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THE IMPACT OF ACADEMIC PROBATION POLICY ON INSTITUTIONAL
RETENTION AND GRADUATION RATES:
A CASE STUDY ANALYSIS

by

Corey E. Zink

A dissertation

submitted in partial fulfillment

of the requirements for the degree of

Doctor of Education in the Department of Educational Leadership

Idaho State University

Spring 2019

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Committee Approval

To the Graduate Faculty:

The members of the committee appointed to examine the dissertation of COREY ZINK find it satisfactory and recommend that it be accepted.

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Sincerely,

Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

Acknowledgements

I owe many thanks to all of those who were a part of this academic journey, both classmates and program faculty. This accomplishment is certainly shared, and I appreciate all who have offered support and encouragement along the way.

My sincere gratitude goes out to my program advisor and committee chair, Dr. Paul Watkins. Your guidance through the coursework and dissertation process have proven invaluable. I greatly appreciate the time you have invested into this project, and into me. I would also like to thank the members of my committee, Dr. Mark Neill, Dr. Rick Wagoner, Dr. Lyn Redington, and Dr. Joanne Tokle. I appreciate your perspective and deeply respect your opinions and honest feedback. I must also express my gratitude to the Office of Institutional Research as your assistance has made this research project possible. Thanks go out to Vince Miller and Doug Fleming. The time spent in collecting and organizing the archival data afforded me the opportunity to complete this case study.

To my parents, Chuck and Sally Zink: you are no longer with me in person, but I reflect on your lives each and every day. You often told me that I could accomplish anything I set my mind to, and I am grateful for your encouragement, and for your legacy of lives well lived.

I also want to thank my two wonderful kids, Carson and Madilyn Zink. From the very first moment I met you, you have inspired me to become a better person. So much of who I want to be has only come about because of you two amazing beings. I have tried to encourage you both to dream big and that great things can be accomplished in this life through strength and determination. I have received many wonderful blessings in my life, but none of them greater than the opportunity to be your dad. Carson and Madi, I love you both beyond words.

Finally, a special thank you goes out to my wife, Amanda Zink. I have observed the time and energy poured into your own research projects, and I knew that someday I wanted to take on my own. Your constant support has provided me the strength necessary to pursue this goal. I am grateful for so much you have offered me, but most grateful for your encouragement to stretch my boundaries and to thoughtfully engage new ideas. This invaluable lesson has helped me to realize that the more I learn, the less I know, and that this place is actually the best place. I love you Amanda, and I am incredibly fortunate to be your husband.

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Abstract

As accountability within higher education increases, institutions have responded by expanding efforts to track critical student data such as retention and graduation rates. Student success data has played a significant role in factors such as funding levels and determinations regarding institutional health and effectiveness. A notable portion of students that fail to persist and graduate are those who have experienced academic challenges, resulting in time spent on academic probation. Academic probation is a policy utilized by institutions to alert students who are failing to meet the required academic standards, and to encourage improvement in academic performance. The poor educational outcomes of the probationary population negatively impacts institutional student success rates; therefore, these students have typically been offered a variety of interventions. In spite of these efforts, a high percentage of probationary students eventually withdraw from the institution without a degree in hand.

This mixed methods, exploratory case study has taken a longitudinal view of probationary student outcomes at a public, four-year institution and has gathered data from two peer institutions. The findings of this study have identified specific student variables which indicate an increased likelihood of time spent on academic probation; determined the direct impact of the probationary population on institutional student success data; identified the significant variances in probationary success rates that occur between peer institutions; and offered best practices when intervening with this student population. The outcomes of the study indicate that the policy of academic probation, in and of itself, does not improve student academic performance. However, when the policy is paired with targeted and effective interventions, institutions achieved significantly higher institutional student success rates.

Chapter 1: Introduction

Background

For decades, research has shown that one half of those who start college leave the institution without a degree in hand (Renzulli, 2015). In response, leaders within higher education have worked tirelessly to improve levels of student success on campuses across the country. Although significant budgetary resources have been allocated, and countless student intervention programs have been designed, improvements to student retention and graduation data continue to elude many institutions. In his book, *College Student Retention: Formula for Student Success*, Alan Seidman (2012) stated, "in spite of the implementation of these programs and services, the retention data reveal that students are not retained at a higher rate than they were twenty or more years ago" (p. 267). This reality has created a real need for post-secondary institutions to develop and implement strategies that more effectively encourage higher levels of student success.

Extensive research has been completed addressing low post-secondary student persistence levels and these studies have revealed a variety of causes. Justification has included a lack of social integration (Tinto, 1975), low academic skills (Radunzel, 2016), poor first-year performance (Allen & Robbins, 2010), low levels of self-efficacy (Barouch-Gilbert, 2016), frustration with classroom instruction (Giaquinto, 2009), low levels of academic preparedness (Amhed, Chowdhury, Rahman & Talukder, 2014), impacts related to being a first-generation college student (Swecker, Fifolt & Searby, 2013), impacts related to being a student from low socio-economic status (Kena, et al., 2015), the failure to utilize institutional resources and advising (Demetriou, 2011), and other student issues which clearly impact student preparedness

and academic success. These factors are often exhibited by post-secondary students in unique

combinations, creating challenges for administrators to discover effective solutions.

Statement of the Problem

Higher education has encountered significant change. A few of these foundational shifts

include a curriculum that has steadily migrated towards an online format, students that have

become increasingly *non-traditional* in nature, and an influx of those who enroll in college part-

time (Tinto, 1993). Inevitably, these changes have drastically altered the higher education

landscape and created an environment where students feel less connected to the institution

(Arcand & LeBlanc, 2012). Concurrently, admissions policies at many institutions have become

significantly more inclusive in the attempt to maintain or grow enrollment levels. These

phenomena have coalesced to create an environment where greater percentages of students are

less connected to the institution and simultaneously less prepared for college-level coursework.

Students that experience academic difficulty and possess a low grade point average

(GPA) are typically identified through the institutional label of *academic probation*. Prior

research has consistently connected poor academic performance with a decrease in retention

(Allen & Robbins, 2010; Jia & Maloney, 2015; Radunzel, 2016). Although this connection is

widely understood, significant variances continue to exist in how institutions assist their

academic probation student population (Fletcher & Tokmouline, 2010). Some have explored

more proactive approaches concerning the retention of probationary students such as required

academic advising, full semester remedial courses, mid-semester workshops, early alert systems,

or other student assistance programs. Other institutions have persisted with a more passive

approach and have utilized the policy and title of academic probation as the primary means for

student intervention (Fletcher & Tokmouline, 2010). Regardless of approach, research has

clearly indicated (Westrick, Le, Robbins, Radunzel, & Schmidt, 2015) that the single most predictive factor for both retention and graduation rates is first-semester GPA.

Ultimately, higher education has often failed to adequately intervene with the probationary population. This case study has closely examined multiple institutions that take very different approaches with this population; the case study institution has chosen to take a passive approach to probationary student assistance, and this research has gathered insight concerning the impact of this practice on retention and graduation rates. Review of data for the case study institution has presented a dire problem as approximately one-third of the student population reaches academic probation status. Furthermore, landing on academic probation indicates a six-year graduation rate of approximately seven percent (ISU Institutional Research, 2018a).

The Policy of Academic Probation

Although institutions have spent a great deal of resources to identify and intervene with students who require academic assistance, many students still fail to maintain the GPA needed to persist. The policy of academic probation is prevalent across all types of post-secondary institutions, and traditionally "to avoid academic probation, a student must achieve a GPA of 2.0 (on a 4 point scale) or better" (Connolly, Flynn, Jemmott & Oestreicher, 2017). A high percentage of students who withdraw from their university have spent time on academic probation at least once while attending that school (Fletcher & Tokmouline, 2010). Institutions take various approaches at implementing the policy of academic probation and the specific details of the policy are typically outlined in the academic catalog.

Karl Kelley (1996) completed seminal research on the policy of academic probation in his article titled *Causes, Reactions, and Consequences of Academic Probation: A Theoretical*

Model. He contended there are three unique reasons that an institution would place a student on academic probation. The first would be as a "form of punishment to encourage satisfactory student performance" (Kelley, 1996, p. 28). A second possible justification is to more effectively communicate the gravity of substandard academic performance (1996). The third possible reason is to help identify the students most at-risk of leaving the institution for academic reasons (1996). Regardless of the basis for policy implementation, once a student has been placed on probation, the college often requires the student to participate in specific institutional programs to improve their academic standing. These programs typically include specific tasks such as regular visits with an advisor, required attendance at workshops or skills courses, scheduled visits with faculty or staff members, or even to complete a survey where information may be gained concerning the background of probationary students (1996).

It is essential, however, that institution administration understand the impact of the academic probation policy on the student population. Administrators in higher education must consider how the policy may be more or less effective when paired with specific interventions. Ultimately, institutions are best served when academic policies are purposefully focused towards increased levels of student effort and engagement (Laird, Chen, & Kuh, 2008). Very little is currently known about the direct impact of the academic probation designation; consequently, additional research is needed to determine the effectiveness of the policy (Fletcher & Tokmouline, 2010). Prior research has shown that the label of academic probation occasionally results in short-term increases in academic performance, but even when short-term improvements are achieved, they fail to offer an enduring or meaningful positive impact on student success (2010).

Purpose of the Study

This exploratory case study was designed to expand research regarding the effectiveness of the academic probation policy and to provide further data concerning the traits of academic probation students. Additionally, the data from the case study institution has been compared against other four-year, public, peer institutions to evaluate trends and distinguish important variances in the utilization of academic probation policy and the impact of these variances on student outcomes. Institutions often feel pressure to maintain and grow enrollments; nevertheless, this effort must be aligned with institutional strengths and available resources. This study allows college administrators to gather useful information as they make connections within their own institutions. By obtaining a more thorough understanding of the academic probation policy, institutions may then possess the ability to increase persistence and graduation rates. The primary intent of this study was to establish a connection between academic probation policy implementation and the resulting probationary student outcomes.

Research Questions

The research questions for this study were established following a thorough review of the literature on student retention theory, the policy of academic probation, and how institutions implement this policy in various post-secondary settings. The primary research question guiding this study was: *what is the purpose of the academic probation policy, and is this policy effective from an institutional perspective?* In addition to this primary question, the study has also addressed several secondary questions that must be considered when determining the most effective methods for improving probationary student success rates.

1. What are the student demographic variables that most likely predict that an incoming student will land on academic probation?

2.   What is the impact of the probationary student population on institutional retention and graduation data?

3.   Do significant variances exist in retention and graduation rates for the probationary population between the case study and the peer institution?

4.   If significant variances do exist in probationary student retention and graduation rates between the case study and the peer institution, what then are the differences in academic probation policy implementation and practices that would attribute to this outcome?

The issues addressed through these research questions are critical as the challenges associated with the policy of academic probation are one of the most significant concerns facing many institutions. For instance, at the case study institution, 32 percent of the student population has landed on academic probation since 2012 (ISU Institutional Research, 2018a). Furthermore, over the last three years the probationary population for the case study institution has grown to approximately 34 percent (ISU Institutional Research, 2018a).

Definition of Terms

For the purpose of this study, the following operational definitions were used to provide clarity and facilitate understanding:

Academic dismissal: A student who is not permitted by the institution to continue enrollment (Berger, Ramirez & Lyons, 2012, p. 12).

At-risk: A student who exhibit traits which would indicate a lower likelihood of academic success (Jia & Maloney, 2015).

Attrition: A student who fails to re-enroll at an institution in consecutive semesters (Berger et al., 2012, p. 12).

Dropout: A student whose initial educational goal was to complete a degree, but did not (Berger et al., 2012, p. 12).

High-performing institution: A post-secondary institution that outperforms peer institutions who hold similar admissions standards and academic policies in terms of student success outcomes (Laird et al., 2008).

Intervention: An institutionally directed student interaction aimed at improving a student's academic performance (Vander Schee, 2007).

Intrusive advising: An advising approach where advisors intentionally seek out students for advising contact and, in most cases, the advising contact is mandated (Schwebel, Walburn, Klyce, & Jerrolds, 2012, p. 36).

Non-traditional student: A post-secondary student that may be identified by a number of less typical attributes such over the age of 24, working while attending school, and not living on campus ("National Center for Education Statistics," n.d.).

Persistence: The desire and action of a student to stay within the system of higher education from beginning year through degree completion (Berger et al., 2012, p. 12).

Retention: The ability of an institution to retain a student from admission through graduation (2012, p. 12).

Stop-out: A student who temporarily withdraws from an institution or system (2012, p. 12).

Withdrawal: The departure of a student from a college or university campus (2012, p. 12).

Limitations and Delimitations

Limitations of the study include:

1. This study contains data from the case study institution, a four-year public research university in the Northwest United States. It also encompasses data from two peer

institutions; one being a four-year public research university also located in the
Northwest United States, and the other a four-year public research university located in
the Midwest United States. A limitation of this research can be found in applying these
findings to other types of institutions such as private, for-profit, community colleges, or
even other public, four-year institutions that utilize more selective admissions policies.

2. The depth of data provided by the peer institutions was not as vast as the data collected
   from the case study institution, and thus has limited the comparative statistical analyses
   provided by this study.

3. Limited diversity existed among the students attending all three institutions.

4. Variances in admissions policies as well as probationary policies may have created data
   variances in the research results. This must be considered when evaluating the results of
   the study.

Delimitations

Delimitations in this study include:

1. The researcher's decision not to approach this study from a purely qualitative approach.
   There is a great deal of data that could have been provided from extensive student
   interviews, as well as the study of external influences on a probation student's drive to
   succeed. These factors have a direct impact on a student's educational experience, and
   potentially, the likelihood of a student reaching probationary status. However, the
   researcher chose to complete this case study through a mixed-methods approach as a
   means of closely examining the policy of academic probation and resulting student
   outcomes. This allowed for a very large set of data which enhanced the generalization of
   the results. This approach was chosen as significantly fewer research projects on the topic

of academic probation have provided a longitudinal view of student success and holistic view on policy implementation, as most research has been restricted to a very specific student intervention or student population.

2. The researcher chose to utilize data from only four-year, public, research institutions. While multiple institutions were involved with this study, rather than a single institution approach, these institutions were limited to a single type of institution. This approach was chosen as it allows for a broader and more generalizable set of data; however, this does not limit the results to a single institution as the researcher felt this would not give the required depth of insight into this particular study.

Significance of the Study

Each year, America spends $400 billion on post-secondary education (Renzulli, 2015). This financial investment has created heightened interest in student success rates, and from this interest a great deal of literature has already been developed concerning post-secondary student persistence. In spite of an intense focus on institutional-level retention and graduation rates, significantly less research existed concerning the specific population of students who have fallen within the category of academic probation (Arcand & LeBlanc, 2012). Renzulli (2015) noted that academic difficulty was the primary reason for student departure, and students that failed to meet the minimum academic requirements of the institution were typically placed on academic probation.

Prior studies have indicated that at least 20 percent of all post-secondary students spend time on academic probation at some point in their academic career (Schudde & Scott-Clayton, 2014). The most recent data for the case study institution indicated that approximately 34 percent of their students landed on academic probation at some point in their academic career (ISU

Institutional Research, 2018a). Many institutions respond through data analysis as a way of predicting which students had the greatest chances of experiencing academic difficulty (Schock, 2018). This study identified specific student characteristics that were indicative of students who were more likely to land on academic probation. The collected data was also evaluated to determine the impact of the probationary population on overall institutional retention and graduation rates. Furthermore, the study has evaluated the specific institutional interventions that most significantly enhanced the chances of probationary students' retention and graduation. These findings may be beneficial in the establishment of best practices that support persistence and degree completion within this population of students.

Very little empirical evidence existed concerning the various interpretations of the academic probation policy or the impact of this policy on student success. Therefore, this research was completed to consider the specific probationary student interventions which offer the best chance of developing the skills required to help students achieve good academic standing. This study provided important data that will more fully inform higher education administrators regarding the impact of their academic probation policy on probationary student outcomes. These results will assist administrative teams in making decisions on many fronts including admissions policies, student interventions, as well as policy development and implementation.

Furthermore, this research is significant as it aims to foster essential dialogue that is too often missing in higher education circles; dialogue that centers on the decisions made every day surrounding student success, and specifically the success of this group of often overlooked students. Too often probationary students are viewed as unreachable, however, the data conveys a very different story. The data clearly communicated that those institutions who espouse the

mission of comprehensive education and experience the highest levels of student success, were the most effective at finding ways to engage underprepared students in new and creative ways.

Chapter Summary

Effective educational environments forge a critical relationship between the institution and the student, allowing each entity to positively affect the other. One of the key factors that encourages a successful experience includes the use of policies and practices which inform, encourage, and empower students to strive for success. There has been a philosophical shift occurring in higher education which ties together public funding and degree attainment. This movement is referred to as outcomes-based funding (OBF). While varying opinions exist concerning the philosophies behind OBF, higher education is already beginning to feel the realities of this policy. Consequentially, persistence levels and graduation rates are becoming increasingly significant. For many post-secondary institutions, the population of academic probation students have contributed a negative impact on academic persistence and graduation thereby making this research essential when crafting approaches to support student success. Higher education leadership must thoughtfully engage these perpetual concerns and join the march towards anticipating student needs by providing effective solutions in a timely manner.

Chapter 2: Review of the Literature

The Transformation of Higher Education

   Early American Years

   American higher education has experienced significant change across the centuries; likewise, the students attending college have also profoundly diversified. Early college students were exceedingly homologous, and consisted of modest numbers of white males attending small, religiously affiliated institutions (Berger et al., 2012). Berger et al. explained:

   In the early history of American higher education, student demand for higher education

   was low, as were aspirations for earning degrees. As a result of a lack of student interest in

   higher education and in earning a post-secondary degree, retention was unimportant until

   the last few decades of the twentieth century. (p. 8)

   Over the years, post-secondary education has changed drastically and many of these major shifts have emanated from legislation. A few of these pivotal moments include: The Morrill Act of 1862, The Servicemen's Readjustment Act of 1944 (GI Bill), and the 1954 Brown v. Board Supreme Court decision, 347 U.S. 483, 495 (2012). These three landmark events provided the necessary impetus to re-define the mission and the purpose of American higher education. Each of these events has led to increased levels of access and opportunity for persons seeking a post-secondary degree.

   Altbach, Berdahl and Gumport (2011) reported that "from 1940 to 1970, undergraduates grew almost five-fold, and graduate students almost nine-fold; and the 1960's alone registered the largest percentage growth of any decade" (p. 59). This thirty-year time period produced the fastest enrollment growth on record, and "colleges and universities were inundated with students" as the GI Bill released billions of dollars in an effort to educate millions of returning

war veterans. (Lucas, 2006, p. 252). This move towards higher education has continued as our nation has "come to realize that education is important to the vitality and success of our country, [and] the federal and state governments have virtually mandated the accessibility of higher education for all" (Seidman, 2012, p. 3).

Legislation and Access

More recently the push towards opportunity has only increased, and in 2009 President Obama and the United States Congress encouraged Americans to increase their investment in post-secondary education. It was reported that 42 percent of Americans aged 25-34 held a degree from a two- or four-year institution (Kanter, 2011). President Obama announced a goal of 60 percent degree holders within this age group by the year 2020 (2011). As stated by President Obama at a White House summit in 2010, "The nation that out-educates us today will out-compete us tomorrow" (2011, p. 9).

This mantle of increased access to higher education was carried by many important stakeholders including the Lumina Foundation and the Bill and Melinda Gates Foundation (Kanter, 2011). In their 2009 annual report, the Lumina Chairman stated that college students, "are this nation's future. And that future can only be bright if the benefits of post-secondary education are spread more widely, more equitably and more consistently among all Americans" (Brennan, Powell & Lumina Foundation, 2010, p. 8).

The Lumina Foundation set aside significant resources for grant-seeking students and supported all efforts to:

> [I]ncrease awareness of the benefits of higher education, improve student access to and preparedness for college, improve student success in college and increase productivity across the higher education system. (Brennan et al., 2010, p. 11)

The Obama administration's request for greater post-secondary access was answered by both governmental and private institutions. President Obama's vision of a world-class education system for all students is yet to be attained, as a significant gap persists between this vision and our higher education reality. Currently, 25 percent of American students drop out of high school between the ninth grade and high school graduation (NCES, 2017a). And, while post-secondary institutions have by and large experienced enrollment growth, retention and graduation numbers have continued to suffer as the nation struggles to put our lofty plans into successful action. The long-standing challenges associated with low levels of post-secondary student success are nothing new and have led to numerous decades of research on the topic of retention and graduation.

Response by Higher Education

In recent history, higher education has attempted to address concerns surrounding student success through various programs and initiatives. In 2005, the Association for American Colleges and Universities (AAC&U) introduced a new program called the Liberal Education and America's Promise (LEAP) initiative (Kuh, 2012). This initiative was designed to tackle the challenges in student engagement and persistence and aimed at outlining the ten practices that contribute to the highest levels of success for all students. Kuh (2012) asserted that specific "teaching and learning practices have been widely tested and have been shown to be beneficial for college students from many backgrounds" (p. 9). These practices are in use at many post-secondary institutions and include common practices such as first-year seminar courses, writing intensive courses, and learning communities (2012). Higher education at-large must consider those best practices which gives today's population of college student the best chance for success.

Retention

Theoretical Framework

The study of student departure has been an emphasis within higher education research for over seventy years (Braxton et al., 2014). For decades, researchers have attempted to describe the circumstances surrounding student failure. Before comprehending the current position of retention research within the modern landscape of higher education, this study has first considered the early roots of retention theory as a contextual backdrop. This reflection is critical for accurately positioning this research as well as for understanding both present and future challenges.

