July 2019

# Evaluating the Impact of Intrusive Advising on Undergraduate Student Retention

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# EVALUATING THE IMPACT OF INTRUSIVE ADVISING ON UNDERGRADUATE STUDENT RETENTION

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The School of Education

by
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August 2019

For my father, Thomas F. Caire

## TABLE OF CONTENTS

## LIST OF TABLES

## ABSTRACT

In this study, I investigated the impact of intrusive advising upon undergraduate student retention. Specifically, I sought to identify the background characteristics of at-risk students at the midterm point in a semester, and whether significant differences existed among students who were retained in comparison with those students who were not retained. In addition, I examined the extent to which intrusive advising interventions predicted student retention when controlling for student demographics. Although the intrusive advising interventions were not statistically significant in this model, several notable findings emerged regarding groups of at-risk students who were more or less likely to be retained in contrast to their respective comparison groups. For example, at-risk juniors and at-risk seniors were less likely to be retained in comparison with at-risk freshmen; at-risk Black students were less likely to be retained in contrast to their white counterparts; at-risk students who lived on campus, regardless of year classification, were more likely to be retained as compared to at-risk students who did not live on campus; and at-risk students who received Pell grants were more likely to be retained over those at-risk students who did not receive Pell grants. Future research opportunities include a broadening and strengthening of the definition of intrusive advising to explore at-risk students who sought out multiple advising interactions, as well as in-depth exploration of the aforementioned retention-based outcomes.

# CHAPTER 1. INTRODUCTION

Student retention is vital to higher education as decreased retention numbers of students, particularly at the undergraduate level, have the potential to significantly impact funding formulas and the status of the university nationally (Martin, 2017). In Louisiana, higher education funding has stabilized after years of cuts by the state legislature. However, Louisiana's colleges and universities are operating at a fraction of their previously allocated budgets, which puts greater pressure on university leadership to meet and exceed previous educational standards with fewer financial resources. For example, at Louisiana State University, the University's retention rate has remained within a range of approximately 82%-84% for the past decade (LSU Office of Budget and Planning, 2018). To ensure that the University as a whole continues to get its current level of state funding while effectively supporting the academic needs of our undergraduate students, the student support services staff in the College of Humanities & Social Sciences at a large, public, southern flagship university developed a comprehensive student success program portfolio. The student support services staff designed this suite of initiatives to more effectively engage students who may be at-risk of dropping out due to poor grade attainment and has as its centerpiece a multi-pronged outreach project at the midpoint of the semester that brings the student support services staff and available resources to the students who need these services the most. To ensure that all student support programming is grounded in research, it is imperative that the empirical effectiveness of the initiatives is demonstrated to then allow for future planning.

## Theoretical Framework

The theoretical framework used to guide my study is Astin's Input-Environment-Outcome (I-E-O) model, which integrated involvement and student development (Astin, 2001).

Through the lens of the I-E-O model, the term input categorized the attributes that each student carries with them upon enrolling at the institution. Examples of input include gender, whether the student was a first generation college student, standardized test scores, high school GPA, and ethnicity. The term environment referenced all of the different entities that the student encounters that impact their college experience. Environmental factors include (but are not limited to) individuals (i.e., faculty, staff, other students); university structure (i.e., rules, regulations, programming, etc.); as well as other more broadly based characteristics of the institution itself that have had an influence of some type on the student's enrollment (i.e., whether the university is a two year or four year institution, whether the university is public or private, etc.). In my study, the primary environmental factor involved would be the usage of intrusive advising interventions. The term outcome identified the characteristics of the student after environmental factors have impacted them (Astin, 2001). In my study, the outcome would be undergraduate student retention. For the purposes of my study, I will be examining the interplay between students' characteristics (i.e., input), intrusive advising (i.e., environment), and undergraduate retention (i.e., outcome). Specifically, I will determine whether telephone calls made to every at-risk student in the College of Humanities & Social Sciences at midterm and the students' responses to those telephone calls (i.e., whether the students sought out academic advising assistance) impacted undergraduate student retention rates. Astin's theory and concepts as they relate to the current study are explored in more detail in Chapter 2.

There has been a mindful and intentional shift toward intrusive advising in the College's student support services center as opposed to the reactive advising style implemented in previous years. Glennen (1976) initially proposed the concept of intrusive advising (referred to as intrusive counseling at that time), and sought to merge traditional methods of counseling with

academic advising. Glennen noted that academic advisors typically share relevant information and details of academic processes and rules. Glennen explained that, "Counseling…involves a more intensive interviewing process in which a counselor assists a client in exploring his or her feelings and attitudes and in which a client learns from the very process of the counseling session" (p. 48). Glennen clarified that when an academic advisor provides counseling services, those services focus on academic issues and do not delve into discussions of mindsets or ideals. Glennen witnessed the direct impact of intrusive advising as he studied an academic college that housed first-year students at the University of Nevada, Las Vegas. At midterm, these first-year students who had unsuccessful grades were invited to see their advisor. Glennen found that 74% of the students who had poor grades at midterm and who had met with their advisor were successful in their coursework. This is at the foundation of the current study in focusing on at-risk students at midterm.

The more contemporary and comprehensive definition of intrusive advising used in the design of this study was by Schwebel, Walburn, Jacobsen, Jerrolds, and Klyce (2008), who identified *intrusive advising* as a method of advising that,

> typically involves some combination of recommended or required advising sessions for students on a regular basis; a predetermined set of goals to be accomplished in advising sessions; and the dual objectives of a) increasing the motivation and academic success of students and b) reducing attrition from the college or university. Most intrusive advising strategies target at-risk or probationary students (p. 28).

While there is a limited amount of current research focusing on intrusive advising, it is critical to share details of published studies from the last decade to provide additional context for my study. Rodgers, Blunt, and Trible (2014) studied the impact of an intrusive advising initiative for first-year students focused on a science, technology, engineering, or mathematics (STEM) discipline at a medium-sized public university. The advisors were faculty members who often

taught foundational level classes at their institution and who underwent a training protocol as to this new role. Rodgers et al. (2014) found that the first, second, and third year retention rates for their cohort had increased, and that students who were involved had an enhanced cognizance of both the role of the advisor and the significance of academic advising in their matriculation.

Donaldson, McKinney, Lee, and Pino (2016) conducted a qualitative study on the impact of intrusive advising on first-year students at a large, southern community college. The advisors in this study were not faculty advisors as used in the Rodgers et al. (2014) study outlined above, but were professional advisors and assigned specifically to the student participants. Similar to the findings of Rodgers et al. (2014), the students who were a part of this study benefited significantly from receiving regular academic advising. Donaldson et al. (2016) noted that some of the student participants initially had an adverse association with the required advising, but that, "…students, who may have failed to recognize the need for advising or to overcome inertia in seeking it, may have avoided negative outcomes of their potential inaction" (p. 34). Further, participants appreciated having an advisor assigned to them to allow for the advisor to come to know them on an individual basis and for the positive and dependable working relationship that resulted. Donaldson et al. (2016) also noted that with an intrusive advising format like the one utilized in their study, it is imperative that advisors be available and that they also promote student autonomy with certain facets of the advising process.

The Executive Director of the National Academic Advising Association, Dr. Charlie Nutt, highlighted the benefits of academic advising in the *Chronicle of Higher Education* (2014). Specifically, he indicated that university administrators have examined the role of advising in evaluating key outcomes. Further, Dr. Nutt stated that the administration is, "…recognizing the value of academic advising to student persistence and graduating in a timely manner" (p. 5).

While there may be importance associated with the advising relationship in terms of evaluating students' paths to graduation and in connecting students with appropriate resources, does intrusive advising have a demonstrated positive impact on undergraduate student retention rates?

