure4

Nora, A., & Crisp, G. (2012). Student persistence and degree attainment beyond the first year of college: Existing knowledge and directions for future research. In A. Seidman (Ed.), *College student retention: Formula for student success* pp. 229-250. Plymouth, United Kingdom: Rowman and Littlefield.

Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students: Findings and insights from 20 years of research.* San Francisco: Jossey-Bass.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students.* San Francisco: Jossey-Bass.

Pallant, J. 2007. *SPSS survival manual: A step by step guide to data analysis using SPSS for windows*. (3rd ed.). New York City: Open University Press

Pritchard, I. (2002). Travelors and trolls: Practitioner research and institutional review boards. *Educational Researcher, 31* (3), 3-13. doi: 128.206.9.138

Riker, H. C., & Decoster, D. A. (2008). The educational role in college student housing. *Journal of College & University Student Housing, 35* (2), 80-85.

Reynolds, G. L. (2007). The impact of facilities on recruitment and retention of students. *New Directions for Institutional Research*, 135, 63-80. doi: 10.1002/ir.223

Rogers, P. & Blenko, M. (2006). Who has the D?: How clear decision roles enhance organizational performance. In *HBR's 10 must reads: On making smart decisions* (pp. 95-113). Boston, MA: Harvard Business Review Press.

Rooke, D. & Torbert, W. R. (2005). Seven transformations of leadership. In *HBR's 10 must reads: Leadership* (pp. 66-76). Boston, MA: Harvard Business Review Press.

Rudolph, F. (1990). *The American college and university: A history.* Athens: University of Georgia Press.

Russell, A. (2011). *A guide to major U.S. college completion initiatives.* Retrieved from American Association of State Colleges and Universities website: https://www.aascu.org/policy/publications/policymatters/2011/collegecompletion.pdf

Schreiner, L. A., Schaller, M. A., & Young, D. G. (2018). Future directions for enhancing sophomore success. *New Directions for Higher Education,* 183, 109-113. doi: 10.1002/he.20295

Schroeder, C., & Mable, P. (Eds). (1994). *Realizing the educational potential of residence halls*. San Francisco: Jossey: Bass.

Schudde, L. (2011). The causal effect of campus residency on college student retention. *Review of Higher Education, 34* (4), 581-610.

Schuette, Attorney General of Michigan v. Coal. to Defend Affirmative Action, Integration & Immigration Rights & Fight for Equal. By Any Means Necessary (BAMN) et al. U.S. Supreme Court opinion issued in 2014, published in volume 134 of the *Supreme Court Reporter*, n page 1623

Schuette v. BAMN, 134 S.Ct. 1623, 1651 (2014) (Sotomayor, J., dissenting).

Schuh, J. H., & Tobin, M. (1994). *The role of student housing in promoting the retention of college students*. San Francisco: Jossey-Bass.

Schuh, J. H., & Gansemer-Topf, A. (2012). Finances and retention: Trends and potential implications. In A. Seidman (Ed.), *College student retention: Formula for student success* pp. 101-117. Plymouth, United Kingdom: Rowman and Littlefield.

Seidman, A. (2012). Taking action: A retention formula and model for success. In A. Seidman (Ed.), *College student retention: Formula for student success* pp. 267-28 Schroeder, C., & Mable, P. (Eds). (1994). *Realizing the educational potential of residence halls*. San Francisco: Jossey: Bass.

St. John, E.P., Daun-Barnett, N., & Moronski-Chapman, K.M. (2013). *Public policy and higher education: Reframing strategies for preparation, access and college success*. New York, New York: Routledge

State Higher Education Executive Officers Association. (2012). *State higher education finance FY 2011*. Retrieved from: http://www.sheeo.org/sites/default/files/publications/SHEF_FY11.pdf 4. Plymouth, United Kingdom: Rowman and Littlefield.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89-125.

Tinto, V. (1988). Stages of student departure: Reflections on the longitudinal character of student leaving. *The Journal of Higher Education*, *59*(4), 438-455.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.

Tinto, V. (2006). Research and practice of student retention: What next? *Journal of College Student Retention, 8*(1), 1-19.

Turley, R., & Wordtke, G. (2010). College residence and academic performance: Who benefits from living on campus? *Urban Education, 45*(4), 506-532.

Upcraft, M. L., Gardner, J. N., & Associates. (1989). *The freshman year experience.* San Francisco: Jossey-Bass.

University of Central Missouri (n.d.a) *UCM's history.* Retrieved from: https://www.ucmo.edu/about/fast-facts/ucm-history/

University of Central Missouri (n.d.b) *University mission and vision.* Retrieved from: https://www.ucmo.edu/about/university-mission-and-vision/

University of Central Missouri (2013) *Residential requirement policy*. Retrieved from: https://www.ucmo.edu/offices/general-counsel/university-policy-library/policies/residential-requirement-policy/

University of Central Missouri (2017) *1.1.010 Board of governors' by-laws.* Retrieved from: https://www.ucmo.edu/offices/general-counsel/university-policy-library/policies/board-of-governors-by-laws/

University of Central Missouri (2019) *1.2.020 University mission statement.* Retrieved from: https://www.ucmo.edu/offices/general-counsel/university-policy-library/policies/university-mission-statement/

University of Central Missouri (2020) *Fact Book:2019*. Retrieved from: https://www.ucmo.edu/offices/university-analytics-and-institutional-research/factbook.pdf

U.S. Department of Education, National Center for Education Statistics. (2020). *Undergraduate retention and graduation rates*. Retrieved from: https://nces.ed.gov/programs/coe/indicator_ctr.asp

Yan. L., Sheely, M. C., & Whalen, D. F. (2005). Contributors to residence hall student retention: Why do students leave or stay? *Journal of College & University Student Housing.33* (2), 28-36.

VITA

Ashley Guyer Bernier was born and raised in a tiny town in Northern Missouri. Most people are surprised to find out she is a "farm kid" and grew up with lots of animals and had dreams of becoming a veterinarian—her first scientific inclinations were evidenced by roaming around the farm with a clipboard to write notes on the conditions of the cats, dogs, cows, and pigs. Her heart was too soft for the vet life (still cries when she sees the cover for Charlotte's Web) but that inquisitive nature and love for collecting data and artifacts persisted. She earns a paycheck by creating surveys, analyzing student behaviors, evaluating programs, and teaching graduate students. Since she is surrounded by numbers all day, most people think she "loves math" and "hates people" but that is far from true. Math does not come naturally for her and takes lots of patience and practice (okay- that is true of some people as well). However, people fascinate her and drive her investigative spirit. The irony is not lost that she studies "averages" yet is a big believer in individuals and loves to celebrate people's unique qualities.

Ashley enjoys visiting art and history museums, listening to podcasts about the Psychology of learning, binge watching TV, talking about "nerd stuff" with her Brothers, dissecting movies/music with her Spouse, and seeing her Children read and play make believe with one another. In another life, she would be writing children's books, running a bed & breakfast with her Mother, developing original content for a new Netflix dramady with her Nephew, or whatever else folks do when they are born independently wealthy. Ashley is a first-generation college student who earned a Bachelor of Arts in Spanish, a Master of Science in College Student Personnel Administration and is inching closer to earning an Educational Doctorate. {If you're reading this, she made it.}