As previously referenced, the mid-twentieth century brought significant enrollment growth to American higher education as over a million war veterans took advantage of the opportunities afforded by the G.I. Bill (Berger et al., 2012). This rapid expansion was experienced in all higher education channels: public, private, and community colleges. As the number of college students increased, and as these students varied more significantly in academic preparedness, institutions were forced to think about retention issues more seriously (2012).

Sociological Perspective

"By 1970, retention had become an increasingly common topic within and among university campuses" (Berger et al., 2012, p. 22). Extensive retention theory began to develop during this time and a critical moment arrived with the publication of an article by William Spady (1970) titled, *Dropouts from Higher Education: An Interdisciplinary Review and Synthesis* (Berger et al., 2012). Spady (1970) developed a theoretical longitudinal model which reviewed 683 first-year students attending the University of Chicago in 1965 attempting to

provide a thorough understanding as to why college students dropped out. He asserted that the ability of a student to persist involved an interaction between multiple social processes. Spady (1970) also acknowledged that a student's academic performance was clearly the primary factor when evaluating attrition.

A few years later, Vincent Tinto (1975) published a highly formative retention article titled *Dropout from Higher Education: A Theoretical Synthesis of Recent Research.* This work built upon the work of Spady (1970) as Tinto (1975) "posited that the most important factor was the student's experiences within the college, which he referred to as integration" (as cited in Morrison & Silverman, 2012, p. 72). Within this article, Tinto (1975) concluded, "the lower the individual's commitment to the goal of college completion the more likely he is to dropout" (p. 44). Tinto's work has become a widely known and tested model regarding student departure. Simultaneous research by Alexander Astin (1975) at UCLA further supported the work of fellow researchers and provided a very similar hypotheses. Simply stated, "The more students were involved in their academic endeavors and college life, the more likely they were to be retained (Berger et al., 2012, p. 23).

Much of this early retention theory emanated from a distinctly sociological viewpoint (Woods, 2016). Early retention research is grounded in sociological theory as these studies directly linked the impact of the institutional environment, on the persistence levels of the college student. Researchers sought "behavior patterns that distinguish groups of students who stay in college, from groups who leave college" (2016, p. 40). Early researchers saw the connection between student and institution and peers as the paramount influential factor on levels of persistence.

Psychological Perspective

Research eventually began to consider retention issues from a more student-centric perspective, and this new research required the consideration of psychological theory. Bean and Metzner (1985) published an article titled *A Conceptual Model of Nontraditional Undergraduate Student Attrition* which focused heavily on academic variables and their impact on student success and retention (as cited in Morrison & Silverman, 2012). Academic variables included factors such as "study habits, academic advising, absenteeism, major uncertainty, and course availability" (Morrison & Silverman, p. 74, 2012). The hypotheses of Bean and Metzner (1985) concluded that students who were successful in high school were more likely to be successful in college, as well as those students with greater educational aspirations and career goals (Morrison & Silverman, 2012). This theory largely focused on student attributes and those unique characteristics, as opposed to prior theory which largely focused on the impact of the college environment on student outcomes.

In 1993, Vincent Tinto published his book, *Leaving College*: *Rethinking the Causes and Cures of Student Attrition*. Within this text, Tinto provided important research which included additional critical factors that play a significant role in the post-secondary retention puzzle. Tinto reviewed the growing realities of declining retention, persistence, and graduation data, and considered the multiple roots of this concern within the context of the evolution of American higher education. One of the primary factors Tinto brought to light was that higher education had experienced an upswing in part-time students, and part-time status was demonstrated to increase student attrition rates (Tinto, 1993). Simultaneously, and a closely related factor, was the growing proportion of students that held jobs while attending college. Tinto (1993) further noted the increasing average age of the college student and the shift away from the "traditional-aged"

college student. Finally, Tinto (1993) referred to decreases in standardized aptitude test scores and the simultaneous increase in the number "of college students requiring some form of mediation" (p. 21). Through these assertions, Tinto noted that each of these student-centered factors contributed towards reductions in student persistence.

Institutional Perspective

More recently there has been a movement in retention theory that recognizes the institutional responsibility in the equation of student persistence. Alan Seidman (2012), in his book *College Student Retention*, supported the notion that retention was largely affected by the levels of academic preparedness of each student. However, Seidman also expressed that the institution held a responsibility to ensure that underprepared students had access to the support necessary to be successful.

Due to the realities of decreasing levels of college readiness experienced by many institutions, Morrison and Silverman (2012) theorized that retention rates were impacted directly by the quality of interventions offered by institutions (as cited in Seidman, 2012). Seidman (2012) ultimately proposed a formula that asserted, "if a program follows his retention formula, where retention equals early identification combined with early, intensive, and continuous intervention, increased retention would follow" (p. 75). Seidman's (2012) work has been extremely influential to the field of retention research. Retention theory has moved from the sociological view of Spady (1970) and Tinto (1975), to the psychological view shared by Bean and Metzner (1985), to a more institutional perspective shared by Seidman (2012). As the landscape of higher education has shifted, so too has critical retention theory that continues to adapt in ways that accommodate the educational environment.

Aligning Admissions Policy

Post-secondary institutions across the country are "being pressured to become more accountable, more efficient, and more productive" in their efforts to increase levels of student success (Leonard & de Pillis, 2008, p. 129). However, an interesting paradox has emerged in higher education as there has been a push for greater access and opportunity for all high school graduates, while simultaneously calling for improvements with outcome-related goals such as graduation rates and numbers of conferred degrees. The compulsion for public institutions to meet these demands runs deep as they have not only been required to provide data concerning student success, but state government has also began linking levels of institutional funding back to these performance measures (Leonard & de Pillis, 2008).

In a paper titled, *A Different Viewpoint on Student Retention,* W.S. Swail (2014), President and CEO of the Educational Policy Institute stated:

> There is good and bad news regarding student success in US institutions of higher education. The good news is that student retention, persistence, and graduation is a high priority for institutions and policymakers. The level of dialogue about these issues is high and people are interested in finding better ways to help students succeed. The bad news is that we are not doing very well and graduation rates are not improving. (p. 18)

Swail (2014) continued, "The reality is that we are letting more students from first-generation and low-income backgrounds into traditional higher education than ever before" (p. 18). Decades of federal laws have ensured that students are not excluded from the opportunities associated with higher education (2014). The challenge then becomes finding a method for institutions to link admissions policies with retention goals (Leonard & de Pillis, 2008). When achieved, an institutional strategy may then embrace admissions policy as well as the desire to

improve completion rates (Swail, 2014). Cortes (2013) shared similar beliefs about the importance of aligning admissions policy and asserted, "The student body can be oriented toward success and defined by retention and graduation through approaches that do not trade access for selectivity" (p. 59).

Practices of High-Performing Institutions

There are noteworthy discrepancies between institutional retention and graduation rates that may be due to numerous variables. Research has shown that for highly selective institutions who admit less than 25 percent of applicants, well over four-fifths of students will earn a degree within four years (Laird et al., 2008). Meanwhile, at less competitive and open enrollment four-year institutions, there are many institutions that fail to graduate two-thirds of their students within six years (Laird et al., 2008). While some of these discrepancies are due to differences in admissions standards and varying levels of college readiness, there are examples of institutions with very similar admissions policies and student profiles that yield profound differences in retention and graduation statistics. Due to these inconsistencies, Laird et al. (2008) asked, "What can colleges and universities do after students arrive to increase the chances they will find their studies fulfilling, persist, and graduate?" (p. 86).

Laird et al. (2008) found that institutions that retain and graduate students on the highest end of the spectrum, assuming admissions selectivity is comparable, tend to have a handful of critical attributes in common. First and foremost, these institutions uphold the ideal that "effective educational practices such as active and collaborative learning and student-faculty interaction are associated with higher grades and greater student self-reported educational gains" (Laird et al., 2008, p. 86). The quality and engagement of faculty is also listed as a critical factor as stated by Braxton et al. (2014) in their book titled, *Rethinking College Student Retention.*

Braxton et al (2014) stated, "A large and growing body of evidence suggests that students who are engaged with full-time, tenure-track faculty are more likely to persist and succeed in higher education" (p. 22). While this data has been supported through research, state plans for improving student success rarely involves the hiring of more tenure-track faculty. This is likely because tenure-track faculty are more expensive than adjunct and other contingent faculty (Braxton et al., 2014).

Individual effort certainly plays a critical role in academic success; therefore, successful colleges strive to engage students in the learning process. These institutions understand that student involvement with the learning experience is a critical piece in student retention. While some college faculty teach by utilizing a variety of instructional methods, many faculty continue to instruct students strictly using a more traditional approach. Laird et al. (2008) strongly suggested that institutions consider using specific faculty to teach freshman-level introductory courses who willingly utilize a collaborative approach. They also recommended that curriculum is designed that engages students and integrates them into the learning environment.

Additionally, Laird et al. (2008) explained that institutions who held retention rates that were higher than expected also offered what students described as a "supportive campus environment" (p. 91). Students attending these institutions expressed that they received more support when compared to students at institutions with lower student success rates. This support referred not only to faculty, but the students shared that staff from all offices across campus, other students, and even upper level administration were invested enough to provide the assistance needed for success. In essence, the campuses with the highest levels of success rates concerning student persistence were those which exemplified a unified culture of support (Laird et al., 2008).

College Readiness

Post-secondary institutions have also become very interested in identifying students as early as possible that are not prepared for college-level coursework, at greatest risk of landing on academic probation, and leaving the institution (Radunzel, 2016). Several studies have been conducted that identify specific student attributes that most consistently lead to successful completion of the first year of college, versus student attributes that indicate a lack of college readiness (Stewart, Lim, & Kim, 2015). Radunzel (2016) evaluated 630,000 high school graduates from 2014 that proceeded to enroll in college in the fall of 2014 at over 1,100 four-year institutions. The results of this large-scale study suggested that academic factors such as high school GPA, ACT composite score, highest mathematics course taken, and level of parent's education were all factors directly related to a student being prepared and successful in college (Radunzel, 2016).

Westrick et al. (2015) found results which supported these findings as they evaluated very similar student characteristics and aligned them with a study that examined first-year academic performance. This study found strong correlations between high school GPA and ACT composite scores with post-secondary academic achievement (Westrick et al., 2015). One additional result from this study was that Westrick et al. (2015) concluded that the single most predictive factor when considering both retention and graduation rates was first-semester college GPA. There were populations of students who came to college with very average or even poor high school and standardized testing performance, yet academically excel in the college setting. "The ability to master the first year of college drives retention and ultimately degree attainment" (Westrick et al., 2015, p. 43).

Data from the case study institution supported these findings from Westrick et al. (2015) as between the years of 2011-2018, 70.8% of probationary students were classified as freshman (ISU Institutional Research, 2018a). And, of these freshman who immediately landed on academic probation between the years 2011-2013, only 7.08% graduated from the institution (ISU Institutional Research, 2018a). Additionally, the mean GPA for first-year freshman who landed on academic probation was 1.29, while the mean GPA for first-year freshman who did not land on academic probation was 3.06 (ISU Institutional Research, 2018a). Research continues to demonstrate that the first-year academic experience, and even the first semester, holds a critical connection that must be increasingly considered by higher education administration.

National Retention and Degree Completion Data

Understanding the most current national student success data was also critical as a means of providing the necessary context for this research. The National Center for Education Statistics (NCES) offers annual data concerning national first-time, full-time retention rates at four-year institutions. This case study will evaluate data from public four-year institutions and focus on establishing the most current retention and graduation data for these institutions. NCES (2017b) stated that four-year, public institutions have a total retention rate of 81 percent. Delineated further, public institutions that accept less than 25 percent of applicants retained 96 percent of those students, while public institutions with open admissions policies retain 62 percent of them (NCES, 2017b). Institutions, such as the case study institution, which accept between 90 and 100 percent of applicants retained an average of 72 percent of students from year one to year two (NCES, 2017b).

When considering graduation data, NCES (2017b) reported that 59 percent of first-time, full-time students attending public four-year institutions graduated within six years. For institutions that accepted less than 25 percent of applicants, the graduation rate was approximately 88 percent (NCES, 2017b). Public four-year institutions with open admissions policies graduate 32 percent of students, and those with 90 percent or more accepted, such as the case study institution, have a six-year graduation rate of approximately 48 percent (NCES, 2017b). This study has evaluated the year one to year two retention rates, as well as the 6-year graduation rates for the case study institution, and two peer institutions; therefore this recent national-level data was important to consider.

Academic Probation

The Policy

Nearly every post-secondary institution has developed an institutional policy which identifies those students who experience academic difficulties, and this policy is called academic probation. A student typically falls into this designation when their GPA falls below the benchmark of 2.0, and this designation serves as an indication of their poor academic performance (McGrath & Burd, 2012). This may happen at any time within the educational experience; however, many freshman experience immediate academic struggles and fall into the probationary system during their first semester of coursework (2012). A great deal of research has communicated how essential it is for students to find academic success early in their college experience (Westrick et al., 2015). Stewart et al. (2015) stated, "If students do not resolve transition issues in the first year, especially during the first semester, the likelihood of persisting at the same institution is diminished" (p. 12). Therefore, those institutions that struggle with retention issues often possess very large populations of first-year academic probation students.

The aim of the academic probation label is to "serve as a short term wake up call to some students, in that second semester performance is improved" (Fletcher & Tokmouline, 2012, p. 1). Once in the probationary system, many universities have various probationary levels that a student may reach prior to being academically dismissed from the institution. These levels often include a warning level such as "academic warning" or "academic alert." If the cumulative GPA remains under a 2.0 for an additional semester, the student is often moved to "academic probation." Ultimately, the probationary student is attempting to increase their cumulative GPA back over a 2.0, which typically returns them to good academic standing.

There are several factors that influence student success and the likelihood of a student finding his or her way onto academic probation. These factors are often numerous and nuanced, and therefore, very unique to each individual. As seen in Figure 2.1, one primary group of factors includes the entry characteristics brought with each student. These factors include the strength of a student's academic background, the development of study skills, self-efficacy, motivation, as well as the student's social skills. Every student carries a unique set of characteristics and these traits, positive or negative, have a direct impact on persistence and degree completion.

Figure 2.1

Influences on Student Success
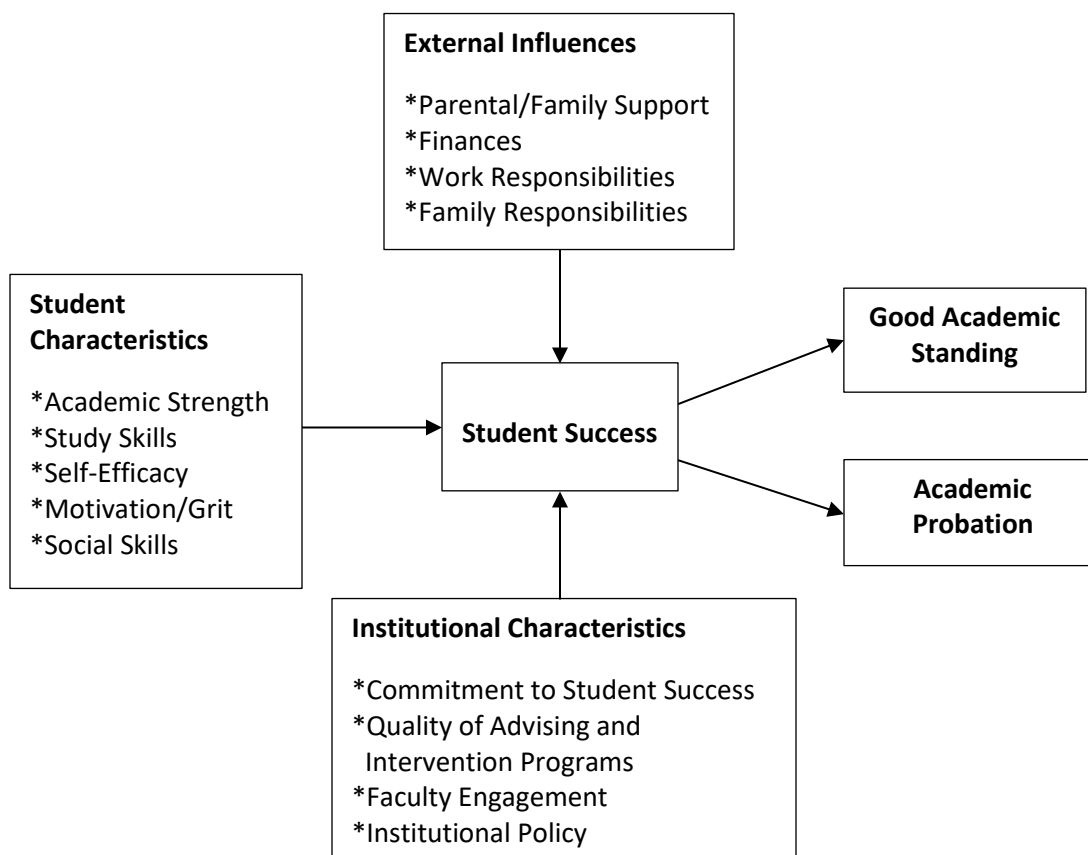
An additional set of consequential factors upon the student include external influences. These considerations include the students' financial circumstances, work and family responsibilities, as well as the amount of support and expectations of success from the students' parents and immediate family. Research has shown that students are carrying more significant external influences with them while they are attempting to complete their college programs (Tinto, 1993).

A final factor includes the characteristics of the institution where the student is enrolled. This is considered a key factor as retention theory continues to link the traits of the institution with student persistence levels. These critical characteristics include the level of faculty

engagement, the quality of student intervention initiatives, the impact created through the development of institutional policy, as well as other institutional characteristics such as the overall commitment to student success. Higher education retention research now shows the collective influence of these overarching institutional characteristics, and the impact on student success measures.

Academic Probation Policies

While nearly every post-secondary institution utilizes academic probation, the policy is interpreted differently depending on the institution. In this exploratory case study, two institutions' interpretation of the policy have been very closely evaluated. The case study institution placed any student on academic probation "who's cumulative GPA does not meet a minimum of 2.0" (Idaho State University Academic Warning and Academic Probation, n.d.). This use of a 2.0 GPA threshold is common and was also the practice at the peer institution.

There were some differences in how the policy was interpreted between these two institutions. Prior to 2017, the case study institution had three levels within the probationary system. The first level was termed "Academic Warning," the second level "Probation One," and the third level was called "Probation Two" (Idaho State University Academic Warning and Academic Probation, n.d.). However, the peer institution had only one level of academic probation, called "Probation" (University of Idaho Academic Regulations, 2018). Once a student at the peer institution had a term with a semester GPA of below 2.0 while on probation, they were disqualified from attending the following semester. At the case study institution, once the student had a term with a semester GPA of under 2.0 while on probation two, they were disqualified from attending the following semester.

Additional variances in policy usage included that prior to 2017, the case study institution had semester credit limitations depending upon the probationary level (Idaho State University Academic Warning and Academic Probation, n.d.). The first level, or academic warning, resulted in a limit of 13 semester credits; the second level or probation one, resulted in a limit of nine semester credits; and the third level or probation two, resulted in a limit of six credits (Idaho State University Academic Warning and Academic Probation, n.d.). The peer institution had no credit limitations imposed on probationary students.

Beyond the differences in actual policy implementation, there were significant variances in the student interventions offered to those who fell under the policy of academic probation. At the case study institution, the only requirement for student intervention was to complete an online probation workshop, and prior to completion, a hold was placed on the student's registration (Idaho State University Academic Warning and Academic Probation, n.d.). The online workshop provided the student with basic information about services provided by the institution and an explanation of college-level study habits that were needed to be a successful student.

The peer institution, however, has offered several intervention steps that a probationary student must complete prior to clearing the registration hold. These steps include: a) completing an academic plan; b) scheduling a meeting with the student's assigned academic advisor to discuss academic issues and to edit the academic plan; c) reviewing and adjusting the academic plan with the advisor; and d) participating in the *Student Success Program* (University of Idaho Academic Probation, 2018). This program has provided probationary students several free services including tutoring and numerous workshops that teach successful academic habits, and

the program has also connected probationary students with several key offices and resources across the campus (University of Idaho Student Success Program, 2018).

Probationary Student Characteristics

"Research reveals that students on academic probation typically earn less than a C grade point average, have poor academic preparation, lack study skills and have difficulty in transitioning and adjusting to university life" (Ahmed, Chowdhury, Rahman & Talukder, 2014, p. 4). While these attributes have long been regarded as the primary factors associated with the ability to persist and graduate, others are now being identified to be highly correlated with probationary students. One of the additional traits often exhibited by probationary students includes a lack of motivation. In other research, this lack of motivation, self-belief, and persistence has been referred to as "grit" and defined as "perseverance and passion for long-term goals" (Duckworth, Peterson, Matthews, & Kelly, 2007, p. 1087). While academic ability is an important predictive factor, it was determined that grit and self-control were actually more accurate predictors of academic success (2007). As post-secondary institution retention rates have dropped, institutions often spent the majority of their energy focusing on improving academic preparedness and social integration. Consequently, institutional attention placed on building student characteristics such as grit and perseverance would be wise as this connection is well-grounded in research.