The purpose of this study is to determine if selected intrusive advising interventions impact retention rates for undergraduate students in the College of Humanities & Social Sciences. This study will add to the existing literature by examining the impact of intrusive advising on non-STEM majors at a large, public, southern flagship university. In addition, many retention-based studies in current research focus only on the first to second-year retention rates of undergraduate students. Through my study, I will review retention data as it relates to freshmen, sophomores, juniors, and seniors, thereby contributing to the literature by expanding the frame of reference as it relates to retention.

**Research Questions**

My research questions include:

RQI. What are the background characteristics of at-risk students at midterm, and do statistically significant differences exist among such students who are retained as opposed to those who are not retained?

RQII. To what extent do the intrusive advising interventions predict student retention when controlling for student demographics?

**Operational Definitions**

For the purposes of this study, I define *retention* as whether or not an undergraduate student who enrolled during the Fall 2017 semester maintained their enrollment during the Fall 2018 semester (i.e., one-year retention). Further, I define an *at-risk student* as a student who has earned one or more D or F grade at midterm as reported by their instructor of record; *or* whether

the student has been identified as no longer attending class meetings or submitting course assignments (identified as NA=Not Attending) as per their course instructor. The operational definition of *persistence* used in this study was noted by Kramer et al. (1985) as why students choose to continue their enrollment at their college or university. Similarly, Kramer et al. stated that *attrition* (which the authors also refer to as "dropping out") occurs "…when student goals become incongruent with the university's purposes" (p.2).

**Methods**

In my study, all undergraduate students in the College of Humanities & Social Sciences who earned grades of D, F, or NA at midterm were contacted via telephone, email, and mail. These efforts at contacting the impacted students were done with the following goals: (1) ensuring that the students were aware of their academic status; (2) assisting students in making informed decisions with regard to dropping the course(es) of concern; (3) to share information on available resources; and (4) to invite students in for an advising appointment, through which the academic counselor would discuss their academic progress with them; and (5) assist students in developing an individualized plan for graduation. The information gathered through the aforementioned collection efforts will be analyzed through binary logistic regression while controlling for various demographic and socioeconomic traits tied to student success. Through my logistic regression models, I will predict the probability of whether the students will be retained for the Fall 2018 semester.

**Chapter Summary**

In this chapter, I introduced the student support programming offered through the College of Humanities & Social Sciences. I also described my theoretical framework and

explained the concept of intrusive advising. Last, I outlined my research questions and operational definitions for use in my analysis of at-risk students.

# CHAPTER 2. LITERATURE REVIEW

While there is much research on the factors that impact undergraduate student retention, there is limited data on the role of intrusive advising and its relationship with retention. In their quantitative study on intrusive advising for first-year students pursuing majors in psychology, pre-nursing, or who were undecided with regard to their major, Schwebel et al. (2008) determined that email and telephone reach-outs to first-year students were effective in prompting students to seek out academic advising services. This was applicable regardless of a student's major field of study, their age, eligibility for student aid and information detailing whether they sought out financial aid opportunities, gender, or race. Limitations of this study included the focus on three specific subpopulations of first-year students (i.e., approximately 500 students pursuing psychology, pre-nursing, or who were undecided) and not all first-year students; that the intrusive advising occurred with professional advisors and not faculty advisors; that these initiatives occurred at a large university with a decentralized advising model; and how behaviors of contacted students would change if the methods of contact were altered (Schwebel et al., 2008).

## Impact of Student Perceptions, Satisfaction Levels, and Expectations

An additional factor that impacts student retention is student perception. In both their review of National Student Clearinghouse data and the *Beginning Student Survey* (BSS) created for first-year students at a large, public university, Campbell and Mislevy (2013) explored students' perceptions as they related to enrollment via a sample of approximately 2100 undergraduate students. The authors determined that the perception of the university was directly associated with student enrollment. Further, Campbell and Mislevy (2013) noted that replies to the BSS distributed in the first two months of the semester were in alignment with student

enrollment. Limitations for this study included the sample being limited to freshmen, the usage of the BSS as it was not substantiated, and the self-reporting nature of the survey and the potential (in)accuracy of students' responses.

Schreiner and Nelson (2013) also investigated students' perceptions, but focused on the relationship of students' perceptions as they impacted students' satisfaction levels. Specifically, Schreiner and Nelson (2013) theorized on the levels of student satisfaction and their relationship with student perseverance. In their analysis, they collected data from over 60 colleges and universities and included a sample of over 30,000 undergraduate students ranging in year classification who completed a well-known inventory addressing traits as they related to the variable of student satisfaction. In their results, Schreiner and Nelson determined that levels of student satisfaction directly impact student retention. Further, they noted that student perseverance is also related to GPA and fulfillment with the campus environment and culture. The authors also determined that students who are of conventional college age are more likely to persevere (14% increase for freshmen and 24% for second year students). Limitations of this study as outlined by the authors involved the exclusion of factors typically associated with student persistence in more standard retention representations, and that the inclusion of universities (and therefore students) was limited as not all universities offer the inventory utilized.

Strahan and Crede (2015) also examined students' satisfaction levels as they related to student retention, but their study was much larger in scope than that which was discussed above by Schreiner and Nelson (2013). In their study of student satisfaction and its interplay with retention and overall academic success, Strahan and Crede (2015) gathered data available from the Higher Education Research Institute representing over 69,000 students from 300 various

institutions. After analyzing the information compiled, the researchers determined that student satisfaction impacted retention, but did not positively impact academic success. Further, they explained that student satisfaction and its relationship with retention is increased at higher levels at private universities. From a broader perspective, Strahan and Crede stated that their outcomes indicated that university leadership may be able to address drop-out rates by specifically focusing on student reactions to various features of the overall experience as it pertains to enrollment. They may then utilize the information gathered to identify areas for potential improvement. Limitations of the study noted by researchers include the homogeneity of the sample (primarily female Caucasians) and concerns with the accuracy of the self-reported data.

Continuing on the same theme of the importance of students' perceptions, Pleitz, MacDougall, Terry, Buckley, and Campbell (2015) examined the relationship between student expectations and retention. To assess the aforementioned relationship, the authors created a scale to distribute to approximately 250 first-year students who were at full-time status and were enrolled in an entry level course. As revealed by Pleitz et al. (2015), students are entering college with expectations about their perceived college experience that do not align with reality. They further noted that students have preconceived expectations focusing on the areas of the social experience, factors inherent in the university, and the quality of the academic programs. Further, the authors indicated that the larger the disparity between their expectations and what actually occurs, the greater the risk of departure. The limitations for this study included the lack of generalizability, and concerns about the survey tool created and utilized (Pleitz et al., 2015).

Further elaborating on the role of students' perceptions as they relate to retention, Sriram (2014) analyzed the role of individual outlook in encouraging academic success for those students who were considered to be academically at-risk based upon standardized test scores and

high school academic details. Approximately 200 participants were selected through their enrollment in a remedial level course for first-year students, and assigned randomly to either the experimental or control groups. Students in the experimental group had access to a website focusing on stimulating intellect, while students in the control group reviewed online information regarding the importance of study skills. All student participants were evaluated by a pre- and post-test, and the researchers determined that having a "growth mindset" (p. 528) prompted higher levels of academic determination—but not increased degrees of academic accomplishments. Limitations included concerns with the accuracy of data that was reported by participants, the high number of students (85) who did not complete both portions of the pre- and post-tests and who therefore were not included in the final analysis of data, and the generalizability of the conclusions made (Sriram, 2014).

A final study highlighting the importance of students' perceptions and expectations was implemented by Turner and Thompson (2014). Turner and Thompson (2014) designed a qualitative study that was targeted toward gathering details about the attitudes and viewpoints of three separate groups of students composed of presently enrolled freshmen; sophomores (to whom they refer as "upperclassmen"); and freshman students who have decided not to re-enroll at their institution in future semesters. The authors' focus was to collect information via approximately twenty questions on the roadblocks and "enablers" that the freshman student population had to work through in transitioning into a college environment. The primary research question was specifically targeted toward how the participants perceived their experience on campus during their freshman year. This primary question was broken down further into three research questions to investigate:

1. “What perceived activities and programs engage freshman college students into the first-year college environment?”
2. “What perceived obstacles do college freshmen experience in transitioning into the first year of college?”
3. “What perceived activities and programs might enhance the transition into the college environment for freshman students?” (p. 96)

Students were recruited for the study via email and the informal sharing of details about the interview opportunity. The authors used appropriate software to organize the information and analyze their data. This also facilitated the process of identifying themes within the responses given and in associating these themes with the subquestions being investigated. The authors identified four primary themes within the data collected that impacted participants’ transitional process to the campus environment: first-year programming (67%); instruction on effective studying (65%); the lack of effective faculty interactions (57%); and insufficient assistance from an academic support perspective (53%) (Turner & Thompson, 2014).

Turner and Thompson (2014) reiterated the importance of freshman advising and encouraged the creation of targeted advising initiatives. Through this study, the authors were able to identify four factors that impacted the first-year transition and students’ overall experience in the campus environment. This information can be utilized in a myriad of different ways as it pertains to student retention rates including program planning; the creation of more student-centered campus policies; further identifying opportunities to enhance the faculty and student relationship; and in the review of advising and other academic services available for freshman students on their campus (Turner & Thompson, 2014).

## Personal Characteristics

A multitude of researchers studied the impact of various personal characteristics on student retention. Specifically, Munt and Merydith (2012) examined the effect of students' dispositions as they correlated to retention. Approximately 200 participants from a technical college were selected to participate. The experimental group was chosen because of their involvement in a student retention initiative targeting at-risk academic behaviors. Participants in the control group were introduced to this opportunity via either introductory level psychology and sociology courses and responses to campus advertisements. Both groups were given personality tests and also had data gathered about their enrollment over a three-year time span. The researchers determined that the students who were not retained had lower marks on the personality traits of "tough-mindedness" and "self-control" as well as "emotional stability." (p. 473). It was suggested that these participants likely had challenges in navigating the daily responsibilities of the student experience. Limitations for this study included the technical college at which the study was implemented could impact generalizability as well as the shortened timeframe of the quarter system used at said technical college.

In their study of passion and burnout as it relates to college students, Saville, Bureau, Eckenrode, and Maley (2018) defined two types of passion: (1) harmonious passion and (2) obsessive passion. The authors define harmonious passion as one that "emerges when an activity for which one is passionate is internalized in an autonomous fashion (i.e., when a person feels free to engage in the activity, devoid of controlling contingencies)" (p. 107). In contrast, obsessive passion is explained as one that:

> emerges when an activity is internalized in a controlled fashion. Thus, when a person engages in an activity because of external pressures (e.g., parental pressure) or because of intrapersonal contingencies (e.g., it enhances his self-esteem), he is likely to become obsessively passionate about the activity) (p. 107).

Saville et al., (2018) further noted that an individual who demonstrated obsessive passion will have an increased probability of having negative feelings and thought patterns in the timeframe surrounding the event. Approximately 300 undergraduate students participated in this study through a beginning level psychology course and received extra credit in their course due to their involvement. Students completed a web-based survey on passion and burnout. Saville et al. (2018) determined that there was an association between GPA and levels of harmonious passion. Further, they indicated that harmonious passion is "an important predictor of reduced burnout in a variety of work settings, including academic settings. In contrast, obsessive passion tends to be related to more negative outcomes" (p. 111). The authors noted that limitations for their study include the correlational design and the inclusion of primarily female participants.

Another personal factor was examined as it relates to student retention was that of motivational traits. Specifically, Friedman and Mandel (2011) explored the motivational traits that impact both retention and overall academic status. In their study, all freshmen were invited to complete an online survey to assess retention outside of the standard predictors, including GPA and scores on standardized tests. The researchers concluded that neither participants' high school GPA, standardized test results, nor motivational factors had a significant positive relationship with retention levels at the conclusion of the first year of enrollment. Limitations for this particular study were noted by the authors as both predispositions with regard to participants' survey results and the lack of generalizability because of the nature of the institution at which the study was completed (Friedman and Mandel, 2011).

Slanger, Berg, Fisk, and Hanson (2015) also examined the role of motivational traits and their relationship to retention. However, their study was much larger in scope than that outlined above by Friedman and Mandel (2011). Slanger et al. (2015) utilized the College Student

Inventory (CSI) to assess freshman students and determine which may be at risk of not being retained. Ten specific groups of first-year students were assessed using a hard copy version of the CSI. After analyzing the data, the authors concluded that:

> a) higher general confidence is associated with a lower GPA; b) sociability drags GPA but elevates course load capacity; and c) a CSI profile suggesting a well-rounded, confident, multiviewed, multiaspirational person predicts lower GPA at first but higher GPA in later semesters and higher course load capacity any time (p. 298).

Further, the authors noted that motivational factors are predictors of perseverance and academic achievement (Slanger et al., 2015). This was in direct contrast to the findings of Friedman and Mandel (2011) as outlined above.

Caruth (2018) also investigated motivational factors as they relate to perseverance. In her analysis of motivational factors, engagement and student retention, Caruth (2018) evaluated the various predictors related to student success in an academic context. Caruth's study varied significantly from the other research noted above as she pursued data mining opportunities via the National Center for Education Statistics Integrated Postsecondary Education System. As per Caruth, traits specific to each individual student like perceived path forward, their sense of purpose, and commitment were critical. Further, students who demonstrated these traits took more credit hours per semester, which directly impacted graduation rates. The author noted the limitations of this review of data included concerns with the accuracy of self-reported information and that an analysis of the same topics outside of the timeframe studied may prompt varied conclusions (Caruth, 2018).

Another critical factor that has been demonstrated to impact student retention is that of mental health. Hartley (2011) investigated the traits of student perseverance and its affiliation with mental health. The author sought out participants by contacting instructors of introductory level courses, and asked the approximately 600 student sample to complete a paper survey. As

concluded in the study, the factors of perseverance, mental health factors, and student levels of resilience are related. Further, determination and the ability to cope with stress impacted GPA, and were tied to traits involving resilience. The limitations for this particular study as noted by the author include sampling concerns and the accuracy of the self-reported data (Hartley, 2011).

Another personal factor that was determined to impact student perseverance is that of grit, although this relationship was not significant. In their analysis of grit, Muenks, Wigfield, Yang, and O'Neal (2016) assessed its relationship to academic success, temperament, and integration at both the high school and college levels. Approximately 200 high school juniors were provided with the opportunity to complete a survey through an already established working relationship with the authors and the school staff. With regard to the college sample, approximately 300 students participated and were initially recruited via their faculty through an earlier communication between the faculty members and the researchers. The college level sample completed the survey electronically. As determined by Muenks et al. (2016), student levels of grit did have a relationship with integration, but other factors tied to engagement and effort in a more meaningful way.

In a variation on the role of personal characteristics as they relate to retention, Baier, Markman, and Pernice-Duca (2016) also brought in an external factor, that of a mentoring relationship. Baier et al. evaluated the role of perseverance with self-efficacy and the role of a mentor in a study that involved freshmen students at a public university. Participants were provided with information about the web-based survey at new student orientation. Baier et al. (2016) determined that students' self-efficacy and mentorship were strongly prophetic as they related to retention. However, GPA, socioeconomic background, and participation in a living-learning communities did not significantly impact student persistence in this study. Limitations

included the small size of the sample used as well as the minimal opportunities for additional interactions with the participants as it related to their responses (Baier et al., 2016).