One final and important factor in probationary student characteristics included the under-development of self-efficacy, or a student's belief in their ability to control their own academic standing (Ahmed et al., 2014.) Research by Barouch-Gilbert (2016) showed that a lack of self-efficacy often produced a significant negative influence on student educational outcomes and greatly increased the chances of spending time on academic probation. Barouch-Gilbert (2017)

stated, "Some students on academic probation were affected to a greater extent regarding their beliefs in their capabilities, as they may have worried that others associated their academic probation status with having low ability" (p. 154). A great deal of research has been completed which closely studies the relationship between self-efficacy and achievement (Hsieh, Sullivan, & Guerra 2007; Gore, 2006; Zajacova, Lynch, & Espenshade, 2005). For probationary students, the motivation and drive to succeed was "reinforced when students believe that they are capable or feel that they can be successful (Hsieh et al., 2007, p. 457).

Academic Probation and International Students

Tobenkin (2018) noted that successfully recovering from academic probation was a challenging hurdle for all students; however, this recovery was especially daunting for international students. It becomes critical that international offices ensure that staff members clearly communicate the institutional policies regarding probation to all incoming international students, because understanding the various consequences were critical to remaining in good academic standing. Once on probation, Tobenkin (2018) stated, "Many international educators emphasize the importance of meeting with students entering probation on a one-on-one basis as soon as possible, given that exploring avenues to address related issues may require extensive planning and readjustments" (p. 41). Numerous factors impact successful degree completion for all students, but specific factors related to being an international student have included issues such as mental and psychological well-being, proficiency with the English language, and work responsibilities (Tobenkin, 2018). Therefore, having a game plan in place for international students who find their way onto academic probation is critical for their academic recovery and success.

Advising Practices

Advising has been an essential higher education practice since the beginning of American higher education (Gordon, 2004). In early colonial colleges, it was responsibility of the president to advise students regarding their "extracurricular activities, their moral life, and intellectual habits. They acted *in loco parentis*" (Cook, 2009, p. 18). These responsibilities eventually shifted to college faculty, and finally to professional advisors. Academic advising first became an established role within higher education in 1948 at Pennsylvania State University when an advising group was hired to assist the many World War II veterans utilizing the GI Bill to enroll in college (Sanders & Killion, 2017).

Braxton et al. (2014) defined advising as "a decision-making process during which students realize their maximum educational potential through communication and information exchanges with an advisor" (p. 189). The process of student and advisor communication allowed for greater levels of academic and intellectual development, which ultimately had a positive impact on the performance of post-secondary students (Braxton et al., 2014). When considering the advisement of probationary students, specific approaches have repeatedly been utilized in an attempt to achieve good academic standing.

Intrusive Advising

Intrusive advising is an advising approach where advisors intentionally seek out students for advising contact, and in most cases, the advising contact is mandated (Schwebel, Walburn, Klyce, & Jerrolds, 2012, p. 36). This style of advising was "developed several decades ago and offers a strategy to reduce student attrition due to academic failure or social discontent" (Schwebel et al., 2012, p. 36). In professional advising circles, it has been more recently called "proactive advising" and this method offers a way to reduce student attrition due to academic

failure (Westrick et al., 2012). In many cases, research has shown that intrusive or proactive advising has been beneficial for students, and has long been considered a leading method to bring about retention improvements, especially in first-generation and underperforming students (Swecker et al., 2013).

Appointments with advisors has often been recognized as a critical element to student success. This notion was supported in a study by Swecker, et al. (2013) as "the data suggests that for every meeting with an advisor the odds that a student is retained increases by 13%" (p. 49). Even with data that specifically indicated how advisor involvement was critical for student success, significant gaps have remained in advisor involvement at each institution (Kirk-Kuwaye, & Nishida, 2001). The impact of intrusive advising on the prevention and correction of academic probation issues was also shown to be effective as reported by Vander Schee (2007). This study supported other research and determined that students who participated in at least three intrusive advising appointments with academic advisors had a significant improvement of grade point average over those who attended two or less advising sessions (2007).

At-Risk Advising

Institutions will often label incoming first-year students as "at-risk" if they exhibit traits which would indicate a lower likelihood of academic success. The traits most often utilized to identify at-risk students are "students who: are ethnic minorities, are academically disadvantaged, have disabilities, are of low socioeconomic status, and are probationary students" (Heisserer & Parette, 2002, p. 69). Those who advise at-risk students, first and foremost, must be very adept at interviewing students and asking open-ended questions (Heisserer & Parette, 2002). Unfortunately, the vast majority of higher education advisors have not been specifically trained to advise at-risk students. Considering the data which clearly outlined that student-advisor

contact was critical in retaining these students, it would be wise to require this type of training for academic advisors (Heisserer & Parette, 2002).

It is common practice to offer at-risk students the opportunity to participate in first-year experience (FYE) courses to increase their level of preparation as they begin the college experience. Topics presented in FYE courses include "time management, financial responsibility, and personal health and self-care (Connolly et al., 2017, p. 2). Practical application of the basic academic skills such as reading comprehension, note taking, and effective study strategies were also stressed during class time" (p. 2). It was determined that pre-emptively placing at-risk students into first-year experience coursework had a significant positive impact on the students first-year GPA, and therefore reduced the likelihood of spending time on academic probation (2017).

Probationary Interventions

Institutional Strategies

Traditionally, institutions have elected to work with academic probation students once semester grades have posted and they have already experienced academic difficulty. This strategy appears to be failing as reports have shown that waiting until the second semester of the freshman year was too late to make a marked improvement in retention (Stegmeir, 2016). Researchers such as Seidman (2012) have pointed out that this timing was highly problematic as remediation and GPA improvement became a significantly larger hurdle for probationary students to clear.

This realization has led to institutions becoming more interested in the early identification of struggling students, and assisting those at risk of falling into academic probation (Radunzel, 2016). Seidman (2012) stated, "In response to student attrition, colleges have developed

intervention programs and services to try and retain students and have spent vast amounts of money setting up programs and services" (p. 3). Institutions are beginning to incorporate a specific mix of interventions to maximize the positive effect on student degree completion.

Tobenkin (2018) shared an institutional probation strategy offered at Michigan State University that has been highly successful as probationary students were required to participate in a program called *Success Training for Academic Recovery* or *STAR*. Within this article by Tobenkin (2018), Charlie Liu, the Assistant Director of Student Affairs at MSU stated:

> The program is designed to provide students with a college contact and support network to help as they progress through the semester in which they are on probation. The student is expected to attend workshops, meet with a success coach, and connect with faculty and other resources throughout the semester. (p. 41)

Additionally, some institutions have opted to create new positions to address the workload associated with intervening with the probationary population. However, these position additions have proven beneficial given the impact on institutional success measures (Tobenkin, 2018). In a report titled, *Focused on the Finish*, Mary Stegmeir (2016) offered an approach to intervention called "iPASS" and stated that the combination of proper course selection, advising and coaching availability, and an institutional early alert system through faculty communication appears to be an effective combination (p. 37).

Success Courses

First-year seminar and success courses are often utilized as a tool for students as they transition from high school to college coursework. These classes are designed with the student's social and academic needs in mind, and instituted to improve retention rates as they provide targeted support and guidance. Success courses have been available for many years, going back

to the 1940's. Initially designed as a way for faculty to enhance student engagement, seminar and success courses have progressed in recent decades as many now aim to more fully integrate each student into the college experience (Levine, 1985). Black, Terry, and Buhler (2013) defined first-year seminar courses as "the curricular anchor for several other educationally effective practices" (p. 85).

Research has indicated that success courses have provided a positive impact and continue to be a standard option available to new students experiencing college-level academics and social life. McGrath and Burd (2012) completed a quasi-experimental study of 254 first-time probationary freshman by placing them in a newly created success course (p. 46). This study indicated that an effectively designed success course made a significant positive difference in assisting students to move off probation status (McGrath & Burd, 2012). This improvement was evident as 49 percent of the success course students within this study increased their grade point average to over 2.0 after one semester and move off of probation status, versus only nine percent of non-probation course students (McGrath & Burd, 2012, p. 48). Furthermore, McGrath and Burd (2012) have found this single course and the effective habits it teaches can be projected forward to graduation rates. This study has shown that 25 percent of probation students persisted until graduation versus two percent of the probationary students who did not receive the probation course curriculum (p. 48).

Early-Alert System

An additional retention strategy that is more proactive in nature is the utilization of an early-alert system. "Using an early-alert system is one student support strategy that has the potential to create a more cohesive and centralized approach to communicating with students and monitoring their academic progress" (Faulconer, Geissler, Majewski, & Trifilo, 2013, p. 45).

Essentially, the goal of this intervention is to provide a formalized and proactive feedback system in which faculty are able to alert school officials early and throughout the academic term concerning student performance concerns (Faulconer et al., 2013). It is then up to school personnel to intervene with these students and attempt to provide the corrective measures necessary to get these students back on track. This proactive retention tool is viewed as highly effective as it allows for quick response times to students as soon as they begin to exhibit concerning academic traits.

Predictive Modeling

As institutions begin to wrestle with this interrelated problem of student success and academic probation, it has become clear that early intervention is paramount. Ideally, student deficiencies will be identified within the student's first semester. However, research has also shown effective methods that have been used to identify potential student issues at the point of application. These institutional strategies are referred to as predictive interventions (Seidman, 2012). In recent years many institutions have begun to experiment with predictive analytics and Seidman (2012) has stated that the institution should, "provide support immediately to students who were identified as benefitting from such assistance" (p. 76).

Jia and Maloney (2015) offered a predictive modeling study which considered multiple key variables for incoming freshman and established a score for each student. This predictive measure allowed the university to make informed advising decisions even before a student began their educational experience at the institution (2015). This incoming student score provided students with tailored educational interventions, as well as assisting in wise advising suggestions, and all occurring before the student began their first semester of coursework (2015).

Recent data has also shown that institutions which pre-emptively and predictively intervene with students are beginning to reap the rewards of large improvements in student success measures (Schock, 2018). One such institution is Georgia State University where they have used big data to target every single Georgia State student for any of 800 identifiable risk factors (Schock, 2018). This highly predictive and proactive project has created significant results as, "over the last 12 months, we've had over 52,000 one-on-one meetings between our staff and students that were prompted by alerts coming out of the system" (Schock, 2018). This study has been evaluated over a five year period and the results have shown increases in graduation rates of 22 percent. Furthermore, increases have been found for every measured student demographic (Schock, 2018).

Chapter Summary

In America, roughly $200 billion is spent each year on students who fail to earn a degree (Harvard University, 2011). Initially, retention theory conveyed that a student's best opportunity for retention and graduation centered on their ability to socially integrate into the college setting (Tinto, 1975). A decade later, research shifted and theory began to focus largely on student attributes and the characteristics students bring with them to college which led to a failure to persist (Bean & Metzner, 1985). Higher education continued to move towards a student retention philosophy that placed a good deal of the responsibility on the institution. Every post-secondary entity must ultimately decide to implement the interventions and strategies which they believe will be most effective in reaching underprepared students. However, many institutions have failed to move towards a more proactive approach and their retention and graduation data has suffered. Very little research exists that identifies the most effective methods for institutions to intervene and assist the most vulnerable population. This research project has chosen to address

this concern through a mixed-methods case-study approach that explored the data surrounding the policy of academic probation, and proposes the adoption of specific interventions and institutional approaches that have been established as effective in assisting the probationary student.

Chapter 3: Methodology

Introduction

It is essential that higher education decision makers understand the impact of the academic probation policy on student retention and to capture data concerning the influence of this policy on institutional retention and degree completion. The purpose of this study is to provide data concerning the most effective implementation of academic probation policy, as well as the most successful approaches with probationary student intervention. These important goals have been addressed through an exploratory, mixed-methods case study. The primary research question guiding this study was: *what is the purpose of the academic probation policy, and is this policy effective from an institutional perspective?* In addition to this question, the research has also addressed several secondary questions that institutions must consider when determining their general approach to this population, and their methods for improving probationary student success rates.

1. What are the student demographic variables that most likely predict that an incoming student will land on academic probation?

2. What is the impact of the probationary student population on institutional retention and graduation data?

3. Do significant variances exist in retention and graduation rates for the probationary population between the case study and the peer institution?

4. If significant variances do exist in probationary student retention and graduation rates between the case study and the peer institution, what then are the differences in academic probation policy implementation and practices that would attribute to this outcome?

This chapter provides background information on the study and explains the role of the researcher in this project. The chapter also covers data collection and data analysis methods, as well as a diagram concerning the influences of student and institutional characteristics on student success. Finally, this chapter addresses the topic of validity and reliability, as well as some of the challenges associated with this research.

The Case Study

According to Creswell (2013), the intent of a case study is to study a phenomena which has "unusual interest in and of itself and needs to be described and detailed" (p. 98). Due to the significant number of post-secondary students that spend time within the probationary system, it is essential that we possess a better understanding of how to positively impact the academic trajectory of probationary students. The policy of academic probation has the potential to urge students towards improved academic performance and provide the necessary interventions and tools to raise the grade point average of identified students. When this goal is accomplished, all entities benefit as students achieve their goal of degree completion, and the institution benefits from fewer student withdrawals and higher enrollments.

According to Scott and Morrison (2006) there are three basic formats of a case study which include: (a) 'theory seeking' or 'theory testing,' (b) 'story-telling' or 'picture drawing' and, finally, (c) 'evaluative' case studies (p. 18). Through a 'theory-seeking' case study, Scott and Morrison (2006) explained the primary outcome was to lead towards tentative generalizations which may be applied to similar settings (p. 18). In a 'story-telling' case study the emphasis is placed on providing "narrative stories and accounts that have clear timelines running through them and a strong sense of the processual" (p. 18). Finally, by utilizing the evaluative case study, a researcher "refers to in-depth inquiries into educational programmes,

systems, projects or events in order to ascertain their worthiness" (2006, p. 100). For this study, the researcher has implemented a *'theory-seeking'* case study approach, as this research project was designed to establish a theory or tentative generalization that has yet to be established concerning the policy of academic probation.

Moreover, Merriam (2009) explained that a case study is ideal when "the variables are so imbedded in the situation as to be impossible to identify ahead of time" (p. 45). In this study, the researcher identified preliminary, yet alarmingly low, retention and graduation data for probationary students at a four-year, public research institution. The specific causes responsible for this data are difficult to presume, so according to Merriam (2009), a case study would be an appropriate approach to uncover these potential causes. Additionally, Merriam (2009) asserted the case study is a wise approach "for what it can reveal about a phenomenon, knowledge to which we would not otherwise have access" (p. 46). In this particular case study, data was analyzed, not only at the case study institution, but also compared with another regional, four-year, public, research institution. One primary goal of this research was to use the data collected from this study to develop generalizations which uncover potential causes, and to provide meaningful reasoning behind these phenomena.

Yin (2018) defined the case study as an empirical inquiry that "investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 15). For this research project a case study was deemed appropriate as the boundaries between the policy of academic probation and the student success measures are not yet evident. Specifically, this study has sought to more effectively understand the challenges facing first-time freshman students and sharing the challenges associated with academic probation. Additionally, it has attempted to determine the

impact of various institutional interventions on student success. The data from the case study and peer institutions provided helpful insight as to the effectiveness of different interventions, as these intervention approaches could then be compared to institutional retention and graduation rates.

The Role of the Researcher

Yin (2018) discussed the key responsibilities of the researcher in his book *Case Study Research and Applications: Design and Methods*. One critical responsibility of the researcher was defined as possessing, "sufficient access to the data for your potential case – whether to interview people, review documents or records, or make field observations" (p. 26). There was certainly sufficient amounts of data as the researcher works at the case study institution and had access to the data necessary to complete this study. The primary role of the researcher was that of data analysis and interpretation. The researcher reviewed the data from the case study institution and also data from a comparative institution. This data was then analyzed to make potential connections between the policy of academic probation, resulting student outcomes, and most effective institutional practices.

One other question surrounding a case study is whether the approach to the research would be quantitative, qualitative, or utilizing a mixed-methods approach. Yin (2018) stated that any of these approaches are acceptable, and that "case studies can include, and even be limited to quantitative evidence" (p. 17). This research project has proposed that a mixed-methods approach would be utilized as the policy and impact of academic probation was evaluated.

It is essential in a case study that the researcher reports on the meaning of the data, and on the associated conclusions (Creswell, 2013). The researcher's role at the case study institution made it possible to collect and analyze this data. As part of his professional responsibilities, the

researcher collected and analyzed data concerning student success which included students who spend time on academic probation.

Sources of Evidence

Merriam (2009) asserted that the development of a powerful case study lies in the ability to select information-rich cases. Merriam (2009) stated, "Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry" (p. 77). The researcher explained the importance of providing a deeper understanding of the policy of academic probation and its impact on student success. Therefore, it is essential that this case study brings forward data-rich evidence as a way to effectively determine and communicate the conclusions of the research.

Data Collection

Yin (2018) recommended that data within a case study is pulled from six potential sources of evidence which includes documents, archival records, interviews, direct observation, participant observation, and physical artifacts. This research project collected data primarily from archival records; however, additional sources of data included direct observation, participant observation, as well as administrator interviews. While there was an opportunity to collect data through probationary student interviews, the researcher determined this data would be better served to collect and report in a subsequent project. The researcher believed that collecting and analyzing this type of qualitative data was outside the scope of this project and would detract from the primary focus of the study.

The data set for this project was collected through the office of Institutional Research (IR) at the case study institution and at the peer institution. The data set contained data for numerous incoming student variables including gender, age, high school GPA, and standardized

test scores (ISU Institutional Research, 2018b). The data set also provided information on the students after they arrived to their respective institution including college enrolled, student classification upon entering academic probation, institutional GPA, graduation term, term of academic dismissal, final academic period, and transfer information (ISU Institutional Research, 2018a). This same data was also available for non-probationary students attending the institution, as a means of comparison and to quantitatively measure the impact of this policy (ISU Institutional Research, 2018a).

Archived institutional data chosen for this research provided relevant and compelling evidence concerning the policy of academic probation. For this study, the researcher reviewed data concerning four specific groups of participants: a) the academic probation population at the case study institution; b) the first-time, full-time student population at the case study institution; c) the academic probation population at the comparative peer institution; and d) the first-time, full-time student population at the comparative peer institution (ISU Institutional Research, 2018a). The data collected between the years of 2009-2011 for these participant groups was then compared and analyzed statistically to make various determinations concerning the impact of the policy.

Data Analysis

The data was quantitatively analyzed using SPSS STATA software to conduct descriptive and predictive analyses, as well as a path analysis. The encompassing goal of the researcher was to determine the effectiveness of the policy of academic probation from an institutional perspective. Accomplishing this task also required the comparison of retention and graduation statistics for the academic probation population, versus the non-probationary population. It was essential to understand the impact of this population on institutional-level student success data.

The researcher then analyzed the academic probation population from a predictive standpoint and attempted to identify student characteristics through a logistic regression which would indicate an increase in the likelihood of spending time on academic probation. Furthermore, these characteristics were linked forward to the retention rates and graduation rates as seen in Figure 3.1 by using a Structural Equation Modeling (SEM) path analysis. The analyzed variables included high school grade point average, standardized test scores, gender, and age (ISU Institutional Research, 2018a).

Figure 3.1

Influences of Student and Institutional Characteristics on Student Success
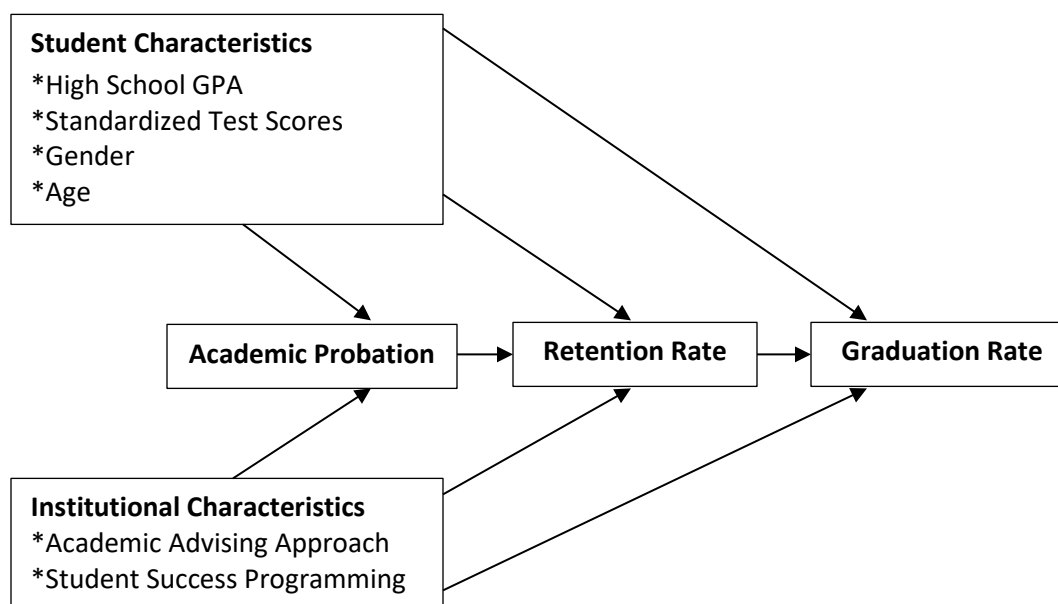
Since significant variances in retention and graduation rates did exist for the probationary populations between the case study and peer institutions, the researcher then evaluated and compared probationary population intervention strategies between the two institutions and evaluated how policy implementation impacts institutional student success data. Practices that were examined included the institutions general method of probationary student intervention, which included specific advising approaches to the academic probation population. Additionally, the researcher evaluated the student success programming in general, as well as the programming specifically designed for the probationary population. If variances did exist in probationary student populations between institutions, this information proved helpful in determining the impact of these practices on the probationary population.