Academic hope was a personal factor that was examined as it related to retention as studied by Hansen, Trujillo, Boland, and MacKinnon (2014). Specifically, the authors evaluated the role of academic hope as it pertained to successfully navigating challenges and academic achievement. Participants in this qualitative study were freshmen students who were first-generation and of low socioeconomic status, and they each met with researchers for an interview lasting between sixty and ninety minutes. From these interviews, Hansen et al. determined that a key narrative developed of optimism that centered on creating substitute methods of moving forward when encountering challenges; identifying individual objectives and generating a plan of action to achieve said objectives; integrating various social support and coaching opportunities into their plans of action; and focusing on a sanguine perception of their college experience. Further, the authors noted that an optimistic perspective was central in students' abilities to focus on problem solving and overcoming obstacles to achieve their objectives for success. Limitations as noted by the authors include the small sample size, its implementation on only one campus thereby limiting generalizability, and the reliance on participants' recollections that may have limited accuracy (Hansen et al., 2014).

Martin (2017) took a different methodology on evaluating personal factors that impact retention by assessing the content of information shared from students who had chosen to not persist at their original institution of enrollment. Martin initially recruited students scheduled in introductory level general courses and asked students to write about both their educational experiences and their home lives. The author concluded that the students who chose to not continue had narratives that were more negative in tone and that demonstrated decreased rates of

social integration on campus. In addition, these students exhibited financial challenges. The largest numbers of participants who were not retained were females, first-generation students, and non-white students (Martin, 2017).

Walsh and Robinson Kurpius (2016) reviewed the concept of capital as it relates to retention, but focused their review on the concept of individual decision-making. Specifically, Walsh and Robinson Kurpius (2016) evaluated the contextual and individual influences on decisions related to retention made by first-year students. This study was centered on Tinto's academic persistence theory, and involved approximately 375 freshman students enrolled in a first-year success seminar. Participants completed a survey questioning a number of factors related to their college experiences. The researchers noted that the strongest predictors of retention were that of living on campus in addition to positive beliefs in self. In addition, the personal importance placed on a postsecondary experience prompted increased perseverance. Two of the limitations of this study included the generalizability of the study and that no information pertaining to socioeconomic status was gathered to potentially allow for additional background to be considered (Walsh & Robinson Kurpius, 2016).

Friedman and Mandel (2009) evaluated the personal factors linked to student success through the lens of prediction in collaboration with models of goal setting and probability. The researchers used an online survey to examine motivational factors and behaviors associated with the setting and completion of objectives, and all freshmen were invited to participate in the study at the start of their first semester. The researchers determined that students' initial motivational levels were positive predictors of GPA at the conclusion of their freshman year, and that standardized test scores and GPA from high school were also predictive of college level persistence and college GPA at the conclusion of the first year. In addition, students who were

retained conveyed positive reflections upon their grades earned, and demonstrated increased perseverance in achieving grades in comparison with student drop-outs. Limitations as noted by the authors included possible bias in survey answers and the lack of generalizability (Friedman and Mandel, 2009).

Raju and Schumacker (2015) utilized a more comprehensive stance in reviewing personal factors impacting student retention as they used data mining opportunities to determine which traits positively impacted retention and graduation rates. Student data was gathered by a campus institutional research office staff for a ten-year window of time between 1995 and 2005. After a thorough review of the information collected, the researchers determined that college GPA at the conclusion of a student's first semester, hours successfully completed, enrollment status, and high school GPA were the most critical predictors of retention and graduation. The authors also found that as fewer hours were completed, graduation rates decreased. Specifically:

> around 82% of students with 15 or more earned hours at the end of the first semester graduated, around 77% of students with 12 to 15 earned hours at the end of the first semester graduated, around 50% of students with 6 to 11 earned hours at the end of the first semester graduated, whereas only 18% of students with less than 6 earned hours graduated. The difference in graduation rates between students with earned hours greater than 15 hours and less than 6 hours was around 64% (pp. 582, 586).

A similar trend occurred as it related to GPA and a decline in graduation rates as the GPA declined. As shared by the authors, "Students with a GPA greater than 3.00 and earned hours of 15 or more equaled…87% graduating, compared to 16% of the…students with GPA less than 2.25 and earned hours less than 6" (p. 586). As concluded by Raju and Schumacker (2015), persistence patterns can be identified at the conclusion of the first semester of enrollment.

**Social Integration, and Social and Cultural Capital**

Many studies detail the importance of social integration in student retention. In their study on this topic, Silver Wolf, Perkins, Butler-Barnes, and Walker (2017) interacted with

approximately 130 first-year students enrolled in a college success seminar. After being separated into the experimental and control groups, the participants in the experimental group viewed a video on social belonging and then had open conversations with researchers afterward. Although Silver Wolf et al. (2017) found that the GPA for students in the experimental group was increased over those control group participants, there was not a significant rise in retention numbers. The authors noted that a resolution for challenges related to social integration included providing occasions for students to create bonds with one another. These bonds foster a sense of inclusiveness and facilitate social development. As outlined by the authors, the limitations of this study included the small number of sample participants and the lack of randomization involved with the design of the study as it related to participants (Silver Wolf et al., 2017).

Soria and Stubblefield (2015) also analyzed the relationship between social integration and retention, but did so from a strengths perspective via a strengths related inventory. All first-year students were offered the opportunity to take the aforementioned inventory, and over 5000 students at the institution completed the initial assessment. However, only 1400 participants completed the required follow-up survey to allow for inclusion in the analysis. Of the sample utilized in the study, the results demonstrated that there was a positive association between students' perceptions of their strengths and a perspective that the various programs on their campus related to fostering strengths based relationships and opportunities facilitated their sense of community. In addition, there was a positive connection between students' perceptions of their own strengths and perseverance to second year enrollment. Finally, further review of the data demonstrated that the strengths focused programming increased students' mindfulness and levels of self-assurance, fostered social integration opportunities with fellow students, and assisted in helping students to form relationships with one another. Limitations for this analysis

included the correlational design of the study and a lack of generalizability due to the homogeneity of the sample studied (Soria & Stubblefield, 2015).

In their study related to social integration, Swenson Goguen, Hiester, and Nordstrom (2010) evaluated the connections between academic success, retention, and social bonds. Researchers visited introductory level classes to gather participants, and the approximately 300 participants were given a survey to complete twice over the course of the semester that focused on their relationships amongst their friends and peers. This information was then compiled and analyzed against students' academic information (including GPA and enrollment status) as provided by the university registrar. The researchers ascertained that peer relationships and the bonds that form within or conflicts are related to GPA and retention. For example, students who participated in shared events demonstrated increased second year perseverance. However, disagreements between peers were related to decreased levels of achievement academically. Generalizability was a concern with regard to the limitations of this study as the participants were primarily female students of conventional college age (Swenson Goguen et al., 2010).

While the previous study highlighted research on the importance of social integration, there are also social factors tied to cultural capital that impact student retention. Bordieu (1985) first coined the concept of cultural capital, and it is the behaviors and traits which promote success in a specific environment. In his review of social and cultural capital, race, and impact on retention, Wells (2008) utilized data from the National Educational Longitudinal Study (NELS) to assess factors. Through the NELS database, the author was able to track student information from the initial point of contact in the student's 8$^{th}$ grade year, through the remaining four contacts that lasted through the early part of their college experience, approximately six years later. Because of the multiple points of data available, Wells was able to track student

success as it related to social and cultural capital and identify relevant themes. The researcher demonstrated that increased social and cultural capital were related to positive trends in retention. However, he noted that students of Hispanic origin have decreased levels of social and cultural capital in contrast to all other groups of students in this study. Further, Wells (2008) noted that the students with increased levels of capital may have a mindset that the completion of a baccalaureate degree is the natural next step of educational progression. Wells then surmised that social and cultural capital played a role in students' decisions about persistence. Last, Wells (2008) stated that the highest levels of student persistence related to levels of educational attainment by students' parents and similar educational goals with peers.