Conducting Interviews

The research also contained a component of interviews in which university student success professionals were contacted to discuss several critical factors. The first interview question asked about the general institutional approach to students whose GPA fell below 2.0 and landed on academic probation. The second interview question asked for specific interventions designed for the population of probationary students. For the following question, the student success professional was asked if the institutions approach to the probationary population had changed in recent years, and if these changes were effective in their opinion. The final question of the survey asked if the academic probation policy, as implemented at their institution, was meeting the needs of probation students. The exact wording of interview questions can be found in Appendix A.

Following each interview the answers to these questions were transcribed exactly as stated. These transcripts were then evaluated to identify themes within the interview participants. This method of identifying themes was chosen for the qualitative portion of this case study because, as Creswell (2013) stated, this process is "central to qualitative research and involves making sense of the text collected from interviews, observations, and documents (p. 190). In this study, reviewing the interview material and placing these responses into categories of information has allowed the researcher to gather as much pertinent data as possible. Following the data analysis, it was also reviewed for patterns as well as noted variations. The results of the three interviews have been discussed extensively within Chapter 4. The interview transcripts can be found in Appendix B, C, and D.

Study Approval Process

This study was submitted to the Human Subjects Review Committee and the Institutional Review Board (IRB) at Idaho State University. This research project was approved and deemed exempt by the IRB as the study utilizes existing archival data and contains no student identifiers.

Validity and Reliability

According to Yin (2018), four tests are commonly used to determine the quality of a case study, which include: a) construct validity, b) internal validity, c) external validity, and d) reliability. In relation to each test, the researcher must sufficiently develop an operational set of measures, and these measures must not be built around the goal of confirming the researcher's pre-conceived notions (Yin, 2018). In order for a case study to be considered externally valid, the findings must be generalizable beyond the case study at hand. Additionally, in order for a case study to be reliable, another researcher should be able to complete the same study by following the same procedures and the same conclusions would be made (Yin, 2018). "The basic goal of reliability is to minimize the errors and biases in a study" (Yin, 2018, p. 46).

Research must be designed upon various assumptions about the topic being investigated, and to discover answers related to the questions at hand. Merriam (2009) stated:

> Regardless of the type of research, validity and reliability are concerns that can be approached through careful attention to a study's conceptualization and the way in which the data are collected, analyzed, and interpreted, and the way in which the findings are presented. (p. 210)

In this case study, the researcher noted potential concerns surrounding the policy of academic probation. The goal of this research was to not allow pre-conceived notions about this policy to direct the path of findings, but to allow the data to drive the research to its conclusions. This

study was completed from a mixed-methods perspective, so the validity and reliability was dependent upon the researcher's ability to accurately collect, analyze, interpret, and convey the statistical findings to the readers.

Challenges

One of the major challenges associated with this study was to maintain the proper scope (Creswell, 2013). The researcher determined that the results would be more poignant if focused on the collection of large scale data, by providing a strong analysis of the data, and to accurately communicate resulting inferences. The proposed research was aimed at offering an in-depth analysis of statistical data by determining the impact of the policy of academic probation. Additionally, qualitative data was collected through interviews with student success administrators which were highly useful in determining best practices in the retention and graduation of probationary students.

Further challenges included the involvement of data from multiple institutions. Creswell (2013) asserted, "The study of more than one case dilutes the overall analysis; the more cases an individual studies, the less the depth in any single case" (p. 101). While this statement is true, the researcher determined that the addition of additional cases would add depth and provide critical content to the narrative by comparing the data from the case study institution to the data found at comparable peer institutions. While providing further challenges, including interviews from officials at the case study institution, the peer institution, as well as a second peer institution provided wonderful depth in practical application. There was significant variance in the findings between each institution, and so the researcher had greater data to make deductions as to the causes behind the respective student success data. The inclusion of comparative data provided

key information in the establishment of practical application, as well as the inclusion of evidence for best practices.

Chapter Summary

While a large body of research existed concerning the broader topic of institutional retention and student success, establishing theory relating specifically to the policy of academic probation was essential work as current research contained critical gaps. The majority of existing studies have focused on the impact of academic probation from a narrow perspective as they have investigated the experiences of small groups of individuals or the impact of a specific intervention across a short period of time. While research concerning these more specific student experiences has been important, it is also critical that research evaluate the impact of academic probation from a much broader perspective. Student success outcomes are scrutinized more with each passing year; therefore, gaining a depth of understanding of this policy and its implications is meaningful for the field of higher education research and is the primary goal for this case study.

Chapter 4: Results

Introduction

For many years, higher education has encountered significant challenges in identifying and successfully intervening with students who experience academic difficulty. This critical population of students have earned a GPA of under 2.0 and find themselves on academic probation lists, struggling to fight the uphill battle back to good academic standing (McGrath & Burd, 2012). The factors that contribute towards the poor educational outcomes of probationary students are intricate, and so it is important that these issues are adequately researched and discussed. This study was designed to contribute to the discussion surrounding the policy of academic probation and is intended to provide beneficial discourse concerning the best practices for probationary student interventions.

To assist in this study, the following research questions have been addressed. The responses to these questions offered critical insight concerning the policy of academic probation. The primary and overarching research question guiding this study was: *what is the purpose of the academic probation policy, and is this policy effective from an institutional perspective?* In order to provide an adequate response to this question, the study included several secondary questions that institution personnel should consider when determining their general approach to working with this population.

1. What are the student demographic variables that most likely predict that an incoming student will land on academic probation?

2. What is the impact of the probationary student population on institutional retention and graduation data?

3. Do significant variances exist in retention and graduation rates for the probationary population between the case study and the peer institution?

4. If significant variances do exist in probationary student retention and graduation rates between the case study and the peer institution, what then are the differences in academic probation policy implementation and practices that would attribute to this outcome?

This chapter has offered an overview of the demographics for the study, an analysis of the data related to each research question, as well as an evaluation of the policy to determine purpose and effectiveness. The primary research question was formally addressed towards the end of this chapter, as the cumulative responses to each secondary research question have assisted in providing a full response. For the sake of clarity, the four secondary research questions will simply be referred to as *Research Question #1, Research Question #2*, and so forth. Additionally, there were three institutions which contributed to the data found in this study. Moving forward the institutions already referenced in this study will continue to be referred to as the *case study institution* and the *peer institution.* The additional peer institution will be referred to as *peer institution two*.

Demographics

The case study institution involved with this study is a public, four-year, liberal arts, research university located in the Northwest United States. This institution had an enrollment of 15,468 students in 2018 (ISU Statistical Enrollment Reporting, 2019). The peer institution was a four-year public research university also located in the Northwest United States, and possessed an enrollment of 14,366 in 2018 (ISU Statistical Enrollment Reporting, 2019). Peer institution two is also a four-year public research university, located in the Midwest United States, and this

institution enrolled a total of 11,212 students in 2018 (University of Northern Iowa, 2018). While all three institutions serve both undergraduate and graduate populations, the data for all research questions utilized first-time, full-time undergraduate student populations.

Descriptive statistics have been provided in Table 4.1 and Table 4.2 that provide demographic information including the total full-time, first-time, as well as the probationary student populations. Table 4.1 provides data for the case study institution, and Table 4.2 offers data for the peer institution.

Table 4.1

First-time, Full-time and Probationary Students at the Case Study Institution

Academic Year	Total First-time Full-time Students	Total Probation Students	Probationary Percent of Total Student Population
2009	922	252	27%
2010	1095	352	32%
2011	1227	396	32%
Mean	**1081**	**333**	**30%**

Table 4.2

First-time, Full-time and Probationary Students at the Peer Institution

Academic Year	Total First-time Full-time Students	Total Probation Students	Probationary Percent of Total Student Population
2009	1757	374	21%
2010	1718	397	23%
2011	1585	403	25%
Mean	**1687**	**391**	**23%**

During this three-year time period, the first-time, full-time student body at the case study institution experienced modest growth, while the student population at the peer institution experienced a modest decline. It is important to note that the probationary population increased in size and percentage at both institutions during this three year span. At the case study

institution, the percent of probationary students grew from just over 27 percent to over 32 percent (ISU Institutional Research, 2018a). For the peer institution, the amount of probationary student growth was very similar as it increased from 21 percent, to well over 25 percent (ISU Institutional Research, 2018a). At both institutions, the probationary population grew by almost five percent across a three-year span. This data is higher than findings in other studies which have stated that for most four-year public institutions, roughly 20 percent of the student body has spent time within academic probation (Schudde & Scott-Clayton, 2014). A collective representation of this data is found below in Figure 4.1.

Figure 4.1

First-time, Full-time and Probationary Student Populations for Case Study and Peer Institutions
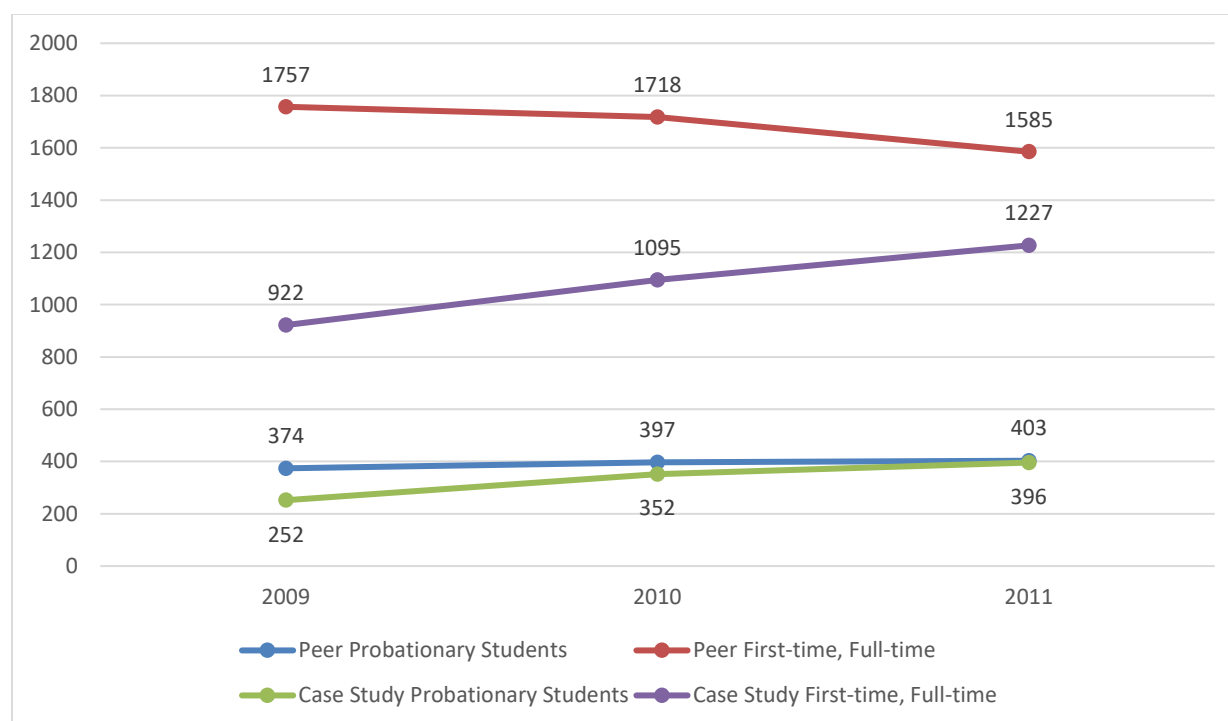
Student Demographics that Predict Academic Probation

The goal of Research Question #1 was to identify critical student demographic data that would statistically predict the likelihood of an incoming student to ultimately land on academic probation. This research question was selected as this type of data would allow institutions to make informed decisions concerning student profile, and the choices that must be aligned between admissions criteria and the student interventions which are made available (Leonard & de Pillis, 2008). Quite often, post-secondary institutions struggle with understanding the make-up of their student profile, and have vastly different student intervention methodology than their institutional student profile would indicate as ideal. Aligning these two institutional approaches allows for greater levels of continuity and student success.

The student variable data collected for this research question included age, gender, high school grade point average, and ACT score. These four variables were compared between the total student population, as well as the probationary population for the case study and peer institutions. This data was analyzed using an SPSS binary logistic regression to determine if there was statistical significance for each variable.

Student Demographics Data Summary

Table 4.3 below provides a summary of all statistical analyses for the student variables. The binary logistic regression was performed to ascertain the effects of age, gender, high school GPA, and ACT composite on the likelihood that participants have experienced academic probation. The overall binary logistic regression model was statistically significant, $\chi2(1) = 2333.056$, p < .0005. The model explained 24.4% (Nagelkerke $R2$) of the variance in probation and correctly classified 77.0% of cases. Sensitivity was 26%, specificity was 94%. Of the four predictor variables only three were statistically significant at the *p <= .05 level*: age, high school

GPA, and ACT composite. Gender did not meet the .05 cutoff for significance but was acceptable at the *p <= .077 level.*

Table 4.3

Summary Table Impact of Student Variables on Probation Status

							95% C.I. for Odds Ratio	
Student Variable	B	S.E.	Wald	df	Sig.	Odds Ratio	Lower	Upper
Age	-0.189	0.008	534.602	1	0	0.828	0.814	0.841
High School GPA	-1.819	0.053	1191.02	1	0	0.162	0.146	0.18
Gender	-0.083	0.047	3.135	1	0.077	0.92	0.84	1.009
ACT Composite	-0.018	0.006	7.685	1	0.006	0.982	0.97	0.995

Furthermore, each student variable has been assessed and this data can be found in Tables 4.4 through 4.23. Statistical analysis has broken out from Table 4.3 and placed at the end of each variable section for reference purposes.

Age

The first student variable considered was student age, and to determine whether this attribute played a significant role in students landing on academic probation. The next two tables (Table 4.4 & Table 4.5) represent the first-time, full-time student population and the probationary population at the case study institution, and the following two tables (Table 4.6 & Table 4.7) represent the same populations for the peer institution. This arrangement of tables will be remain consistent for all four analyzed student variables. The tables offer descriptive summary data for the case study and peer institutions.

Table 4.4

Age of First-time, Full-time Student Population at Case Study Institution

Fall Term of Cohort	Under 18	18 to 24	25 to 30	31 to 40	41 to 50	51+
Fall 2009	8	752	81	54	23	4
Fall 2010	33	954	67	34	7	1
Fall 2011	39	1083	61	28	12	4
Fall 2009	1%	82%	9%	6%	2%	0%
Fall 2010	3%	87%	6%	3%	1%	0%
Fall 2011	3%	88%	5%	2%	1%	0%
Mean	**2%**	**86%**	**7%**	**4%**	**1%**	**0%**

Table 4.5

Age of Probationary Student Population at Case Study Institution

Fall Term of Cohort	Under 18	18 to 24	25 to 30	31 to 40	41 to 50	51+
Fall 2009	4	215	18	11	4	0
Fall 2010	8	309	26	8	0	1
Fall 2011	10	343	30	8	4	1
Fall 2009	1%	85%	7%	4%	2%	0%
Fall 2010	2%	88%	7%	2%	0%	0%
Fall 2011	3%	87%	8%	2%	2%	0%
Mean	**2%**	**87%**	**7%**	**3%**	**1%**	**0%**

Table 4.6

Age of First-time, Full-time Student Population at Peer Institution

Fall Term of Cohort	Under 18	18 to 24	25 to 30	31 to 40	41 to 50	51+
Fall 2009	12	1736	5	2	2	0
Fall 2010	10	1699	6	2	1	0
Fall 2011	15	1554	11	3	2	0
Fall 2009	1%	99%	0%	0%	0%	0%
Fall 2010	1%	99%	0%	0%	0%	0%
Fall 2011	1%	98%	1%	0%	0%	0%
Mean	**1%**	**99%**	**0%**	**0%**	**0%**	**0%**

Table 4.7

Age of Probationary Student Population at Peer Institution

Fall Term of Cohort	Under 18	18 to 24	25 to 30	31 to 40	41 to 50	51+
Fall 2009	0	372	2	0	0	0
Fall 2010	1	394	2	0	0	0
Fall 2011	2	397	2	1	1	0
Fall 2009	0%	100%	0%	0%	0%	0%
Fall 2010	0%	100%	0%	0%	0%	0%
Fall 2011	0%	100%	0%	0%	0%	0%
Mean	0%	100%	0%	0%	0%	0%

The data tables above show that the case study institution encountered a very slight increase in the occurrence of students over the age of 24 within the probationary population. The only unique factors between institutions was that the peer institution maintained a slightly more traditionally-aged student population, as the vast majority of the total student population was between the ages of 18-24 years old. The age variance for the case study institution was slightly more spread out between age categories.

At the case study institution there were a total of 2,789 students between 2009-2011 in the 18-24 age range, which was 86 percent of the total first-time, full-time student population. That percent went up slightly when considering the probationary population. At the peer institution there were 4,989 students between the ages of 18-24 across the same years, which was 99% of the student population. Again, that population rose 1 percent when considering the probationary population.

Table 4.8 below provides statistical details for the student variable of *Age*. A binary logistical regression was used to identify student variables which predict student probation. For all tests, significance was set at $p < .05$. The p value for this test, or statistical significance, was .0005, indicating significance. The Odds Ratio (OR) was found to be 0.828 and the Wald

Test result was 534.602. These statistical results would indicate that the student variable of age was worth consideration when examining the correlation to time spent on academic probation, as younger students are much more likely to spend time on academic probation when compared to older students.

Table 4.8

Statistical Analysis for the Student Variable Age

							95% C.I. for Odds Ratio	
Student Variable	B	S.E.	Wald	df	Sig.	Odds Ratio	Lower	Upper
Age	-0.189	0.008	534.602	1	0.0005	0.828	0.814	0.841

Gender

The next demographic variable to be analyzed was student gender, and to determine whether gender significantly impacted the likelihood of a student landing on academic probation. The next four tables provide data representing the total first-time, full-time and probationary student populations at the case study and peer institutions.

Table 4.9

Gender of First-time, Full-time Student Population at Case Study Institution

Fall Term of Cohort	Women	Men
Fall 2009	456	466
Fall 2010	629	467
Fall 2011	649	578
Fall 2009	49%	51%
Fall 2010	57%	43%
Fall 2011	53%	47%
Mean	**53%**	**47%**

Table 4.10

Gender of Probationary Student Population at Case Study Institution

Fall Term of Cohort	Women	Men
Fall 2009	93	159
Fall 2010	169	183
Fall 2011	190	206
Fall 2009	37%	63%
Fall 2010	46%	54%
Fall 2011	45%	55%
Mean	**43%**	**57%**

Table 4.11

Gender of First-time, Full-time Student Population at Peer Institution

Fall Term of Cohort	Women	Men
Fall 2009	843	914
Fall 2010	801	917
Fall 2011	785	800
Fall 2009	48%	52%
Fall 2010	47%	53%
Fall 2011	50%	50%
Mean	**48%**	**52%**

Table 4.12

Gender of Probationary Student Population at Peer Institution

Fall Term of Cohort	Women	Men
Fall 2009	124	250
Fall 2010	143	254
Fall 2011	167	236
Fall 2009	33%	67%
Fall 2010	36%	64%
Fall 2011	41%	59%
Mean	**37%**	**63%**

The descriptive statistics provided in the tables above show that the case study institution had more females attending than males, and the peer institution had more males attending than

females. Nevertheless, for both institutions, there was a higher percentage of males that landed on academic probation, as there was 10 percent higher occurrence at the case study institution, and an 11 percent higher occurrence for the peer institution.

For the case study institution there were 53 percent or 1,734 first-time, full-time women that attended the institution between the years of 2009-2011 and 47 percent or 1,511 men. However, the probationary population for the case study institution had 43 percent or 452 women and 57 percent or 548 men. For the peer institution there were 2,429 total first-time, full-time women representing 48 percent of the total student population that attended between the years of 2009-2011, and 2,631 men or 52 percent. The probationary population at the peer institution also swung significantly to the male side as there were 434 women and 740 men, or 37 percent and 63 percent, respectively.

The statistical results shown in Table 4.13 provide the statistical details for the student variable of *Gender*. A binary logistical regression was used to identify student variables which predict student probation. The *p* value for this test of gender was 0.077. Gender did not meet the .05 cutoff for significance but was deemed acceptable at the *p <= .077 level.* The Odds Ratio (OR) was found to be 0.92 and the Wald Test result was 3.135. These statistical results would indicate that the student variable of gender is worth consideration as male students are more likely to reach probationary status than female students.

Table 4.13

Statistical Analysis for the Student Variable Gender

							95% C.I. for Odds Ratio	
Student Variable	B	S.E.	Wald	df	Sig.	Odds Ratio	Lower	Upper
Gender	-0.083	0.047	3.135	1	0.077	0.92	0.84	1.009

High School Grade Point Average

The third analyzed student variable was the student's incoming high school grade point average, and, to determine whether this trait had statistical significance in determining the likelihood of a student spending time on academic probation. The next four tables provide data representing the total first-time, full-time and probationary student populations at the case study and peer institutions.