**Preparedness**

Preparedness has been demonstrated to relate to student retention and success. Millea, Wills, Elder, and Molina (2018) investigated the various factors that contribute to success in college including that of preparedness and how those factors interplay with retention and graduation rates. Assorted university records were gathered to assess the factors and included academic data, details on admission files, and student aid information. The authors determined that a high level of academic preparedness, receipt of financial aid in the form of scholarships or grant opportunities, and those students who were enrolled in classes with fewer students had increased numbers of both retention and graduation. As per Millea et al. (2018), persistence rates can be positively impacted by providing additional scholarship and grant options and by limiting the size of class enrollment. Because this review of data only included students from one university, the primary limitation for this study was that of a lack of generalizability (Millea et al., 2018). In addition, the focus of this study was on academic, admission, and student aid

factors that impact retention. However, it has been demonstrated that other factors that are a part of the college experience like social integration also impact retention.

Elaborating on the topic of preparedness, an essential subpopulation on which support services must be focused are those students who were not adequately prepared for academic success in a college level environment based upon their high school GPAs or standardized test scores (Cholewa & Ramaswami, 2015). In their two-semester quantitative study on the impact of counseling, academic performance in remedial coursework, and GPA on first-year student retention, Cholewa and Ramaswami (2015) determined that three to four hours of counseling by either a professional counselor or graduate intern had a significantly positive effect on GPA during the fall semester. In addition, the academic performance of first-year students on remedial coursework during their first semester was highly predictive of second year retention. During their second semester of enrollment, first-year students were more likely to be impacted by the frequency of remedial course enrollment and GPA when determining whether or not to return during their second year. Specifically, as noted by the authors, as students' grades increased and as they completed more coursework, student levels of persistence increased. In summary, Cholewa and Ramaswami stated:

> Mechanisms need to be put in place to not only monitor student progress but also refer students who may be struggling to the appropriate institutional resources as well as contact students' advisors or counselors to further aid these students…universities may want to continue to monitor their underprepared freshmen and not become complacent with regard to their support of students who did well academically in the fall semester. The intense focus and support in the fall semester is crucial, as it is such a transitional time for students, but it will be vital to continue to provide academically and personally based services to support students to sustain success in the spring semester (p. 220).

Cholewa and Ramaswami also noted the use of graduate students in providing counseling services and how this can be an impactful and cost-efficient option in creating and implementing support programming for first-year students. Limitations of this study included the lack of

specificity gathered on the counseling services received by first-year students (i.e., academic in terms of focus, career-centered, or personal in nature) and details on other resources that first-year students sought out for support during their first year of enrollment (Cholewa and Ramaswami, 2015).

**Financial Factors**

While the majority of the studies reviewed thus far have focused on factors related to the individual student and their traits and perceptions, Britt, Ammerman, Barrett, and Jones (2017) studied the relationship between student retention and financial aid. Through an online survey distributed to approximately 2500 undergraduates, the authors assessed viewpoints as to financial aid and the resulting challenges and stressors. Not surprisingly, stressors related to financial issues were determined to be significant predictors of student dropouts. For example, the students who had the largest amount of debts incurred were at the highest risk of leaving their institution. Interestingly, the authors determine that students pursuing fields of study in agriculture, architecture, education, and engineering were more likely to persevere than students in the liberal arts (Britt et al., 2017). The primary limitation for this study included the lack of generalizability.

**Theoretical Framework**

As referenced in Chapter 1, Astin's Input-Environment-Outcome Model (I-E-O) is the primary student development theory on which my study is based (Astin, 2001). Through this model, I will examine how the student input characteristics in conjunction with the environment impact student outcomes, namely, that of undergraduate student retention. As defined by Astin (2001), input was the listing of attributes that a student carries with them upon enrollment at the institution. For the purposes of my study, these attributes encompassed a range of features

including demographics (i.e., gender, ethnicity) as well as performance factors tied to the student's high school matriculation (i.e., ACT/ SAT scores, high school GPA). The environment reference of Astin's model consisted of the breadth of opportunities that impact a student's college enrollment (Astin, 2001). As outlined by Astin, this was wide-ranging in terms of scope and included interactions with faculty; peer interactions; campus programming; rules and regulations; and other experiences that will have an impression on the student's educational journey. For my study, I have decided to view the environmental factor specifically through the role of intrusive advising upon the student's decision to enroll during the Fall 2018 semester. Last, the outcome in Astin's model is the student's attributes after they have interacted with the environmental factor in the model. What specific changes have resulted? Did the intrusive advising interventions have a positive impact upon retention? For the purposes of my study, the outcome is whether or not the student decided to enroll during the Fall 2018 semester.

**The Proposed Study**

As shared in detail above, there are a multitude of factors that impact retention rates, including student perceptions of themselves, their institution, and overall success; various personal characteristics including motivational levels, self-efficacy, and resilience; student satisfaction levels at their institution; social integration; level of preparedness; social and cultural capital (Bordieu, 1985); and institutional factors including financial aid opportunities and class size. Most importantly, the research on undergraduate student retention demonstrates that students are at the central focus of what we do at the university level. However, there is much improvement needed to ensure that undergraduate students are retained and ultimately earn their degrees.

My proposed study adds to the literature on this topic as there is minimal research on the role of intrusive advising as it relates to retention. Specifically, will an undergraduate student who has earned a midterm grade of D, F, or who has been designated as not attending class be more likely to be retained when contacted via telephone about their academic status? Will the sharing of resources designed to support student success assist the student in making proactive decisions about whether to continue in their class(es) of concern? Will an in-person meeting with an academic counselor demonstrate the University's commitment to their academic success and prompt the student to be retained? These are questions that I hope to answer with my proposed study with the goal of positively impacting undergraduate student retention in the College of Humanities & Social Sciences.

**Statement of the Problem**

Over the past ten years, the University's undergraduate retention rate has hovered at approximately 82%. With such a large number of undergraduate students not persisting toward their degrees, it is imperative that new and innovative ways of advising and interacting with students are utilized to attempt to increase retention rates. In the College of Humanities & Social Sciences, I implemented a study involving professional academic counselors and trained graduate students to intrusively advise students via telephone, in-person, email, and by mail. Through these proactive interventions, I hope to increase undergraduate retention rates for impacted freshmen, sophomores, juniors, and seniors. The research questions for my proposed study are:

> RQI. What are the background characteristics of at-risk students at midterm, and do statistically significant differences exist among such students who are retained as opposed to those who are not retained?

RQII. To what extent do the intrusive advising interventions predict student retention when controlling for student demographics?

## Chapter Summary

In this chapter, I summarized recent research findings as they relate to undergraduate student retention. The purpose of presenting this comprehensive analysis of literature on undergraduate student retention was to create a lens through which to view the topic as a whole. Further, it allows the reader to understand that there is no singular factor that impacts undergraduate student retention. Rather, it is a combination of factors that determines whether a student will continue their matriculation. In the next chapter, I have outlined my research hypotheses and have presented in detail the methods used to conduct my study. I have also included information on the participants, the study design, and the ethical standards followed.

# CHAPTER 3. METHODS

As outlined in the previous chapter, the goal of this dissertation was to analyze data gathered from an at-risk student intervention project within the College of Humanities & Social Sciences at a large, southern flagship university. Specifically, I sought to: (a) identify the background characteristics of students deemed at-risk (i.e., those who earned a grade of D, F, or NA at midterm), and determine whether statistically significant differences existed among the students who were retained and not retained; and (b) evaluate the extent to which intrusive advising impacted undergraduate student retention rates when controlling for student demographics. In this chapter, I will detail the methods utilized to test my hypotheses and identify the participants in my study. I will then delineate the procedures, the design, and the data collection methods implemented as well as the statistical techniques that will be used in my data analysis. Finally, I will elaborate on my research questions and share information on ethics.