Table 4.14

High School GPA of First-time, Full-time Student Population at Case Study Institution

Fall Term of Cohort	No HS GPA reported	below 1.99	2.00 - 2.49	2.50 - 2.99	3.00 - 3.49	3.50 - 4.00
Fall 2009	206	26	67	156	207	240
Fall 2010	154	21	74	202	286	359
Fall 2011	211	8	77	207	290	434
Fall 2009	23%	3%	7%	17%	23%	27%
Fall 2010	14%	2%	7%	18%	26%	33%
Fall 2011	17%	1%	6%	17%	24%	35%
Mean	**18%**	**2%**	**7%**	**17%**	**24%**	**32%**

Table 4.15

High School GPA of Probationary Student Population at Case Study Institution

Fall Term of Cohort	No HS GPA reported	below 1.99	2.00 - 2.49	2.50 - 2.99	3.00 - 3.49	3.50 - 4.00
Fall 2009	63	5	33	66	67	16
Fall 2010	67	7	41	111	96	30
Fall 2011	72	5	52	130	107	30
Fall 2009	25%	1%	13%	26%	27%	7%
Fall 2010	19%	2%	12%	32%	27%	8%
Fall 2011	18%	1%	13%	33%	27%	8%
Mean	**21%**	**1%**	**13%**	**30%**	**27%**	**8%**

Table 4.16

High School GPA of First-time, Full-time Student Population at Peer Institution

Fall Term of Cohort	No HS GPA reported	below 1.99	2.00 - 2.49	2.50 - 2.99	3.00 - 3.49	3.50 - 4.00
Fall 2009	30	1	68	264	599	795
Fall 2010	33	2	63	302	571	747
Fall 2011	36	9	70	291	492	687
Fall 2009	2%	0%	4%	15%	34%	45%
Fall 2010	2%	0%	4%	18%	33%	43%
Fall 2011	2%	1%	4%	18%	31%	43%
Mean	**2%**	**0%**	**4%**	**17%**	**33%**	**44%**

Table 4.17

High School GPA of Probationary Student Population at Peer Institution

Fall Term of Cohort	No HS GPA reported	below 1.99	2.00 - 2.49	2.50 - 2.99	3.00 - 3.49	3.50 - 4.00
Fall 2009	5	1	41	126	151	50
Fall 2010	3	2	39	153	149	51
Fall 2011	10	4	43	153	156	37
Fall 2009	1%	0%	11%	34%	40%	13%
Fall 2010	1%	0%	10%	38%	38%	13%
Fall 2011	2%	1%	11%	38%	39%	9%
Mean	**1%**	**0%**	**11%**	**37%**	**39%**	**12%**

When considering the descriptive data above and the students who landed on academic probation at both institutions, those had a high school GPA that fell within the 2.00 – 2.49 range, as well as the 2.50 – 2.99 range, had a higher occurrence of academic probation. The student population that had a HS GPA that fell within the 3.50 – 4.00 range, had a much lower occurrence.

For the case study institution, between the years 2009-2011, 1,033 students or 32 percent of the first-time, full-time student population had a high school GPA that fell in the range of 3.50 – 4.00. However, the case study institution only had 8 percent of the probationary population, or 76 students, that held a high school GPA within the same range. The peer institution had 44

percent of the total first-time, full-time student population between 3.50 – 4.00, and only 12 percent of the probationary student population within that high school GPA range.

Table 4.18 provides statistical details for the student variable of *HS GPA*. A binary logistical regression was used to identify student variables which predict student probation. The p value for this test of HS GPA was 0.0005, indicating significance. The Odds Ratio (OR) was found to be 0.162 and the Wald Test result was 1191.02. These statistical results would indicate that the student variable of HS GPA is worth strong consideration as a lower HS GPA greatly increased the likelihood of a student reaching probationary status.

Table 4.18

Statistical Analysis for the Student Variable HS GPA

							95% C.I. for Odds Ratio	
Student Variable	B	S.E.	Wald	df	Sig.	Odds Ratio	Lower	Upper
High School GPA	-1.819	0.053	1191.02	1	0.0005	0.162	0.146	0.18

ACT Score

The final student variable analyzed was the students' ACT score to determine whether this standardized test result had statistical significance on the prevalence of a student landing on academic probation. The ACT composite score was chosen as it was taken by nearly 75 percent of the first-time freshman student population and the composite scoring system has been consistent and in place since the fall of 2009. The SAT test was considered, but the scoring system has changed significantly in recent years which would mean multiple scores must be taken into account which would negatively affect the outcome of the analyses. The next four tables provide data representing the total first-time, full-time and probationary student populations at the case study and peer institutions.

Table 4.19

ACT scores of First-time, Full-time Student Population at Case Study Institution

Fall Term of Cohort	No ACT reported	below 12	12-17	18-22	23-27	28-32	33 and up
Fall 2009	313	0	72	303	192	42	0
Fall 2010	228	0	154	359	273	76	6
Fall 2011	303	0	136	404	295	84	5
Fall 2009	34%	0%	8%	33%	21%	5%	0%
Fall 2010	21%	0%	14%	33%	25%	7%	1%
Fall 2011	25%	0%	11%	33%	24%	7%	0%
Mean	26%	0%	11%	33%	23%	6%	0%

Table 4.20

ACT scores of Probationary Student Population at Case Study Institution

Fall Term of Cohort	No ACT reported	below 12	12-17	18-22	23-27	28-32	33 and up
Fall 2009	80	0	28	103	36	5	0
Fall 2010	73	0	75	126	68	8	2
Fall 2011	105	0	72	143	65	11	0
Fall 2009	32%	0%	11%	41%	14%	2%	0%
Fall 2010	21%	0%	21%	36%	20%	2%	0%
Fall 2011	27%	0%	18%	36%	16%	3%	0%
Mean	27%	0%	16%	38%	17%	2%	0%

Table 4.21

ACT scores of First-time, Full-time Student Population at Peer Institution

Fall Term of Cohort	No ACT reported	below 12	12-17	18-22	23-27	28-32	33 and up
Fall 2009	559	0	83	443	466	188	18
Fall 2010	534	0	94	430	445	194	21
Fall 2011	435	0	86	469	426	155	14
Fall 2009	32%	0%	5%	25%	27%	11%	1%
Fall 2010	31%	0%	5%	25%	26%	11%	1%
Fall 2011	27%	0%	5%	30%	27%	10%	1%
Mean	30%	0%	5%	27%	27%	10%	1%

Table 4.22

ACT scores of Probationary Student Population at Peer Institution

Fall Term of Cohort	No ACT reported	below 12	12-17	18-22	23-27	28-32	33 and up
Fall 2009	109	0	36	119	90	19	1
Fall 2010	134	0	42	110	92	19	0
Fall 2011	109	0	35	156	88	15	0
Fall 2009	29%	0%	10%	32%	24%	5%	0%
Fall 2010	34%	0%	11%	28%	23%	4%	0%
Fall 2011	27%	0%	9%	39%	22%	3%	0%
Mean	30%	0%	10%	33%	23%	4%	0%

Students at both institutions who possessed an ACT score that fell in the lower two ranges of 12-17, as well as 18-22, did appear to have a slightly higher occurrence of probationary status than the students whose ACT scores fell within the ranges of 23-27, and 28-32. At the case study institution, 23 percent of total first-time, full-time students fell into the ACT range of 23-27, however, there were 17 percent of probationary students that fell into this score range. At the peer institution, 27 percent of the total student population fell into the same range of 23-27, meanwhile 23 percent of the probationary population scored within this range.

Table 4.23 provides statistical details for the student variable of *ACT Composite*. A binary logistical regression was run to identify student variables which predict student probation. The p value for this test was 0.006, indicating significance. The Odds Ratio (OR) was found to be 0.982 and the Wald Test result was 7.685. These statistical results would indicate that the student variable of ACT Composite is worth consideration as a lower ACT score increased the likelihood of a student reaching probationary status.

Table 4.23

Statistical Analysis for the Student Variable ACT Score

							95% C.I. for Odds Ratio	
Student Variable	B	S.E.	Wald	df	Sig.	Odds Ratio	Lower	Upper
ACT Composite	-0.018	0.006	7.685	1	0.006	0.982	0.97	0.995

The Impact of Student Characteristics on Student Success Outcomes

In Chapter 3 a model was presented, and it is provided again in Figure 4.2 below. This model considered the collective impact of the four analyzed student variables on the likelihood of a student spending time on academic probation, the retention rate, as well as the graduation rate. This study has statistically determined that all four of these variables have a significant impact on the likelihood of a student reaching academic probation. However, the goal of this research was also to connect these variables not only to time spent on academic probation, but forward to probationary student retention and graduation rates.

Figure 4.2

Influences of Student and Institutional Characteristics on Student Success
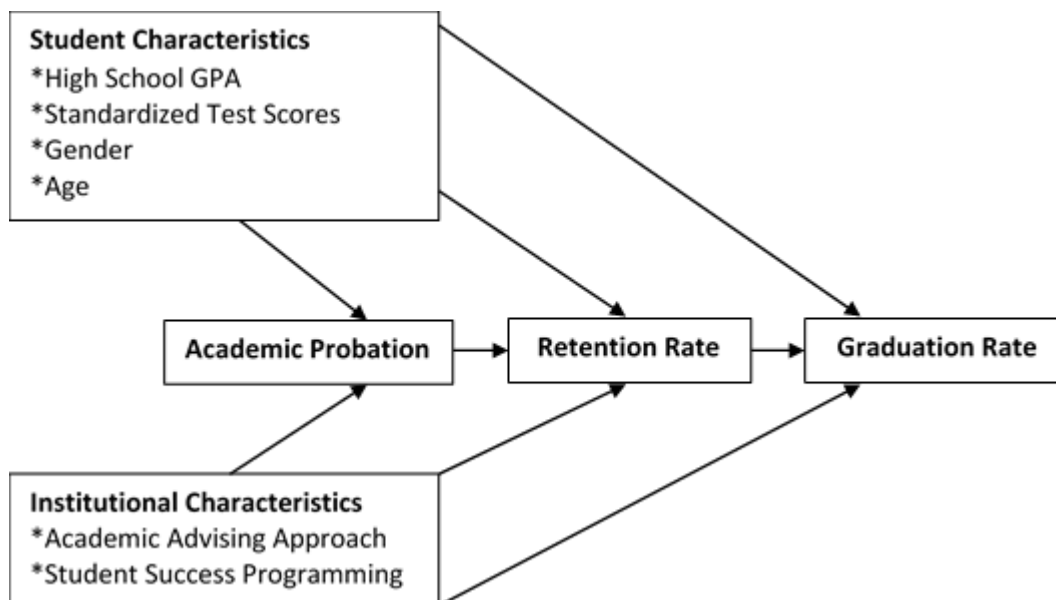
To accomplish this goal, the researcher evaluated the impact of the retention and graduation variables, both collectively and longitudinally. The connection between incoming student variables and the resulting levels of student success is a critical aspect for institutions to consider. There is a significant movement in higher education concerning the use of *big data* (Schock, 2018). Big data allows institutional researchers to review millions of student data points that cover many years, and determine combinations of variables that could predict student outcomes. This information can then be used to offer targeted interventions in a timely manner.

As a way of beginning to connect this data for the case study institution, an SEM path analysis was conducted using STATA. The results from this analysis can be found in Appendix E. The path analysis data has provided critical data concerning the connection between the four student variables of age, gender, ACT score, and HS GPA. Furthermore, the results convey the impact of those student variables on year one to year two student retention, as well as the 6-year graduation rate.

This study has already determined and conveyed the relationship between these four student variables and academic probation. However, when evaluating the relationship between probationary status and retention provided in the very bottom section of the table, there was a strong connection for the case study institution between this relationship as the coefficient was -.291 and is highly significant with a P > z of .000. This data can be interpreted that academic probation has a significant negative effect on retention. When considering the impact of the individual student variables on retention, the coefficients indicate that student age and HS GPA are the two variables that offer a significant connection. When considering age there was a coefficient of .0972 and P > z of .000. The variable of HS GPA has a coefficient of .128, and

again a P > z value of .000. The variables of gender and ACT score were not considered

significant in the connection with retention.

When considering the relationship between retention and graduation, the path analysis

again shows a strong connection for the case study institution as the coefficient is .278 and is

again highly significant with a P > z of .000. This can be interpreted as retention has a significant

positive effect on graduation. This direct impact between retention and 6-year graduation is the

strongest relationship between any of the levels. When considering the individual student

variables, the coefficients indicate that student age, ACT score, and HS GPA all provide a

significant impact on graduation. The variable of age has a coefficient of -.029, and a P > z value

of .009. When considering ACT score, this variable has a coefficient of .055 and a P > z value of

.000. For the variable of HS GPA has a coefficient of .203 and a P > z value of .000. The

variable of gender was not considered significant for this relationship between retention and

graduation. A visual overview of the coefficient data for the analysis can be found in Figure 4.3.

Figure 4.3

Student Variable Path Analysis
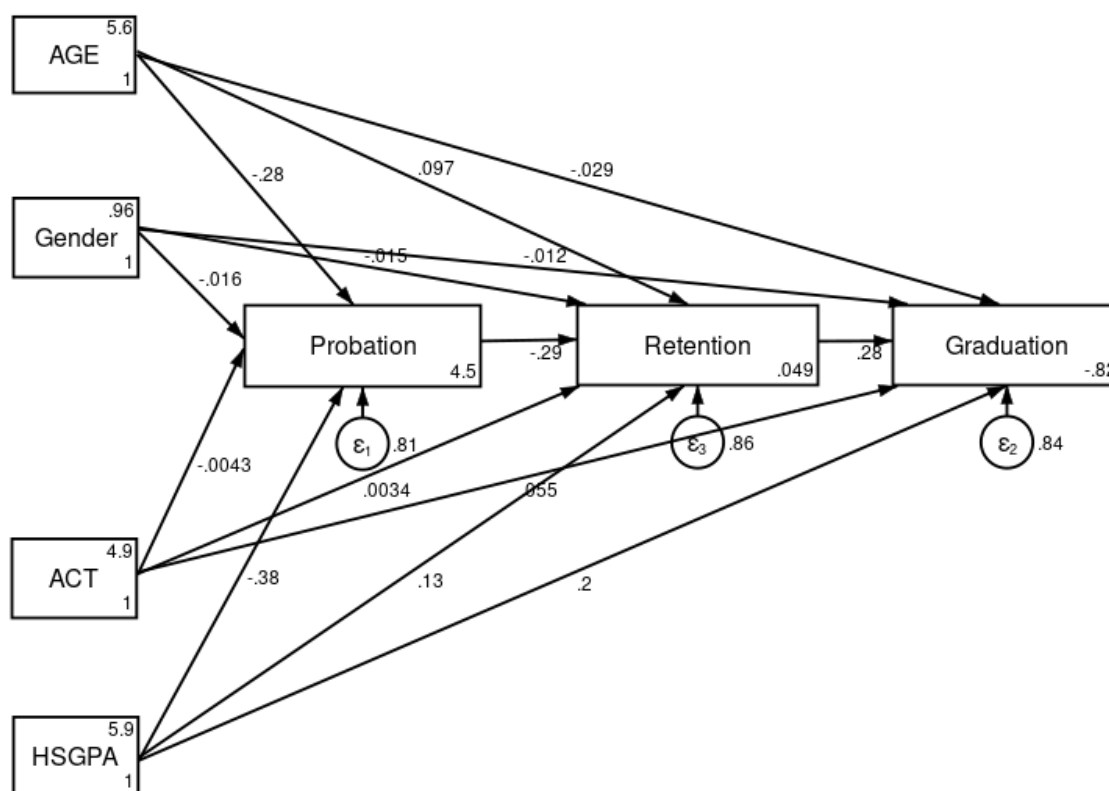
When addressing the bottom half of the model in Figure 4.2, this research specifically

examined the institutional approach of academic advising and student success programming, and

to also connect these elements to probation, retention, and graduation rates. The researcher

determined these aspects of the model were not effectively translated through statistical data,

therefore, they have been evaluated utilizing a qualitative approach. The results of this effort

have been fully addressed in Research Question #4 later in the chapter.

The Impact of the Probationary Student Population

The goal of Research Question #2 was to determine the impact of the probationary

population on the overall student success rates for the case study institution. This research

question was chosen as possessing a clear grasp of the direct institutional impact of the

probationary student population allows those within higher education to more fully comprehend the factors which may influence student success rates. The response to this research question centered on data provided by the case study institution from the years 2012-2018. Since the researcher was able to collect deeper and more recent data from the case study institution than the peer institution, there was a greater opportunity to address research questions such as this one.

Research Question #1 established several important characteristics of students attending the case study institution, and Table 4.1 at the beginning of Chapter 4 outlined that the probationary population comprised roughly 30 percent of the total student population between the years 2009-2011 (ISU Institutional Research, 2018b). Table 4.24 below illustrates that the probationary population has grown significantly in more recent years at the case study institution. The three most recent academic years shows the probationary population has risen to 34 percent of the total student population (ISU Institutional Research, 2018a).

Table 4.24

First-time, Full-time and Probationary Students at Case Study Institution

Academic Year	Total First-time Full-time Students	Total Probation Students	Probationary Percent of Total Student Population
2016	1750	560	32%
2017	1707	589	35%
2018	1670	559	34%
Mean	**1118**	**417**	**34%**

In order to address Research Question #2 and measure the impact of the probationary population on the total institutional retention rate, the researcher divided the case study institution student population into three groups. Table 4.25 reveals the retention rates for three different student populations for seven consecutive academic years. The three populations

outlined in this table are the *Probationary* population, the *Total Student* population, and the *Total Minus Probation* population.

Table 4.25

Retention Rates: Case Study Institution for Probation, Total, and Total minus Probation Students

Academic Year	Probationary Retention	Total Student Retention	Total Minus Probation Retention
2012	29%	70%	78%
2013	30%	69%	80%
2014	32%	71%	82%
2015	29%	70%	84%
2016	31%	70%	81%
2017	32%	67%	83%
Mean	**31%**	**69%**	**81%**

The last column in Table 4.25, titled *Total Minus Probation Retention*, provided institutional retention data without the influence of any probationary students. By reviewing this data it became evident that the probationary population in the first column had significantly reduced institutional year one to year two retention rates. For the case study institution, it lowered retention rates as much as 16 percent in 2017, and over a seven year period the probationary population reduced the mean institutional retention rate by 12 percent (ISU Institutional Research, 2018a). For many post-secondary institutions, especially four-year public institutions such as those in this study, a negative difference of twelve percent represents a significant loss of enrollment and revenue. An additional representation of this data can be found in Figure 4.4.

Figure 4.4

Retention Rates for All Three Groups at Case Study Institution

As outlined in Table 4.26, it was also the goal of this study to measure the impact of the probationary population from the perspective of the 6-year graduation rate. The graduation rate for probationary students at the case study institution was remarkably low as it averaged 7.6 percent for the 6-year graduation rate over a three year period (ISU Institutional Research, 2018a). When the *Total Student* group is deducted from the *Total Minus Probation* group, the impact of the probationary population may be identified.
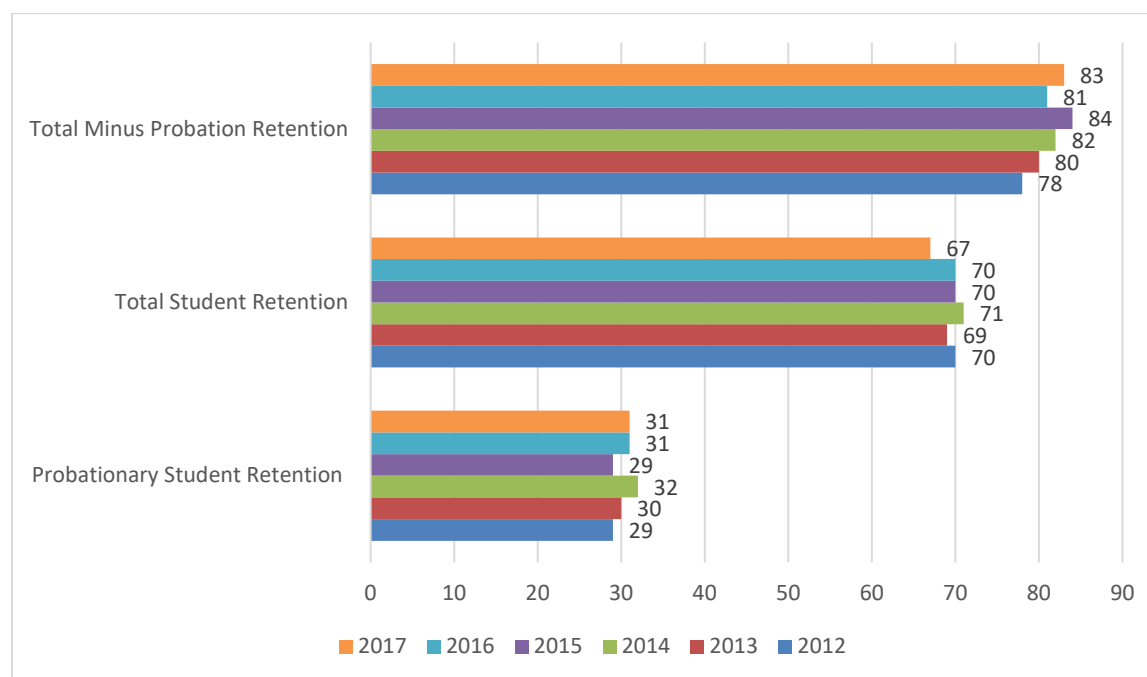
Table 4.26

Graduation Rates: Case Study Institution for Probation, Total, and Total minus Probation

Academic Year	Probationary 6-Yr Grad	Total Student 6-Yr Grad	Total Minus Probation 6-Yr Grad
2011	7%	30%	48%
2012	8%	28%	50%
2013	8%	29%	51%
Mean	8%	29%	50%

As shown in Table 4.26, the *Total Student* group sits at a 29% graduation rate, while the *Total Minus Probation* group holds a 50% graduation rate. Therefore, the *Probationary* population reduced the graduation rate by an average of 21 percent over a three year period (ISU Institutional Research, 2018a). This population has created a significant impact for the case study institution on student outcome levels. This reality is important to consider when evaluating concerns surrounding institutional success rates and the influence of the probationary population on the entire institution. An additional representation of this data can be found in Figure 4.5.

Figure 4.5

Graduation Rates for Case Study Institution
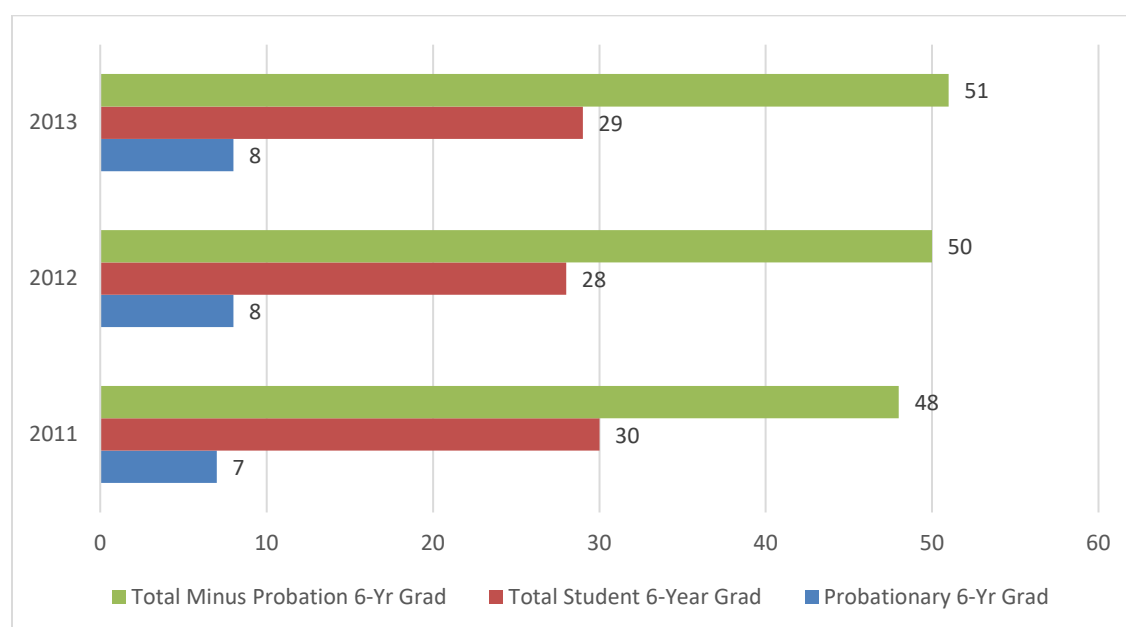
Existing Variances in Student Success Data

A critical aspect of this study was also outlined in Research Question #3 which evaluated student retention and graduation rates for the probationary population at both the case study and the peer institution. This question was designed to determine whether significant variance had existed in student success rates between the two institutions for this specific population of

students. The data, as seen below in Table 4.27 and Table 4.28, indicates that a significant gap

existed for the retention and graduation rates of the probationary population between the case

study and peer institutions.

Table 4.27

Probationary Retention and Graduation Rates Case Study Institution

Academic Year	Probationary Retention Rate	Probationary Graduation Rate
2009	27%	7%
2010	29%	5%
2011	30%	8%
Mean	**29%**	**7%**

Table 4.28

Probationary Retention and Graduation Rates Peer Institution

Academic Year	Probationary Retention Rate	Probationary Graduation Rate
2009	64%	17%
2010	60%	20%
2011	53%	17%
Mean	**59%**	**18%**

The descriptive data above displays a wide margin in student success rates between the

two institutions. For the years 2009-2011, there was a 30 percent gap in retention rates, and an 11

percent gap in graduation rates for the probationary population of students (ISU Institutional

Research, 2018b). This clearly illustrates that two peer institutions could have significantly

different success data for the same population of students.

These data were very important to the study as a significant gap in student success for the

probationary population between the two institutions allowed the study to consider the impact of

different institutional approaches to probationary student interventions. The results of Research

Question #3 confirmed that peer institutions with similar student compositions and similar

probationary policies, could have very different results with probationary student success rates.

This indicated that institutional methods for probationary student intervention may indeed have a significant influence on the student success results for this specific student population, and thereby established the basis for Research Question #4.

Furthermore, the researcher also deemed it important to consider the total student success data for both institutions. This data provides a broader context concerning the culture of student success within the two institutions. Tables 4.29 and 4.30 provide clear data beyond the probationary population; it shows there was also a massive variance in total student retention and graduation rates between the case study and peer institutions. The total student retention rate mean is 15 percent lower for the case study institution, and for graduation rate, the case study institution is 27 percent lower (ISU Institutional Research, 2018b).

Table 4.29

Total Student Retention and Graduation Rates Case Study Institution

Academic Year	Total Student Retention Rate	Total Student Graduation Rate
2009	64%	30%
2010	63%	28%
2011	64%	29%
Mean	**64%**	**29%**

Table 4.30

Total Student Retention and Graduation Rates Peer Institution

Academic Year	Total Student Retention Rate	Total Student Graduation Rate
2009	81%	57%
2010	80%	56%
2011	76%	54%
Mean	**79%**	**56%**

Given that there is only one institution of comparison for this research question, additional context has been provided in Figure 4.6 which shows where the case study institution fits in terms of institutional retention and graduation rates with all peer institutions across the

country. This figure provides the student success rates for all four-year public institutions that maintain a 90 to 100 percent acceptance rate, the same as the peer institution (National Center for Education Statistics, 2017b).

Figure 4.6

Retention and Graduation Rates for Case Study and all Peer Institutions
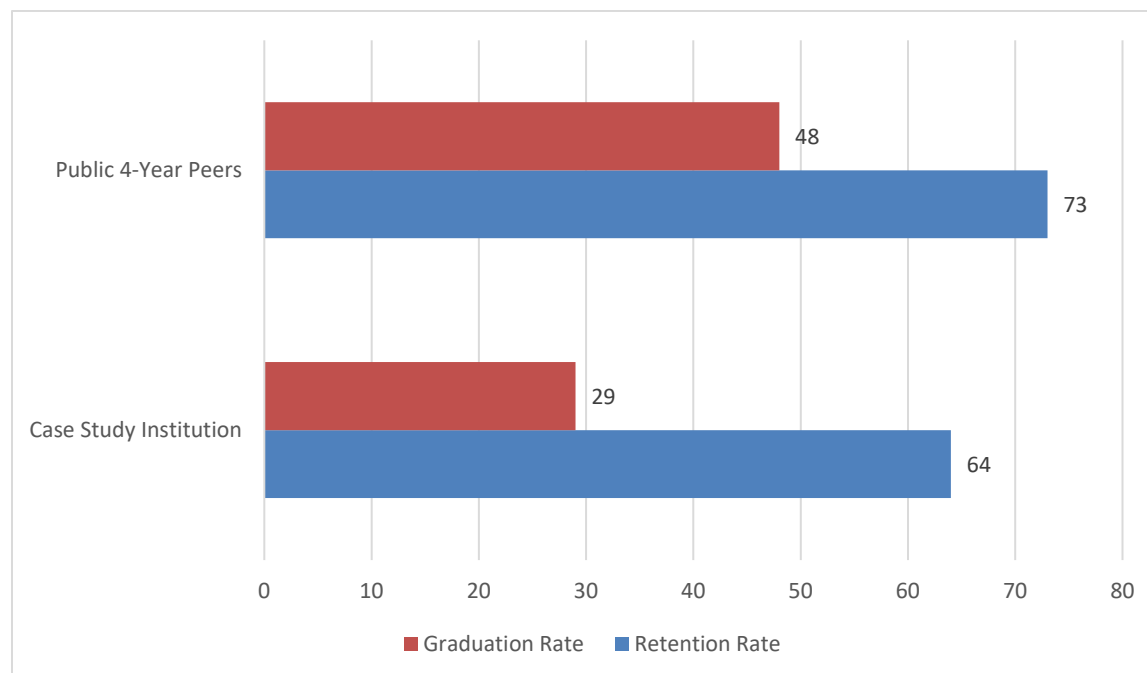
Figure 4.6 provides conclusive data that the case study institution not only possesses student success levels that are well below the peer institution in this study, but they also possess student success data that is significantly less than their peers across the country. As already established, the case study institution possessed an institutional retention rate of 64 percent, and an institutional 6-year graduation rate of 29 percent (ISU Institutional Research, 2018b). However, when considering all peer institutions with similar admissions standards, the mean institutional retention rate is 73 percent, and the mean graduation rate is 48 percent (National Center for Education Statistics, 2017b). Although the peer institution in this study only offers one point of comparison, Figure 8 allows the case study institution student success rates to be

compared to hundreds of institutions, and provides further data which supports that the case study student success rates consistently fall below the level of peer institutions.

Differences in Academic Probation Policy Implementation and Practices

Research Question #4 sought to determine the reasoning behind the significant variance in probationary student success between the case study and peer institution which was positively confirmed in Research Question #3. Therefore, this research question sought to identify and examine the different approaches with policy implementation and probationary student intervention practices that might contribute to this outcome. Policy implementation details can be found on university websites; however, the details provided are often out of date or incomplete in nature. Consequently, the researcher decided that interviews with university student success administrators would provide the most accurate level of detailed information when attempting to address this critical research question surrounding policy implementation.

Interviews were conducted with student success administrators from the case study and peer institution as these individuals could provide the necessary level of insight, as well as an administrative perspective into the actual usage of the policy. The qualitative data gathered during these interviews assisted in determining key influential factors concerning the probationary student success variance. In addition, a third interview was conducted with a second comparable four-year, public, comprehensive research university located in the Midwest. As previously mentioned, this institution will be known as *peer institution two*. The interview with peer institution two was conducted with the intent of providing a deeper perspective and an additional layer of critical context concerning the policy of academic probation and methodology. The data collected from peer institution two did prove very useful in addressing this research question concerning effective policy implementation.

A list of questions were prepared to ask each student success professional and was followed closely. However, the researcher also allowed the conversation to move as the student success administrators directed. The questions were mostly open-ended, which permitted the student success professionals the opportunity to reveal as much detail as they were comfortable sharing. Each interview lasted between 25-45 minutes, and because two of the three individuals were located at significant distances, all three interviews were conducted by phone for the purpose of consistency.

The list of interview questions that were asked to these professionals consisted of the same set of questions (See Appendix A). All three interviews provided important qualitative data concerning probationary student interventions and the direct impact of these strategies. Insightful connections and specific quotes from these interviews will be presented in this section of the chapter as a way of answering this research question regarding policy implementation. Full transcripts from all three interviews may be found in Appendices B, C, and D.

Table 4.31

Interview Data

Interview Participant	Length of Interview (h:mm:ss)	How Data was Collected
Administrator 1 (Case Study)	0:25:20	Audio Recording; Transcription
Administrator 2 (Peer Institutution)	0:33:17	Audio Recording; Transcription
Administrator 3 (Peer Institution Two)	0:44:55	Audio Recording; Transcription

Probationary Policy Comparison

The interviews of these administrative individuals were designed to answer Research Question #4 by providing deeper levels of context regarding policy enforcement, specific student intervention methods, and personal administrative insight. This final research question was deemed essential as it offered a critical connection of first-hand account between large-scale institutional success data and the direct impact of specific institutional practices.

It is also important to understand that some variance does exist between probationary policies. For example, the case study institution, as well as peer institution two, have essentially identical policies. Both institutions have three probationary steps a student may follow, the first being a step called "academic warning" at the case study institution, or "academic alert" at peer institution two (Idaho State University Academic Warning and Academic Probation, n.d.; University of Northern Iowa Undergraduate Academic Standing Policy, n.d.). This step happens the first semester a student's cumulative GPA falls below a 2.0.

The second step of the probationary policy was called "academic probation" and occurs when a student already on academic warning has another semester GPA of under 2.0 when the cumulative GPA is already below a 2.0 (Idaho State University Academic Warning and Academic Probation, n.d.) At the peer institution, the policy is slightly different as the step of academic probation is given the very first semester a student has a cumulative GPA of under 2.0 (University of Idaho Academic Regulations, 2018). This institution does not utilize the initial step of academic warning and represents a primary difference between the policies of the two institutions reviewed for this study.

The step immediately after academic probation for all three institutions was called "academic dismissal," "disqualification," or "academic suspension" and occurred when a probationary student had a third semester where the semester GPA was under a 2.0 while the cumulative GPA is also under a 2.0 (Idaho State University Academic Warning and Academic Probation, n.d.; University of Idaho Academic Regulations, 2018; University of Northern Iowa Undergraduate Academic Standing Policy, n.d.). There were no differences between the three institutions concerning how a student moved from one step to another, or how at any point, if the

student earns a cumulative GPA of over 2.0, they were removed from the probationary system and deemed to be in good academic standing.

It is also important to discuss the vastly different approaches in how these three institutions chose to intervene with the probationary student population. In order to assist with the identification and description of intervention methodology, the researcher chose to divide the various student intervention approaches into three main categories; a) predictive, b) proactive, and c) reactive. A predictive intervention is offered in a way that anticipates a potential student issue and provides an intervention before the student even experiences academic issues. A proactive intervention is one that very quickly identifies a student issue and offers an appropriate intervention as soon as the issues is presented. Finally, a reactive intervention is offered to the student after they have experienced a poor academic semester and is already within the academic probation system. These three descriptive terms will be used throughout the remainder of the research to describe the approach to various institutional interventions.

Administrator Interviews

Upon interviewing the student success administrator at the case study institution, it was revealed that the institution only utilized reactive student intervention measures with the probationary population. The administrator in this interview explained that the only required intervention for students who fell within academic probation was called an *Online Probation Workshop* (Administrator 1, personal communication, November 26, 2018). The online workshop must be completed by the student, and once completed, the registration hold was removed and the probationary student was clear to register for the following semester.

When asked if there were any other institutional-level measures, the student success administrator stated, "they have to do the probation workshop but they do not have to meet with

an advisor" (Administrator 1, personal communication, November 26, 2018). Administrator 1

explained that the institution was intentionally set up to not require in-person advising:

> [B]ecause of all the commuter students that are many times not able to stay on campus
>
> and see an advisor, or they are out of the area and the advisor is not available to meet
>
> with them, so they are not required to see someone. (Administrator 1, personal
>
> communication, November 26, 2018)

The administrator added, "The only thing that is required is the online workshop and then it is up

to them to take the necessary steps for their own success" (Administrator 1, personal

communication, November 26, 2018). This approach, which is both minimal and reactive in

nature, has placed the task of academic improvement largely on the student, as they must

determine their own best path forward.

The probationary student interventions at the peer institution were also reactive in nature;

however, they did utilize a significantly more intrusive approach. The first step for a student on

academic probation at the peer institution required them to complete an academic plan. The

student was then required to meet in person with the designated probationary advisor, as the peer

institution has a specific individual dedicated to advising the probationary population. This was

not the case at the case study institution. During the interview, the peer institution administrator

explained the basic steps taken by a probationary student:

> Then they would meet with the advisor and review the plan together in person. And then
>
> they also enroll in a class they take for the first semester they are on probation and this
>
> class would meet for the entire semester alongside their other classes. Then they are also
>
> meeting one-on-one with a probation advisor throughout the semester. (Administrator 2,
>
> personal communication, December 14, 2018)

At the peer institution, several steps had been implemented to keep the probationary student accountable, but the institution assisted the student as they tracked towards academic recovery. For the first intervention, the student success administrator mentioned the review of an academic plan which was then approved and signed. An additional reactive intervention was the requirement of all probationary students to be enrolled in a probation course taught by the probationary advisor. This course was designed to "teach about understanding your true identity, understanding the vision for your life, and then helping to create meaning in your daily academic routine based on that bigger picture of understanding who you are and what drives your decision making" (Administrator 2, personal communication, December 14, 2018).

Finally, the administrator from the peer institution explained that all probationary students were required to meet with the probation advisor regularly throughout the course of the semester. She felt as though this program has been effective, although she added "we are always adding things, always taking away what isn't fruitful, always taking feedback" (Administrator 2, personal communication, December 14, 2018).

She added a closing comment which seemed to summarize her beliefs surrounding the probationary student population as she stated:

The biggest thing I have noticed in terms of meeting probation students is just cultivating relationships. I think that when they know they have a specific person and a place to come and ask questions, and it is not threatening, and they have someone in their corner, and someone that is cheering them on. That in itself is a huge piece of seeing them successful. I think a lie that they often believe is that I am in this by myself and I have to make it work and they get into the sequence of striving and eventually burnout and they are not seeing actual change. And, so, just having a person, and having some sort of

intentional and relational equipping is really the key. (Administrator 2, personal

communication, December 14, 2018)

Peer institution two is very similar to the case study institution, as well as the peer

institution, as they are a four-year public institution which maintains a commitment to their

comprehensive educational mission. Peer institution two has also held a very comparable student

profile. The student success administrator that was interviewed provided significant detail into

their institutional approach with the probationary population. One of the key differences in

approach was that peer institution two has not only utilized reactive intervention measures with

the probationary population, but they have also reached out to these students with predictive and

proactive measures.

The first intervention mentioned during this interview was the creation of their *First-Year*

Initiative (Administrator 3, personal communication November 1, 2018). Within this predictive

initiative, the interviewed administrator explained that her Office of Student Success "works

with our Office of Academic Advising every year and we identify 60 or so sections of general

education courses that we close off and hold back until Freshman Orientation, and we make what

we call first-year only sections" (Administrator 3, personal communication November 1, 2018).

The institution then only allows freshman to register for these particular sections as they

"identify faculty who are really interested in working with first year students, and we do

professional development with them around the first year initiative" (Administrator 3, personal

communication November 1, 2018).

As a final measure, sophomore peer tutors are also embedded into these sections. The

student success administrator explained how the embedded peer tutors help as she stated:

[S]o they at different points in the semester will give mini-presentations, like 5 or 10

minutes on…you know…'it's almost time to register for spring semester and here's a

reminder about how to do that,' or, shortly before finals they say…'here's some tips

about studying for finals and how finals week works' and early in the semester they may

even do something around time management or balancing the different social or

academic [demands]. (Administrator 3, personal communication November 1, 2018)

She goes on to state that roughly 90 percent of freshman take part in these first-year only

sections, and the positive impact of these courses related to this predictive intervention aimed

directly at the prevention of academic probation issues (Administrator 3, personal

communication November 1, 2018).

From a proactive standpoint, peer institution two utilized a comprehensive institutional-

level *Early Alert System* which identified students who were exhibiting academic distress early

in the semester. The identified students were then offered various interventions depending on the

needs being exhibited (Administrator 3, personal communication November 1, 2018). Peer

institution two utilized a reactive intervention tool through a program called *Success Coaching*.

This program selected individuals from the pool of sophomore peer tutors in the *First-Year*

Initiative intervention mentioned above, and then utilized these students to coach those that had

landed on Academic Alert. Institutional data showed that "students who work with a success

coach, and met with that coach six or more times, 100 percent of them return the following

semester" (Administrator 3, personal communication November 1, 2018).She explained further

that in general, the more a student meets with their success coach, the higher the rate of retention

for that student.

Peer institution two shared that their student success rates have shown a marked increase due to the positive impact of these targeted programs. Peer institution two currently holds a year one to year two retention rate of approximately 83 percent, and a six-year graduation rate of roughly 62 percent (Administrator 3, personal communication November 1, 2018). As a reminder and comparison, the institutional year one to year two retention rate for the case study institution was 64 percent and the case study institutional graduation rate was 29 percent (ISU Institutional Research, 2018b). For the peer institution, the year one to year two retention rate was 79 percent, and the graduation rate was 56 percent (ISU Institutional Research, 2018b). These student success marks for both peer institutions far exceed those found at the case study institution.

Key Institutional Practices to Explain Student Success Variance

Research Question #4 asked if whether significant variances in probationary student success existed between the case study and peer institutions, to then identify the differences in academic probation implementation and practices that might contribute to these outcomes. As outlined in the section above, there were certainly stark differences in the institutional success rates of students attending these three institutions. Furthermore, the differences in policy implementation have been outlined, and so it became clear that these variances in approach also had a direct impact on levels of probationary student success.

From a policy implementation standpoint, the case study institution has primarily allowed the policy itself to stand on its own from a student intervention standpoint. The only institutionally-required intervention was the individual completion of an online probationary workshop. There was no required advisor interaction, and no required remedial coursework. Moreover, the case study institution has not utilized any probationary interventions designed to

be predictive or proactive in nature. Of the three institutions, the case study institution was the least involved with the student who experiences academic challenges.

From the perspective of probationary student intervention methodology, the peer institution did have some additional measures in place. One key difference was that the peer institution employed a probationary advisor specifically trained to work with probationary students. The first point of intervention was to review and approve the probationary student academic plan. Additionally, probationary students were required to meet regularly with their probationary advisor in a one-on-one setting to discuss their progress. And finally, probationary students were required to attend a semester long course designed to help develop the skills necessary to find academic success. The probationary policy at the peer institution has been designed with a commitment to assist and intervene with probationary students. While these interventions are still reactive in nature, they are significantly more personalized and targeted than those found at the case study institution, and this approach was reflected in the retention and graduation rates for the probationary population.