## Participants

During the Summer 2017 semester, the College of Humanities & Social Sciences developed a long-term advising plan which sought to better serve the needs of its students that were designated as at-risk of attrition and promote overall student success. As part of this initiative, College leadership implemented an intrusive advising stance with students considered to be at-risk. Accordingly, the College shifted its focus from more of a reactive advising stance to that of proactively and intrusively advising at-risk students with the intent of positively impacting retention rates. Though the term “at-risk” lacks a consistent definition in extant literature, the concept was operationalized in this study as students who earned grades of D, F, or who had stopped attending class meetings or stopped submitting assignments (designated as NA) at midterm as determined by their faculty member of record. Every student in the College of

Humanities & Social Sciences who met the aforementioned criteria, that of earning a D, F, or NA at midterm, was called. Informational reports containing midterm grade data are automatically generated and distributed to the College office via the Office of the University Registrar each fall, spring, and summer semester at midterm.

During the Fall 2017 semester, 1108 undergraduate students enrolled in the College of Humanities & Social Sciences were designated as at-risk of attrition, constituting approximately one-third of the total undergraduate population in the College of Humanities & Social Sciences. Freshman students pursuing a major under the College of Humanities & Social Sciences umbrella who had earned less than 24 hours of course credits and were enrolled in the Center for Freshman Year were excluded from the study. Of these students, 899 cases contained data for all fields relevant to the analyses. In terms of at-risk designation, 504 students (56%) were determined to be at-risk during the Fall 2017 semester only, while 395 students (44%) were determined to be at-risk during the Fall 2017 and Spring 2018 semesters.

**Procedures, Data Collection, and Design**

Given the nature and timing of this initiative, it was essential that intrusive advising efforts would not adversely affect the availability of advisors to students in good academic standing with the University. As a result, I contacted faculty in both the Counselor Education and Social Work programs to inquire as to whether they had graduate students that they would highly recommend who would be interested in making telephone calls to the at-risk students. Bringing in promising graduate students to assist was beneficial as these graduate students had completed intensive coursework on effectively working with clients in a helping profession. Of the graduate student callers recommended and hired, all were female; one student was of an international

background, and the remaining graduate student callers were from the United States; and one student was of Asian descent, and the remaining graduate student callers were white.

In preparation for the midterm call initiative, all graduate student callers were trained on how to effectively work with the undergraduate at-risk students and how to best gather the needed information from them. This training took place either with an individual graduate student or a small group of two graduate students in collaboration with a professional academic counselor who led the training. Graduate student callers were provided with a script to use in starting their conversations with at-risk students, and the script outlined recommended verbiage when communicating directly with the at-risk student; in leaving a voice mail for the at-risk student; and in communicating with the parent of the at-risk student if they answered the telephone call. In addition, each graduate student caller was provided with a binder of University-specific resources to reference in conversation with the at-risk student called. Finally, the graduate student caller was provided with a detailed listing that outlined how to log information gathered during the course of a telephone call with an at-risk student.

During the telephone calls, graduate students were asked to check in on each student; to ask for additional details about the grade(s) of concern; to provide information on campus resources as appropriate; and to invite the student in to meet with an academic counselor in the College office. If a student was not reached initially via telephone, a second round of telephone calls was made. The at-risk students were also sent an email that invited them to schedule an appointment with an academic counselor and with information on campus resources.

In addition to the telephone calls made to every student with midterm grades of concern, the College staff mailed a letter to each student's home address on file with the University. In the

letter, we invited each student in to meet with an academic counselor because of the grade of D, F, or NA earned at midterm. A resource handout was included in the mailing as well.

Telephone calls were made Monday through Thursday between the hours of 9:00 a.m. and 7:00 p.m. depending upon graduate student caller availability. Calls were also made on Fridays, but during the hours of 9:00 a.m. and 4:30 p.m. Since three graduate student callers were hired to assist in addition to using the graduate assistant already on staff in the College office, we rented both space and telephone access at a campus public policy data center. As multiple telephone lines were not available in the College office space during the business day, this usage of additional resources was critical in the implementation of the call project.

While making the telephone calls, graduate student callers compiled the information shared by the undergraduate students of concern. Specifically, the graduate student caller recorded the nature of the undergraduate student's response as to the rationale behind their midterm grade on a call log. If additional details were shared by the undergraduate student about their individual situation, the graduate student caller transcribed that information onto the log for further review by either an academic counselor in preparation for a one-on-one meeting with the undergraduate student or by staff in assessing the overall needs of our student population in a more comprehensive context. In addition, if the undergraduate student specifically requested a follow-up appointment with an academic counselor or if the graduate student caller thought that the undergraduate student would benefit from an immediate appointment with an academic counselor based upon the details shared in the telephone conversation, the graduate student caller recorded the student's name, student ID number, and contact information, and a brief summary of what the graduate student caller perceived to be the primary issue(s) of concern for the in-person appointment. College staff held appointment slots for this specific population of students

daily, and a College staff member contacted the undergraduate student by the end of the next business day to schedule an in-person appointment.

Additional data compiled for the purposes of analyses included: (1) Year classification; (2) ACT Composite scores earned; (3) High school GPA; (4) whether the high school that the student attended was public or private; (5) whether the student was Pell eligible; (6) whether the student lived on campus; (7) whether the student was a member of the Greek community; (8) whether the student was a first generation college student; (9) Gender; (10) Ethnicity; and (11) whether the student was a resident of Louisiana. Note that Greek students who lived in their sorority or fraternity houses were not classified as living on campus in the context of this study. In addition, seniors were considered to be any students with 92 hours or more earned, regardless of the number of years in which they had been enrolled at an undergraduate institution.

**Research Questions**

Based upon my research design, my analyses will address the following research questions:

> RQI. What are the background characteristics of at-risk students at midterm, and do statistically significant differences exist among such students who are retained as opposed to those who are not retained?
>
> RQII. To what extent do the intrusive advising interventions predict student retention when controlling for student demographics?

For the purposes of this dissertation, retention was operationalized as whether or not a student who was enrolled in coursework during the Fall 2017 semester maintained enrollment during the Fall 2018 semester. The following null hypotheses were assessed through the course of this study:

$H_{OI}$: There is not a statistically significant association between intrusive advising interventions and student retention.

$H_{OII}$: There are no statistically significant differences between at-risk students who were retained and at-risk students who were not retained.

Furthermore, based upon the extant literature documenting the impact of intrusive academic advising, it was hypothesized that:

$H_{AI}$: Students who both sought out in-person advising assistance and who responded to the telephone call received would be retained at the highest rate as compared to other at-risk students.

$H_{AII}$: Students who sought out in-person advising assistance only would be retained at a higher rate than students who responded to the telephone intervention or students who did not respond in any capacity.

$H_{AIII}$: Students who responded to the at-risk telephone call received would be retained at a higher rate than students who did not respond to any at-risk outreach, but lower than at-risk students who pursued an in-person appointment with an advisor.

$H_{AIV}$: Students who did not respond to any at-risk initiatives would be retained at the lowest rate of the four groups involved with this study.

**Data Analysis**

The first research question (i.e., What are the background characteristics of at-risk students at midterm, and do statistically significant differences exist among such students who are retained as opposed to those who are not retained?) was addressed by assessing descriptive statistics and bivariate analyses, in particular Pearson's chi-squared tests and independent

samples t-tests. The second research question (i.e., To what extent do the intrusive advising interventions predict student retention when controlling for student demographics?) was addressed using two series of binary logistic regressions. Respectively, in Models 1 through 4, I examined the influence of demographic characteristics, prior academic achievement, financial aid, and intrusive advising on retention from those students deemed at-risk during the Fall 2017 semester only. Furthermore, in Models 5 through 8, I assessed the influence of demographic characteristics, pre-enrollment characteristics, financial aid, and intrusive advising on retention from those students deemed at-risk during both the Fall 2017 and Spring 2018 semesters.

The main independent variable in my study was the degree to which a student responded to the at-risk intrusive advising initiatives. The groups for the at-risk initiative are described in Table 3.1 below. Demographic characteristics consisted of gender, academic classification, race/ethnicity, on-campus residency, and in-state residency. Furthermore, pre-enrollment characteristics consisted of high school GPA, private high school attendance, and ACT Composite score. Finally, Pell eligibility was controlled for to assess the effects of financial aid on student retention.

**Ethics**

Educational data is protected by the Family Educational Rights and Privacy Act of 1973 (FERPA). Accordingly, all students' records were handled in accordance with FERPA guidelines to ensure that the data was protected. In addition, graduate student callers that were hired to assist with the call project were trained on all confidentiality standards. Finally, the information collected was University administrative data because of my leadership role within the College of Humanities & Social Sciences.

Table 3.1. Group Definitions

| **Group** | **Definition** | **Percentage** |
|---|---|---|
| Group A | Students who responded to the at-risk telephone call received, but did not seek out in-person advising assistance. | 29% |
| Group B | Students who responded to the at-risk telephone call received and who sought out in-person advising assistance. | 10% |
| Group C | Students who did not respond to the at-risk telephone call received and who did not seek out in-person advising assistance. | 49% |
| Group D | Students who did not respond to the at-risk telephone call received, but who sought out in-person advising assistance. | 12% |

*Note***.** Group C was used as the reference group for all analyses.

## Chapter Summary

In this chapter, I provided details on the methods used in my study. First, I identified the student participants whose academic records were reviewed as part of my retention analysis. Next, I described the procedures, data collection protocols, and design of my study. I also explained the statistical methods used in my examination of the data, and finally, I outlined ethical considerations involved in the handling of the academic data used in my study.

# CHAPTER 4. RESULTS

In this chapter, I will present an analysis of my two research questions. Through this study, I utilized a variety of statistical techniques to examine data on at-risk students enrolled in the College of Humanities & Social Sciences who earned grades of D, F, or NA at midterm. The statistical techniques used include basic descriptives (e.g., mean and standard deviation), bivariate correlations, and logistic regression analysis.

## Research Question One (RQI)

RQI: What are the background characteristics of at-risk students at midterm, and do statistically significant differences exist among such students who are retained as opposed to those who are not retained?

In order to answer RQI, I utilized descriptive statistics to assess the background characteristics of students with a D, F, or NA in their midterm grade reports, as well as to assess the background characteristics of at-risk students who were retained for the Fall 2018 semester and at-risk students who were not retained for the Fall 2018 semester. Furthermore, I answered RQI through the use of Pearson's chi-squared tests and independent samples t-tests of the full sample to determine the extent to which statistically significant differences existed among background characteristics between at-risk students who were retained and at-risk students who were not retained. Table 4.1 presents descriptive statistics of the full sample and subsamples utilized in this study, while Table 4.2 presents bivariate correlations of each subsample (although these correlations do not provide direct information about significant group differences). The full sample ($n$ = 899) for this study was comprised of 544 females (61%) and 355 males (39%). Regarding academic classification, the full sample contained 58 freshmen (6%), 295 sophomores (33%), 281 juniors (31%), and 265 seniors (29%). Regarding racial demographics, the majority

of at-risk students were white (59%). Black students (27%) comprised the second largest at-risk racial category, followed by other minorities (e.g., Asian, Latino/a, multiracial) (14%).[1]

First generation students comprised 22% (*n* = 202) of the full sample. Approximately 6% of at-risk students resided on-campus (*n* = 58) and 89% of at-risk students were Louisiana residents (*n* = 803). Furthermore, about 15% of the total sample received Pell grants (*n*=138). As it relates to high school academic performance, the mean GPA earned was a 3.16 (*SD*=.42, range=1.70-4.0). Approximately one-third of the students in this study attended a private high school (36%), and the remaining two-thirds attended a public high school (64%). On average, at-risk students attained an ACT Composite score of 24 (*SD*=3.43, range = 13-34).

Regarding intrusive advising treatments, nearly 49% of the at-risk students (*n* = 443) were categorized as Group C (i.e., students who did not respond to the at-risk telephone call received and who did not seek out in-person advising assistance); approximately 12% (*n* = 109) were categorized in Group D (i.e., students who did not respond to the at-risk telephone call received, but who sought out in-person advising assistance); approximately 29% (*n* = 263) were categorized as Group A (i.e., students who responded to the at-risk telephone call received, but did not seek out in-person advising assistance); and the remaining 10% (*n*=84) were categorized in Group B (i.e., students who responded to the at-risk telephone call received and who sought out in-person advising assistance.)

Of the at-risk students in the full sample, those who were retained for the Fall 2018 semester mirrored those who were not retained for the Fall 2018 semester in terms of gender, racial demographics, in state residency, and pre-enrollment characteristics. Differences were noted in terms of the percentage of at-risk freshmen (Retained, 9%; Not Retained, 4%), the

[1] The group of 117 students of either Latino/a or Asian descent, and the students who classified themselves as multiracial were grouped under “other” in this analysis.

Table 4.1. Descriptive Statistics of Variables in the Study

| Variables | Total (*n = 899*) | Retained (*n* = 421) | Not Retained (*n* = 478) | Fall At-Risk (*n* = 504) | Fall-Spring At-Risk (*n* = 395) |
|---|---|---|---|---|---|
| | *M (SD) or %* | *M (SD) or %* | *M (SD) or %* | *M (SD) or %* | *M (SD) or %* |
| Gender: Female | 60.51% | 62.00%$_a$ | 59.21%$_a$ | 61.90% | 58.73% |
| *Race* | | | | | |
| White | 60.07% | 58.67%$_a$ | 61.30%$_a$ | 62.30% | 57.22% |
| Black | 27.47% | 26.84%$_a$ | 28.03%$_a$ | 25.60% | 29.87% |
| Other | 12.46% | 14.49%$_a$ | 10.67%$_a$ | 12.10% | 12.91% |
| *Classification* | | | | | |
| Freshman | 6.45% | 8.79%$_a$ | 4.39%$_b$ | 5.36% | 7.85% |
| Sophomore | 32.81% | 48.93%$_a$ | 18.62%$_b$ | 32.54% | 33.16% |
| Junior | 31.26% | 34.68%$_a$ | 28.24%$_b$ | 29.56% | 33.42% |
| Senior | 29.48% | 7.60%$_a$ | 48.74%$_b$ | 32.54% | 25.57% |
| On Campus Residence | 6.45% | 13.06%$_a$ | 0.63%$_b$ | 4.96% | 8.35% |
| Louisiana Resident | 89.32% | 87.89%$_a$ | 90.59%$_a$ | 89.29% | 89.37% |
| HS Academic GPA | 3.16 (0.42) | 3.17 (0.41)$_a$ | 3.15 (0.43)$_a$ | 3.19 (0.40) | 3.13 (0.45) |
| Private HS | 35.71% | 34.20%$_a$ | 37.03%$_a$ | 40.48% | 29.62% |
| ACT Composite | 24.03 (3.43) | 24.02 (3.40)$_a$ | 24.05 (3.46)$_a$ | 24.26 (3.41) | 23.74 (3.44) |
| Pell Grant | 15.46% | 32.54%$_a$ | 0.42%$_b$ | 13.49% | 17.97% |
| *Fall Treatment* | | | | | |
| No Response, No Advising Sought | 49.28% | 48.22%$_a$ | 50.21%$_a$ | 48.81% | 49.87% |
| No Response, Advising Sought | 12.12% | 12.35%$_a$ | 11.92%$_a$ | 12.90% | 11.14% |
| Responded, No Advising Sought | 29.25% | 31.35%$_a$ | 27.41%$_a$ | 29.96% | 28.35% |
| Responded, Advising Sought | 9.34% | 8.08%$_a$ | 10.46%$_a$ | 8.33% | 10.63% |
| *Spring Treatment* | | | | | |
| No Response, No Advising Sought | -- | -- | -- | -- | 48.35% |
| No Response, Advising Sought | -- | -- | -- | -- | 9.62% |
| Responded, No Advising Sought | -- | -- | -- | -- | 31.90% |
| Responded, Advising Sought | -- | -- | -- | -- | 10.13% |

Means with different subscripts for those students who were retained and not retained across a row indicate a significant difference ($p < .05$).