Peer institution two was different in that it has utilized three layers of interventions predictive, proactive, and reactive. These measures provided students attending this institution the opportunity to receive personalized academic assistance throughout their educational experience. While the interviewed administrator was strongly in favor of this approach and noted the positive impact of each measure, she also mentioned that some of these interventions were not required for all students, and in her opinion this was area that required correction. The student success administrator also mentioned that she was working on the approval of a new policy which would require the success coaching intervention for all probationary students, and

this proposal had recently been submitted at the time of the interview (Administrator 3, personal communication November 1, 2018).

It was evident that the institution with the least intrusive intervention plan for the probationary population, the case study institution, also possessed the lowest levels of probationary student retention and graduation. Furthermore, as the two peer institutions increased their level of probationary student intervention, to even include predictive and proactive approaches, the success rates responded in a positive manner. When Research Question #4 was evaluated purely from a best practices approach, the data from this study have clearly indicated that reactive intervention measures can be effective when they are required at an institutional level, the interventions are in-person with a professional advisor, and they are logically layered to offer assistance from multiple angles. However, the data as provided by peer institution two also shows that proactive and predictive techniques offered the highest levels of positive impact on probationary student success data. The data gathered in response to Research Question #4 indicated that institutions who create a specific and direct course of action to intervene with the probationary population, before more significant academic issues arise, were capable of offering the greatest positive impact on retention and graduation rates.

The Purpose and Effectiveness of the Academic Probation Policy

It is also important to analyze the policy from a broader context, and in doing so, the *Primary Research Question* of this study can be addressed regarding the purpose and effectiveness of the academic probation policy. As previously referenced, foundational research by Kelley (1996) described the primary motive of the policy as "a form of punishment to encourage satisfactory student performance" (p. 28). Kelley (1996) also asserted that academic probation served as an effective way to communicate the gravity of the situation. Pruess and

Switalski (2008) echoed the thoughts of Kelley (1996), as they stated, "being placed on probation may act as an external motivator for improved academic performance" (para. 15). If we utilize this research as a review of the encompassing purpose for the policy of academic probation, we must also address whether the label of 'academic probation,' in and of itself, is an effective tool in encouraging a student back to good academic standing.

This research has effectively addressed the primary research question because the case study institution and the peer institution utilized the policy of academic probation using different approaches; however, the student success data for these two institutions were markedly different as seen in Table 4.27 through Table 4.30. The retention rate for the probationary student population at the case study institution over a three-year period had a mean of 29 percent, while the graduation rate had a mean of 7 percent (ISU Institutional Research, 2018b). The same probationary student population at the peer institution, over the same three-year period, had a mean retention rate of 59 percent, and a mean graduation rate of 18 percent (ISU Institutional Research, 2018b). Meanwhile, the total student data also had wide gaps between the two institutions as the case study institution retained a mean of 64 percent of its students, while graduating only 29 percent (ISU Institutional Research, 2018b). Moreover, the data for the peer institution was again significantly higher as they retained a mean of 79 percent and graduated a mean of 56 percent (ISU Institutional Research, 2018b).

If the primary purpose of the policy of academic probation was to encourage satisfactory academic performance, and this study identified institutions with very different approaches to the implementation of this policy, the student success data has indicated that the two peer institutions possessed a significantly more successful probation interventions. The most significant difference in probationary policy was that at the point of entering academic probation, both peer

institutions offered several interventions that the case study institution did not. The case study institution only required an online probation survey and no specific intervention were required that provided the probation student direct interaction with institution personnel for assistance. This model essentially allowed the policy to stand on its own, and therefore has provided a clear response to the primary research question. The policy of academic probation, in and of itself, is not an effective tool for supporting student retention or enhancing graduation rates.

Chapter Summary

This chapter offered both quantitative and qualitative data regarding the policy of academic probation and the impact of the policy on student retention and graduation. Quantitative data was analyzed from the case study and the peer institution concerning student traits and student success. Qualitative data was captured through administrator interviews from the case study institution, as well as two peer institutions, and this data was carefully reviewed to identify connections between policy methodology and student outcomes. By comparing the student success data for these institutions, as well as the corresponding probation policies, the variances in retention and graduation rates provided a means to effectively determine the direct impact of the policy on probationary student success. The data has indicated that the policy of academic probation itself is not an effective tool to support student retention or enhance graduation rates. However, when the policy is paired with appropriate and effective interventions, institutional probationary student success rates have shown substantial improvement.

Chapter 5: Discussion

Introduction

Higher education has received increased scrutiny in recent years as the public focus has shifted towards degree attainment (Miller & Lumina Foundation, 2016). Legislation has been created that determines funding levels for public institutions according to a formula based on student outcomes. Many argue this movement, referred to as outcomes-based funding (OBF), will create even deeper divides between those institutions who enroll historically underserved student populations and those who do not (Lumina Foundation, 2018). As many as twenty-five states have passed legislation which utilizes OBF models, and five additional states have such systems in the works (Lumina Foundation, 2018). This new reality for higher education makes this study even more critical, as institutions strive towards highly effective methods of retaining and graduating more students.

As the results from this study have indicated, strong institutional student success data is closely related to maintaining manageable academic probation populations and implementing highly effective interventions. The intent of this study was to establish a connection between institutional usage of the academic probation policy and the resulting impact on probationary student success. In this chapter, the results of the study are discussed, conclusions are offered for each research question, and recommendations are provided for higher education practice as well as future research opportunities.

Discussion

As covered in Chapter 2, prior studies such as those by Arcand and LeBlanc (2012), Barouch-Gilbert (2016), Demetriou (2011), Fletcher and Tokmouline (2010), McGrath and Burd (2012), Renzulli, (2015), and many others have addressed specific topics related to the policy of

academic probation. These studies have provided research on subjects such as probationary

student first-hand experiences, data resulting from specific student intervention strategies, and

the importance of sound advising practices with this population. However, past studies on

academic probation have rarely set out to evaluate the institutional responsibility in managing the

academic probation population and doing so from a broad perspective. The research utilized a

mixed-methods case study to evaluate various institutional approaches used to interact with the

probationary population. This research is critical work as very little is still known about the

impact of the probationary designation, nor do we fully understand the influence of various

institutional approaches on probationary student success.

One prior study that offered compelling research and commentary on the topic of

academic probation was completed by Fletcher and Tokmouline (2010). This study asserted:

> While nearly all colleges and universities in the United States have policies that create
>
> academic probation status based on GPA performance, almost nothing is known about
>
> the use of this designation and the programs that accompany it on college success. (p.
>
> 10)

Fletcher & Tokmouline (2010) summarized their study by stating:

> Results suggest that academic probation status following the first semester of college
>
> may serve as a short term "wake up call" to some students in that second semester
>
> performance is improved. However, our findings also suggest that this short-term boost
>
> in performance fades out over time. Specifically, we find that students who receive
>
> academic probation after their first semester have the same graduation and persistence
>
> rates as students who perform poorly but do not receive probation. (p. 10)

The data collected from this study would support the findings of Fletcher and Tokmouline (2010), as the label of academic probation alone does not induce extended improvement in academic performance. This study also supports Renzulli's (2015) research by noting that when the policy of academic probation is paired with effective and proactive interventions, it may induce significant positive change on the academic outcomes of probationary students. The data has indicated that probationary students do respond quite effectively to specific types of assistance, and that institutions should consider those strategies that generate positive change as they build their approach in supporting their probationary students.

McGrath and Burd (2012) determined that by utilizing a mandatory success course for academic probation students, probationary retention for the following semester was increased from 22 percent to 60 percent. As supporting evidence, the case study institution in this research did not utilize any mandatory intervention courses, and their probationary retention rate of 29 percent reflected the lack of personalized attention and assistance (ISU Institutional Research, 2018b). Meanwhile, the peer institution did mandate a probationary success course and they have held a probationary retention rate of 59 percent (ISU Institutional Research, 2018b). The data from both studies would indicate that an effective probationary student success course has the potential to approximately double probationary retention rates.

Conclusions

Each research question associated with this study was designed to assist in the process of determining if the policy of academic probation was an effective tool in improving probationary student success. In this section each research question is reviewed, the results are discussed, and feedback is provided.

Research Question #1:

What are the student demographic variables that most likely predict that an incoming student will land on academic probation?

This research question was essential to the study as institutions often become frustrated with poor retention and graduation rates yet continue to admit students with attributes that potentially indicate academic difficulty and time spent on academic probation. Swail (2014) expressed the critical need for institutions to align their admissions standards with the approach of their academic probation policy. This alignment allows for institutions that embrace their comprehensive educational mission and admit a significant percent of applicants to provide the type of interventions and support needed for the profile of admitted students.

This initial research question considered the importance of determining the existing connection between four specific student variables and how these attributes could be connected to the occurrence of academic probation. The findings determined that three of the four measured student variables had a statistically significant impact on the likelihood of an incoming student landing on academic probation. The variables that were determined to be statistically significant through a binary logistic regression were student age, high school GPA, and ACT composite score. The student attribute of gender was close to the .05 cutoff for significance, but was deemed acceptable for this model at the *p <= .077 level,* and therefore also deemed significant. These findings are important as this study took into account first-time, full-time students across a three-year period and a population of close to 6,000 individuals. The results from this initial first research question concluded that a direct connection existed between student variables and those students that spend time on academic probation.

This important topic was also addressed during the interview with peer institution two, as the student success administrator stated:

So, I think that is another part of our next phase of work is getting through all that data and figuring out how we could do better on that very front end, of once we admit students who are academically unprepared in some way that we have interventions that better meet whatever their needs are. (Administrator 3, personal communication November 1, 2018)

This administrator has found the connection their institution must make between student profile and institutional approach to student interventions. The recognition of this relationship is often elusive as the majority of institutions fail to understand that the admissions philosophy concerning applicant selectivity should also inform decisions regarding offered interventions.

For the case study institution there is a nearly open admissions policy in place, yet the institutional approach to probation students, as well as the general student population, resembles what you would expect to find at a highly selective institution. The academic probation policy failed to implement any intervention steps which included tutoring sessions, a required probationary course, or even scheduled meetings with an academic advisor. The only requirement prior to the probationary student registering for courses in the following semester was the completion of an online probationary workshop. This approach has withheld any type of personalized assistance and fully placed the prospect of academic recovery on the shoulders of the already underprepared student. Considering the case study institution maintained a nearly open admissions policy, it is not surprising that an extraordinary percent of students reach probationary status, and that the probationary students attending this institution consistently failed to retain and graduate.

Research Question #2

What is the impact of the probationary student population on institutional retention and

graduation data?

The second research question was aimed specifically at identifying the direct impact of

the probationary population on overall institutional retention and graduation data. This particular

research question was selected to provide insight from a higher education administrative

perspective concerning the potential negative effect of a large probationary population on student

success. For the case study institution, the study has already established that roughly 32 percent

of the total student population has spent time within academic probation (ISU Institutional

Research, 2018a) and that this population is very large by comparison to other post-secondary

institutions (Schudde & Scott-Clayton, 2014). Furthermore, if the probationary population

produced a significant influence over institutional student success data, this result would further

establish the basis for this study.

The data indeed revealed that the probationary population had a noteworthy impact on

overall student success data for the case study institution. In terms of retention, between the

years 2012-2018, the probationary population reduced the case study institutional retention rate

by an average of 12 percent annually (ISU Institutional Research, 2018a). The negative impact of

the probationary population on institutional retention was at its lowest point in 2012 at eight

percent; however, this population has steadily become more influential as the probationary

population decreased the institutional retention rate by 16 percent during the 2017 academic year

(ISU Institutional Research, 2018a).

The largest statistical impact from the probationary population was felt at the case study

institution in the area of degree completion. Across the years of 2011-2013, the probationary

population had a significant impact as this group reduced the institutional graduation rate by an average of 21 percent annually (ISU Institutional Research, 2018a). Once again this data conveys the massive impact of the probationary population on institutional student success outcomes for the case study institution. These results provide further validity to the study as it conveys the potential positive impact of reducing the number of probationary students.

Research Question #3

Do significant variances exist in retention and graduation rates for the probationary population between the case study and the peer institution?

The third research question for this study was very straight forward as it sought to determine if similar four-year institutions could possess very different probationary student outcomes. This research question was included because the results could provide substantive evidence concerning the impact of probationary policy implementation. The results from the study indicated that the case study and peer institutions were indeed similar in their institutional policies; however, significant variances also existed in the retention and graduation rates for the probationary population.

The probationary student retention for the case study institution was established at 29 percent, while the graduation rate for this population was seven percent (ISU Institutional Research, 2018b). When comparing to the peer institution, the probationary retention rate was determined to be 59 percent, and the probationary graduation rate was 18 percent (ISU Institutional Research, 2018b). Therefore, the retention rate for the probationary population was roughly double the probationary student retention rate found at the case study institution (ISU Institutional Research, 2018b). And, the probationary student graduation rate for the peer institution of 18 percent was more than double than the seven percent graduation rate for the case

study institution (ISU Institutional Research, 2018b). The data addressed in Research Question #3 was critical as it indicated that comparable institutions could indeed possess significantly different probationary student success data.

Research Question #4

If significant variances do exist in probationary student retention and graduation rates between the case study and the peer institution, what then are the differences in academic probation policy implementation and practices that would attribute to this outcome?

Because Research Question #3 found significant variance in probationary student success between the case study and peer institutions, the research then aimed to identify specific institutional practices that influenced these results. The first three research questions were most effectively addressed using a quantitative approach; however, this final research question concerning institutional practices required the collection of data qualitatively. This led the researcher to complete an interview with an individual from the case study institution, from the peer institution, and additional qualitative data was also collected through an interview with an academic advisor from peer institution two. All three interviews provided insight and meaningful data into the response given towards this research question.

This study examined institutions that have similar admissions policies and student populations, yet possessed profound variances in retention and graduation statistics. The goal of this research question was to determine specific reasons behind the disparity in student success. In chapter two of this study, important research was referenced by Laird et al. (2008) which examined the qualities of institutions that out-performed their peers by possessing higher than expected retention and graduation rates. This research identified a handful of institutional characteristics of those that retain and graduate students on the highest end of the spectrum. One

of the attributes covered by the research of Laird et al. (2008) included the concept that over-performing institutions considered freshman-level introductory courses that removed the greatest obstacles for first-year students, designed curriculum that engaged first-year students, and choose specific faculty who utilized a collaborative approach.

In the interview with peer institution two it was communicated that they have implemented a student success strategy that has successfully integrated these critical ideas as they are offering freshman-level courses that have removed many typical freshman obstacles. The student success administrator from peer institution two explained this approach in the interview:

> We work with our Office of Academic Advising every year and we identify 60 or so sections of general education courses that we close off and hold back until Freshman Orientation, and we make those what we call first-year only sections. So, they are existing gen ed. courses, everything from Life Continuity and Change, which is a biology course, to Math and Decision Making, to College Writing and Research, and everything in between. So, we identify faculty who are really interested in working with first-year students, and we do professional development with them around the first-year initiative. And, then, we select a sophomore peer mentor who in most cases has taken that class the previous year and we embed them into that course as a peer mentor position. And, so, that peer mentor works with that faculty member. (Administrator 3, personal communication November 1, 2018)

This approach was truly fascinating as the institution was working preemptively, or predictively, to eliminate hurdles for freshman students. The result of this intervention has truly made a positive impact on their student success data. This approach was highly intuitive as

research has expressed through countless studies that getting students off to a strong start academically was critical to improving student success (Connolly et al., 2017; Radunzel, 2016; Westrick et al., 2015). Furthermore, it is worth noting that peer institution two possessed the strongest institutional retention and graduation rates of the three institutions in this study, rates that outperform many peer institutions. Peer institution two currently holds a year one to year two retention rate of approximately 83 percent, and a six-year graduation rate of roughly 62 percent (Administrator 3, personal communication November 1, 2018). Additionally, it is important to recognize that the probationary policy at peer institution two is essentially identical to the probationary policy utilized by the case study institution.

Furthermore, Laird et al. (2008) proposed that institutions that held higher than expected retention rates also offered what students described as a "supportive campus environment" (p. 91). An additional pattern that has emerged from the results of this research question indicated that those institutions which offered students high levels of institutional support found substantial increases in student success data over institutions that do not provide the same level of support. During the interview that was completed with the case study institution administrator, it became apparent that zero personalized support was being offered to academic probation students. However, the peer institution, as well as peer institution two, offered several layers of personalized support to the probationary population in their efforts to improve academic standing. These efforts included interventions such as required appointments with advising professionals, the assignment of peer tutors, the completion of an academic degree plan, as well as a required probationary student success course. These additional layers of support appeared to be a critical factor in providing a campus environment where the students felt that the institution had a direct interest in their success.

The results of this final research question clearly indicated that successful institutions bear a significant responsibility in the outcomes of the probationary student population. Those institutions that provided very little in terms of support and targeted interventions, such as the case study institution, possessed very weak probationary student success rates. Those institutions that provided meaningful and personalized layers of student support and interventions, such as peer institution one and peer institution two, possessed much stronger probationary student success rates. Additionally, these respective approaches appear to also hold a significant influence over institutional retention and graduation rates in general, as seen in the circumstances of the three institutions in this case study. The results of Research Question #4 provides a critical layer to this research and must be considered as those within higher education make decisions with respect to institutional approaches to student success.

Recommendations for Future Research

The goal of this study was to examine similar institutions and to determine if variances in probationary policy implementation and probationary student intervention could make an impact in student success rates. While the approach to this study was sound, the researcher would recommend that future studies evaluate the effectiveness of the policy of academic probation from a greater variety of institutions, including those located in additional regions, and to include research from other types of institutions such as four-year private, two-year, graduate schools, and even for-profit schools. All institutions involved with this study were four-year, public, research universities.

Additionally, while this approach was atypical in the field of retention research as it focused more on large-scale data rather than centering research focus on a particular student intervention or single cohort of students, there is a great deal of potential to deepen the findings.

The data gathered by the researcher for both peer institutions was significantly less in-depth than the data gathered for the case study institution. This prevented the researcher from running various statistical analyses that would increase the generalizability of the results. There is great potential for a similar study on the policy of academic probation that possesses access to vast amounts of data for multiple institutions, and type of institutions. The results from this type of research project would offer even more comprehensive results.

Finally, and from the perspective of qualitative data, additional studies need to be completed which link student interviews or surveys back to the critical factors associated with probationary student success. The researcher would recommend interviews with students who landed on academic probation, yet, found ways persist and graduate. The qualitative data from a large-scale study with this approach would be highly valuable to the field of retention research as deeper levels of data must be gathered concerning the probationary student experience and the key factors that allow students to regain a strong academic footing.

Recommendations for Professional Practice

While the case study institution believed that their academic probation policy has adequately served their students, the data has revealed evidence to the contrary (Administrator 1, personal communication, November 26, 2018). The results of the study show that significantly higher levels of probationary student success may be achieved provided adjustments are made to the case study institution's probationary policy.

First and foremost, the results of this study would assert that the probation student intervention model at the case study institution must move away from purely reactive and impersonal measures. The current approach, which is the utilization of an online probation workshop, is simply not interactive enough as a reactive intervention and does not allow a

probationary student adequate information and support to academically course correct. The students on probation at the case study institution are not required to interact with anyone who may be able to provide the necessary guidance to recover. This study has shown that the online probationary workshop intervention has not positively impacted probationary students in any notable way, so the institution should consider eliminating this intervention entirely. Other reactive interventions should be considered such as a required probationary course, or required appointments with an advising professional. These interventions would offer greater levels of insight and opportunity for student remediation. It is apparent that many students admitted to the case study institution are not academically prepared, and so interventions must be offered that address this issue.

Secondly, the case study institution would be wise not only to consider improving reactive interventions that are more personalized, but also implement interventions that are proactive in nature. Adding this type of intervention would allow the institution to achieve a significant upward swing in probationary student outcomes in a relatively short period of time. Even more importantly, it would provide the opportunity to offer assistance to students before they fall into academic distress, and within a time frame that could make a positive impact on educational outcomes. Therefore, a goal of the case study institution should be to identify a proactive intervention, such as an early-alert system, that would utilize a proactive approach to student intervention. Furthermore, it is essential that all interventions are implemented at an institutional level rather than being implemented with only a cross-section of the student population.

Considerations must also eventually be made that discuss potential student interventions that are predictive in nature. Peer institution two offered several examples of extremely effective

yet simple predictive interventions; however, these additions should be made after corrections are made to current reactive measures and a proactive intervention is introduced. Nevertheless, if the case study institution wishes to make significant long-term strides in respect to institutional student success, predictive approaches will be an essential consideration.

Finally, it is also critical to consider that changes in policy and procedure to the case study institution would also require changes from the perspective of organizational structure. Both of the peer institutions involved with this study made changes in personnel and departmental structure, which made the improvements to intervention approaches possible. For instance, the peer institution created an academic probation advisor position who met with all probationary students throughout the semester, approved their degree plans, and even taught the probationary course. Peer institution two also created multiple offices and positions, including the Office of Student Success, the position of the Director of Student Success, as well as multiple advisors and peer tutors. This individual and her staff orchestrated the various student intervention strategies as outlined in Chapter 4. In order for the case study institution to experience similar increases in probationary student performance, these adjustments to student interventions must be made, but a concurrent shift in personnel and departmental structure must also occur. This will ensure that adequate support staff is available to successfully implement these practices and provide significantly higher levels of proactive support for the student population.

Chapter Summary

This exploratory case study was designed to expand research regarding the effectiveness of the academic probation policy. Furthermore, the purpose of this case study was to continue research on the probationary population, and to provide data so that institutions may be more

prepared to determine most effective practices. This study provides insight into the determination of most effective probationary student interventions, as there was very little in common in terms of offered assistance between three very similar institutions. Higher education administrators often feel pressure to grow enrollment levels; however, this effort must also be aligned with institutional strengths and available student resources. This research allows institutional decision-makers to see connections within their own institutions and to possess the ability to increase institutional persistence and graduation rates through improvements to academic probation policy and practices.

The results of the study assert that the policy of academic probation, when offered independent of meaningful student interventions, is simply not an effective tool for improving probationary student success. However, it is clear that positive improvements in student success rates may be achieved when an institution utilizes targeted, proactive, and personalized interventions with the probationary population. Given the growing influence of outcomes-based funding and the impact of probationary students on institutional success data, higher education leaders should closely consider how to most effectively address this student population. Institutions would be wise to adopt new and innovative approaches, resulting in increased levels of academic success. These changes may not only provide a positive boost for critical institutional student success measures and funding levels, but also profoundly impact the lives of countless students.

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Appendix A

Interview questions for university administration concerning Academic Probation:

1) How does your institution approach students whose grade performance falls under a 2.0 and results in academic probation?

2) What types of interventions are offered or required to help probationary students improve their academic performance and return to "good academic standing"?

   a. Are any of these interventions predictive or proactive in nature?

3) Has your institution's approach to probation students changed in recent years?

   a. If so, have these changes been beneficial for your students and led to improvements in retention and graduation data?

4) Is the academic probation policy, as currently implemented by your institution, meeting the needs of your students?

   a. How do you evaluate or measure the positive impact of your probation policy? Please explain with any information or data.

Appendix B

Interview of University Administration concerning Academic Probation – Case Study Institution

1) *How does your institution approach students whose grade performance falls under a 2.0 and*

   results in academic probation?

   The university system requires that any undergraduate student that falls below a 2.0 GPA are

   placed on a tiered system of probation levels. The first level of the probation is academic

   warning. If a student who is on Academic Warning does not earn a 2.0 the next semester they are

   placed on Tier 2, which is called Probation. If a student on Probation does not earn a 2.0 the

   semester GPA or a cumulative GPA, that student then is dismissed. The student, if they are on

   Academic Warning or on Probation, if they receive a semester GPA of 2.0 or better, they are

   allowed to remain on that level they are currently on. Once the cumulative is 2.0 or above, they

   are back into good standing. So that's the technology part of the probation.

2) *What types of interventions are offered or required to help probationary students improve their*

   academic performance and return to "good academic standing?"

   The help, the intervention for the students on probation. The students will need to complete an

   online probation session that requires the student to go in and read information about may have

   caused their lack of success the prior semester and gives ideas as how to help themselves be

   removed or stay off probation in the future. And they do need to that online probation workshop

   every semester on probation. Once they are on probation then they must complete a more in

   depth workshop, which is a little bit more intrusive as they have to write some comments.

   Although this is in production and is not set up at this point. We have committee members and

   university personnel looking at how to make this more helpful for a student in a higher level of

need. Then they have to do the probation workshop but they do not have to meet with an advisor. The reason this was established this way to begin with was because of all the commuter students that are many times not able to stay on campus and see an advisor, or they are out of area and the advisor is not available to meet with them, so they are not required to do so. We encourage them to seek out their faculty or support advisor. They are advised to work with them to find out the resources at the university, and they may need to reach out and contact some type of counseling or they may need to be realistic with the amount of credits. That all is not required, the only thing that is required is online workshop and then it is up to them to take the necessary steps for their own success.

3) *Has your institution's approach to probation students changed in recent years?*

The approach has changed recently. The new probation policy I just went over was instituted in the fall of 18. We have not had enough time to track anything, so we don't know the success rate or the changes will be for that new policy. The previous policy had three levels of probation and it also had a credit limit. We felt through research that this did not benefit the student, to allow the third level of probation. It actually was a negative to the student because they could do more damage to their academic transcript as well as increase the level of financial aid debt that they had which was making the graduation rate very low, maybe 2 percent. So it really was not helping the university, it was not helping the student, it was actually harming the student, and so the university changed the policy and took away the credit limit, which allowed the student to make individual decision making. We always encourage the student to work with an advisor to make that decision and to preview all the information as to why a credit limit would be in their best interest but we are allowing the student to have some choice in that.

b. *If so, have these changes been beneficial for your students and led to improvements in retention and graduation data?*

There has definitely been some change in policy but there has not been enough time yet to offer any results.

4) *Is the academic probation policy, as currently implemented by your institution, meeting the needs of your students?*

Well I actually believe that it is. There are of course some students that unfortunately have situations that they are not able to be successful, based off life circumstances or maybe their own personal characteristics. But based on the input we receive from the students on the feedback questions from the online probation workshop, most of them identify and feel these are some tips and strategies were something they had never thought about, or heard about, and were not aware of. Many of them felt these policies or the practices in the online probation workshop would help them for the next semester of attendance, they would be able to help their GPA's raise and also to continue to get off probation and once again into good standing. From that vantage point, the students are stating that the online probation workshop is at least helpful in that it provides information they didn't have before, and it is certainly up to the student to take advantage of it or not.

b. *How do you evaluate or measure the positive impact of your probation policy? Please explain with any information or data.*

The survey is the main data right now, but eventually we would like to take a look at the probation rate…the individuals who have at least gone on the first level or the second level…to see if that is reduced at all or if that has increased. How many students are dismissed? So, in time

we will have more data evaluation to see how the probation policy is impacting students

currently.

Appendix C

Interview of University Administration concerning Academic Probation – Peer Institution

1) *How does your institution approach students whose grade performance falls under a 2.0 and*

   results in academic probation?

"Academic standing is based on institutional cumulative GPA, so essentially you could be a

student and do really great, like a 4.0 first semester and then you started getting under a 2.0 for

subsequent semesters, it might take a few semesters to get under a cumulative 2.0 if you started

really high, so, in the semester that you got a semester GPA of under a 2.0 but your cumulative

for the institution was still above a 2.0, you would not be on probation. We don't see you on

probation until your cumulative drops below a 2.0, then you're on probation. If you get below a

2.0 for a semester while your cumulative GPA remains below a 2.0, meaning on probation

already, you go straight to first disqual. First disqual means you sit out for one semester and then

you have to come back after that. So if you went on first disqual after fall semester you would sit

out for the spring and come back the next fall. Then when you come back you are on probation.

So again you have the opportunity to do well that semester, but if you don't get a semester GPA

of above a 2.0, you go on second disqualification which is really difficult to come back from but

it is petition able and the college, so someone could petition and the college could decide there

are extenuating circumstances and the college could let you back in. But for the most part after

the second disqual there is only a small handful of people that end up coming back, and then

there's the potential for third disqual but that is the end of the hall there. So the only other caveat

to that is there is a regulation called L3 I think, in our handbook here, so essentially if you are a

first year student and in your first semester you get under a 1.0, you actually go straight to

disqual."

2) *What types of interventions are offered or required to help probationary students improve their academic performance and return to "good academic standing?"*

"So they do fill out an academic plan. They also have their advisor hold but also a probation hold. In order to get the probation hold lifted they need to fill out an academic plan, reflective questions and things like that. Then they would meet with the advisor and review the plan together in person. And then they also enroll in a class they take for the first semester they are on probation and this class would meet for the entire semester alongside their other classes. Then they are also meeting 1 on 1 with a probation advisor throughout the semester.

The required class is something that I teach about understanding you true identity, understanding the vision for your life, and then helping to create meaning in your daily academic routine, based on that bigger picture of understanding who you are and what drives your decision making. It's more of a soft skills growth, character growth class. There is offering of more study skills that are offered through the academic success programming, more centralized to the university, and they have the opportunity to take that also."

3) *Has your institution's approach to probation students changed in recent years?*

"The academic plan has been in place for I would say over five years, but the class is relatively new and is about two and a half years old. And it continues to change of course and evolve."

c. *If so, have these changes been beneficial for your students and led to improvements in retention and graduation data?*

"Absolutely. Like I said so two years and we aren't seeing full grad sequence yet. But in terms of just the fruitfulness of what I am seeing in terms of growth over the course of the semester and being able to articulate meaning behind what they are doing, understand why it is important to invest fully in their classes, to have the courage to reach out for help. I actually have the outcomes here because I was just finishing entering this data. So different outcomes….things like: 'I proactively reach out for help and resources as needed', 'I effectively execute my plan with great perseverance', 'I can make wise and calculated decisions',' I understand the importance of aligning my goals with my true identity, purpose, and vision'…so things like that, and they are really seeing growth."

4) *Is the academic probation policy, as currently implemented by your institution, meeting the needs of your students? And, how do you evaluate or measure the positive impact of your probation policy?*

"It is but we are always adding things, always taking away what isn't fruitful. Always taking feedback, what do you need? That's a huge question too, asking students what do you need right now? I think all of those things go into the way that the next semester is shaped just because you start to recognize what is the need and am I actually meeting that with the program I am providing. But, I think for the most part there is a core that is unchanging. We found that this is working but then different small accents of the class I can shift and change. But ultimately, for the general sequencing of a class and then meetings and academic plans that is pretty solid at this point. The biggest thing I have noticed in terms of meeting probation students is just cultivating relationships. I think that when they know they have a specific person and a place to come and ask questions and it is not threatening, and they have someone in their corner, and someone that

is cheering them on. That in itself is a huge piece of seeing them successful. I think a lie that they

often believe is that I am in this by myself and I have to make it work and they get into the

sequence of striving and eventually burnout and they are not seeing actual change. And so just

having a person, and having some sort of intentional and relational equipping is really the key."

Appendix D

Interview of University Administration concerning Academic Probation – Peer Institution Two

1) *How does your institution approach students whose grade performance falls under a 2.0 and*

   results in academic probation?

"We have a program that's called Success Coaching, co-operated and co-supervised between the

Director of Undergraduate Studies and me. I have two staff people in my office, one who

coordinates orientation and transition programs, and the other who focuses on Peer Mentoring

and the Success Coaching program I am going to talk about. One of the cornerstones of our first

year initiative is something called a course embedded peer mentor program. We work with our

Office of Academic Advising every year and we identify 60 or so sections of general education

courses that we close off and hold back until Freshman Orientation, and we make those what we

call first-year only sections. So they are existing gen ed courses, everything from Life Continuity

and Change which is a biology course, to Math and Decision Making, to College Writing and

Research and everything in between. So we identify faculty who are really interested in working

with first year students, and we do professional development with them around the first year

initiative. And then we select a sophomore peer mentor who in most cases has taken that class

the previous year and we embed them into that course as a peer mentor position. And so that peer

mentor works with that faculty member. So they at different points in the semester will give

mini-presentations, like 5 or 10 minutes on…you know…'it's almost time to register for spring

semester and here's a reminder about how to do that', or, shortly before finals they say…'here's

some tips about studying for finals and how finals week works' and early in the semester they

may even do something around time management or balancing the different social or academic.

So in addition to that they connect with students outside of class, they connect about building

classroom community so they organize some out of classroom activities. So that's our peer mentor program. We have close to 90% of our freshman are in a first-year only course with a peer mentor.

So that's kind of our proactive piece but as you know, regardless, there are students who end up on Academic Alert and Academic Probation. So as soon as a student, goes on, here if you are a first-year student and you get below a 2.0 you're put on Academic Alert, which is almost like one step prior to Probation. So as soon as a student goes on Academic Alert or Probation, we reach out and invite them to work with a success coach. And that is a student that specifically has been a peer mentor as a sophomore, and then we'll take that pool of peer educators who have all that training and campus resources and experience from peer mentoring and then we'll select 3 or 4 of them to hire as Success Coaches. So they are upper level undergraduate students with additional training and they do 1 to 1 peer coaching with students on Academic Alert or Probation. The last time we looked at the data, students who work with a success coach, and met with that coach six or more times, 100 percent of them return the following semester. Which is pretty huge because these students are on probation and could be suspended and there are lots of issues. At every level, students who met once instead of zero times were retained at a higher rate than those who never come. Incrementally more, gave a better outcome. Problem with this though, is that it's voluntary. There is no way at this point we can really require it. To have maybe 35 or 40% of our students on probation participate, so we have that self-selection piece to of course. So the timing of this call is really funny. One of the problems we have here is that, so let's say we have a student on probation, they work with a coach or maybe they don't, and they are suspended. Right now students at that point either have to sit out a year, or they can come back, or they can go through kind of an appeals process and appear before a committee. It's a

committee of Faculty Senate it's called the Committee on Admission, Readmission, and Retention. And kind of make a case for themselves, what the extenuating circumstances were that led to their suspension, how they have a plan for addressing those issues moving forward, and then a small number of those students are approved to come back early. The problem with that again with that group we offer Success Coaching but it is not required. We have a third or just over that who participate. So we are actually in the end stages of putting through a proposal to change our suspension policy and mandate some interventions for students who are readmitted early."

2) *What types of interventions are offered to help students improve their academic performance and be in "good academic standing"?*

"Within a year or two after I started, we decided as an institution to begin the 'Foundations of Excellence' process through the Gardner Institute, and that was really transformative. And I was around when that was happening and was involved. John Gardner Institute, it was called something else at the time, out of South Carolina, they had and continue to have this process for institutions and go through a guided self-study over the course of a year looking at all aspects of a student's first year experience, everything from their learning environment, to their transition, to diversity and inclusion, through nine different dimensions that we examine through that process. Every dimension committee was co-chaired by one person out of Academic Affairs and one person out of Student Affairs. So the process itself was really transformative in that we made really strong professional and personal relationships across divisions. And our Academic Affairs partners learned a lot about first year students and their needs and concerns, when before that may have been a bit more of just a concern of just Student Affairs. At the end of that process

there was a series of recommendations and we decided as we implemented those recommendations moving forward that we would continue to use that model of one Academic Affairs and one Student Affairs person co-leading all of the efforts. That included everything from developing a cornerstone course, an Early Alert system, some changes to our orientation programs, and many more. So as we were implementing all of these new initiatives, it became clear that we needed someone or a structure to oversee and move those forward. And so my position at that point had changed to Assistant Dean of Students. And then just within the last two and a half years, I finished my Ph.D. and my work had really changed to, one, embedding myself more in the data about student persistence, disaggregating that and trying to really be strategic in where we went next. We knew that we needed to move beyond the first year and look at completion and not just retention. And also a lot of the work we were doing, I was working a lot with faculty and so for us it made sense for us to create this Director of Student Success and Retention Role within the division of Student Affairs to be kind of a counterpart to our Director of Undergraduate Studies in Academic Affairs. So the two of us, in some ways that put us on somewhat equal footing, just out of different divisions which has been great on many of the initiatives that are related to student success and retention."

3) *Has your institution's approach to probation students changed in recent years?*

   a. *If so, have these changes been beneficial for your students and led to improvements in retention and graduation data?*

"I would say the success coaching intervention that we initially started with just first year students, but now they have expanded that out to offer to all undergraduate students. We don't have enough data yet, however, the data on the first year cohort very positive."

4)   *Is the academic probation policy, as currently implemented by your institution, meeting the*

       needs of your students?

"I would say at the present time, yes, to a degree. But the biggest issue is we have students…I

would say two things. It's not serving the students who don't have the motivation to participate

in a voluntary intervention. So the lack of a mandated intervention is a way that we are not

servicing students well. I think the academic student policy itself is fine and makes sense….The

other thing that I think we are starting to work on that is an area for improvement, is that when

we admit students, so we are a regional comprehensive university and so we do have access as a

part of our mission, we are not a highly selective school. So we have an admissions index, it's

kind of a conglomeration of ACT scores, high school class rank, core courses in high school, and

high school grades. If a student gets a certain score they are guaranteed admission. Below that

we have an admissions committee that makes decisions about whether to conditionally admit

students who fall below those guidelines. Where we are not serving students well, is that we do

not have very nuanced data informed interventions at that point. It's not clear when we look at

data that students who are admitted…we can't figure out, so for example there might be a

student with a score of 230 which is below the required and you have some students who are

admitted with conditions and some who aren't. And so one, we are having trouble figuring out

from an admissions perspective what's the difference between those two students. Why one

admitted with conditions and one was wasn't? And then once students are admitted with

conditions, there is really only one intervention, a course called Strategies for Academic Success.

So it is what it sounds like, its time management, and study skills, and campus resources. The

results are kind of mixed on whether that course is really working for students. So one thing we

are working now is to say, can we be more data driven and data informed in how we make those

decisions about conditional admits. And then once we admit them could we have a menu of options. So for this student who the concern is writing, there are core courses that we want to do this for, if the concern is something different maybe we have a different kind of intervention. So I think that may be peripherally related to academic standing but there are students there are initially at risk of ending up on probation you could say this is their academic profile indicates they are not quite at our admissions standard. So I think that is another part of our next phase work, is getting through all that data and figuring out how could we do better on that very front end, of once we admit students who are academically unprepared in some way, that we have interventions that better meet whatever their needs are."

Appendix E

Path Analysis Data

```
Endogenous variables

Observed:  Probation Graduation Retention

Exogenous variables

Observed:  AGE Gender ACT HSGPA
```

Standardized	Coef.	OIM Std. Err.	z	P>|z|	[95% Conf. Interval]	
Structural						
Probation						
AGE	−.2833771	.0101632	−27.88	0.000	−.3032967	−.2634576
Gender	−.0160056	.010854	−1.47	0.140	−.037279	.0052678
ACT	−.0042895	.012577	−0.34	0.733	−.0289399	.0203609
HSGPA	−.3827745	.0119055	−32.15	0.000	−.4061089	−.3594401
_cons	4.508122	.0850581	53.00	0.000	4.341412	4.674833
Graduation						
Retention	.277633	.0108176	25.66	0.000	.2564308	.2988352
AGE	−.0289774	.0111427	−2.60	0.009	−.0508166	−.0071382
Gender	−.0120586	.0110569	−1.09	0.275	−.0337297	.0096126
ACT	.0549401	.0127914	4.30	0.000	.0298693	.0800108
HSGPA	.2034455	.0130899	15.54	0.000	.1777898	.2291012
_cons	−.817451	.1004989	−8.13	0.000	−1.014425	−.6204767
Retention						
Probation	−.2908912	.0116822	−24.90	0.000	−.3137879	−.2679944
AGE	.0971617	.0115289	8.43	0.000	.0745656	.1197579
Gender	−.0147904	.0111716	−1.32	0.186	−.0366864	.0071055
ACT	.0034195	.0129429	0.26	0.792	−.0219481	.0287872
HSGPA	.1278871	.013899	9.20	0.000	.1006456	.1551285
_cons	.0489809	.1155905	0.42	0.672	−.1775723	.2755341

Appendix F

The first step in the binary linear regression was to look at the size of the data set and use a random number generator to separate a random number of student data to build a predictive model and the remainder of the number of students' model to be predictors of how well the model works.

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	13462	42.4
	Missing Cases	18315	57.6
	Total	31777	100.0

The selected cases are chosen by the random number generation so N of 9515 or 30%. The remaining cases of N 9492 then are used for prediction of the model developed by the selected cases.

MODEL FIT

The first table, "Omnibus Tests of Model Coefficients", provides the overall statistical significance of the model (namely, how well the model predicts categories compared to no independent variables), as shown below:

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Model	2033.558	6	.000

For this type of binary logistic regression, the "Mode" row is the reference item. From the table above, the model is statistically significant ($p < .0005$; "Sig." column).

In order to understand how much variation in the dependent variable can be explained by the model (the equivalent of R^2 in multiple regression), consult the table below, "Model Summary":

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	12246.961[a]	.162	.244

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

This table contains the **Cox & Snell R Square** and **Nagelkerke R Square** values, which are both methods of calculating the explained variation (it is not as straightforward to do this as

compared to multiple regression). These values are sometimes referred to as *pseudo R^2 values* and will have lower values than in multiple regression. However, they are interpreted in the same manner, but with more caution.

Therefore, the explained variation in the dependent variable based on our model ranges from 16.0% to 24.0%, depending on whether the Cox & Snell R^2 or Nagelkerke R^2 methods are used, respectively. Nagelkerke R^2 is a modification of Cox & Snell R^2, the latter of which cannot achieve a value of 1. For this reason, it is preferable to report the Nagelkerke R^2 value.

Binary logistic regression estimates the probability of an event (in this case, having experienced probation. If the estimated probability of the event occurring is greater than or equal to 0.5 (better than even chance), SPSS Statistics classifies the event as occurring (e.g., student probation). If the probability is less than 0.5, SPSS Statistics classifies the event as not occurring (e.g., no probation). It is very common to use logistic regression to predict whether cases can be correctly classified (i.e., predicted) from the independent variables as presented in the classification table, as shown below:

Classification Table[a]

			Predicted		
			Selected Cases[b]		
			Probation		Percentage
	Observed		0	1	Correct
Step 1	Probation	0	9692	630	93.9
		1	2340	800	25.5
	Overall Percentage				77.9

Appendix G

SEM Path Analysis Details

SEM Path analysis was utilized to determine the direct effects of Probation on Retention and Retention on Graduation. Also to evaluate the direct effects of Age, Gender, High School GPA, and ACT composite on Probation, Retention, and Graduation, respectively. STATA statistical software was required to compute the path analysis using Structural Equation Modeling (SEM) since binary data was utilized in the dependent (endogenous) variables Probation, Retention, and Graduation. The data used in the analysis was from 2011 and 2012 first time enrollments at the case institution. This was necessary to evaluate six- year graduation.