Table 4.2. Correlations Among Study Variables

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Retention | -- | .02 | -.02 | -.01 | .05 | .03 | .34*** | .14** | -.49*** | .25*** | -.05 |
| 2. Gender: Female | .05 | -- | -.02 | -.01 | .05 | -.07 | .08 | .00 | -.05 | .07 | -.13** |
| 3. Race: White | -.02 | -.03 | -- | -.75*** | -.48*** | .01 | -.04 | -.06 | .08 | -.16*** | .07 |
| 4. Race: Black | -.02 | .06 | -.76*** | -- | -.22*** | -.02 | .04 | .02 | -.05 | .12** | -.09* |
| 5. Race: Other | .07 | -.05 | -.45*** | -.25*** | -- | -.03 | .00 | .07 | -.05 | .08 | .01 |
| 6. Class: Freshman | .15** | .07 | -.07 | .06 | .03 | -- | -.17*** | -.15*** | -.17*** | .07 | -.03 |
| 7. Class: Sophomore | .30*** | .01 | -.03 | .03 | .00 | -.21*** | -- | -.45*** | -.48*** | .09* | -.07 |

(table cont'd.)

| Variable | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Retention | .11* | -.06 | .02 | .44*** | -.01 | -.01 | .07 | -.09 | -- | -- | -- | -- |
| 2. Gender: Female | .18*** | .01 | -.07 | .08 | -.03 | .07 | -.05 | .04 | -- | -- | -- | -- |
| 3. Race: White | .07 | .25*** | .30*** | -.21*** | .08 | -.05 | -.05 | .01 | -- | -- | -- | -- |
| 4. Race: Black | -.07 | -.20*** | -.31*** | .14** | .01 | .00 | .01 | -.05 | -- | -- | -- | -- |
| 5. Race: Other | .02 | -.11* | -.04 | .12** | -.13** | .08 | .06 | .04 | -- | -- | -- | -- |
| 6. Class: Freshman | -.11* | .00 | .01 | .06 | .01 | .12** | -.06 | -.07 | -- | -- | -- | -- |
| 7. Class: Sophomore | .00 | -.05 | -.04 | .18*** | .04 | -.07 | .03 | -.04 | -- | -- | -- | -- |

(cont'd.)

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8. Class: Junior | -.03 | -.03 | .12* | -.11* | -.03 | -.21*** | -.50*** | -- | -.45*** | .03 | .06 |
| 9. Class: Senior | -.39*** | -.03 | -.06 | .05 | .02 | -.17*** | -.41*** | -.42*** | -- | -.16*** | .04 |
| 10. On Campus Res. | .25*** | .09 | -.11* | .08 | .05 | .22*** | .14** | -.14** | -.14** | -- | -.16*** |
| 11. Louisiana Resident | -.04 | -.01 | .13** | -.06 | -.11* | -.11* | -.05 | .02 | .11* | -.04 | -- |
| 12. HS Academic GPA | -.05 | .28*** | .09 | -.05 | -.08 | -.06 | -.02 | -.05 | .12* | .06 | .16** |
| 13. Private HS | .04 | -.13** | .24*** | -.21*** | -.07 | -.02 | -.13* | .05 | .10* | -.06 | .19*** |
| 14. ACT Composite | -.02 | -.06 | .34*** | -.34*** | -.04 | -.11* | -.02 | .01 | .07 | .03 | .12* |

(cont'd.)

| Variable | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8. Class: Junior | .11* | .03 | .01 | .02 | -.02 | .02 | -.02 | .02 | -- | -- | -- | -- |
| 9. Class: Senior | -.06 | .01 | .03 | -.24*** | -.03 | -.01 | .02 | .05 | -- | -- | -- | -- |
| 10. On Campus Res. | .15*** | -.11* | -.06 | .36*** | .07 | .08 | -.09* | -.07 | -- | -- | -- | -- |
| 11. Louisiana Resident | .11* | .14** | .08 | .02 | -.12** | .02 | .10* | .03 | -- | -- | -- | -- |
| 12. HS Academic GPA | -- | .00 | .21*** | .12** | .09* | -.03 | -.09* | .03 | -- | -- | -- | -- |
| 13. Private HS | -.11* | -- | .13** | -.14** | -.07 | .04 | .05 | -.01 | -- | -- | -- | -- |
| 14. ACT Composite | .32*** | .14** | -- | -.07 | -.02 | .00 | .01 | .03 | -- | -- | -- | -- |

(cont'd.)

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15. Pell Grant | .44*** | .10 | -.22*** | .20*** | .06 | .04 | .19*** | -.01 | -.21*** | .26*** | .01 |
| 16. FT: No Resp., No Adv. | -.03 | -.08 | -.02 | -.03 | .07 | .01 | -.04 | -.05 | .09 | -.08 | -.00 |
| 17. FT: No Resp., Adv. | .03 | .07 | -.00 | .03 | -.04 | .08 | -.06 | .07 | -.06 | .13* | -.01 |
| 18. FT. Resp., No Adv. | .01 | .06 | .07 | -.03 | -.06 | -.04 | .08 | -.01 | -.06 | .05 | -.07 |
| 19. FT: Resp., Adv. | .00 | -.03 | -.07 | .06 | .01 | -.04 | .00 | .02 | .00 | -.07 | .12* |
| 20. ST: No Resp., No Adv. | -.08 | -.04 | .05 | -.02 | -.04 | .00 | -.07 | .11* | -.04 | -.02 | -.04 |
| 21. ST: No Resp., Adv. | -.01 | .01 | -.03 | -.01 | .05 | -.06 | -.08 | .04 | .08 | -.04 | -.03 |
| 22. ST. Resp., No Adv. | .03 | .03 | .03 | -.02 | -.02 | .04 | .03 | -.11* | .06 | .05 | .02 |
| 23. ST: Resp., Adv. | .11* | .01 | -.10* | .07 | .05 | -.00 | .16** | -.06 | -.10* | -.01 | .06 |

(cont'd.)

| Variable | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15. Pell Grant | -.01 | -.13** | -.13* | -- | .00 | -.03 | .06 | -.06 | -- | -- | -- | -- |
| 16. FT: No Resp., No Adv. | .03 | .06 | .07 | -.11* | -- | -.38*** | -.64*** | -.29*** | -- | -- | -- | -- |
| 17. FT: No Resp., Adv. | .01 | -.04 | .00 | -.06 | -.35*** | -- | -.25*** | -.12** | -- | -- | -- | -- |
| 18. FT. Resp., No Adv. | -.01 | -.06 | -.02 | .13** | -.63*** | -.22*** | -- | -.20*** | -- | -- | -- | -- |
| 19. FT: Resp., Adv. | -.05 | .03 | -.08 | .05 | -.34*** | -.12* | -.22*** | -- | -- | -- | -- | -- |
| 20. ST: No Resp., No Adv. | .01 | .05 | -.05 | -.10 | .25*** | .03 | -.17*** | -.19*** | -- | -- | -- | -- |
| 21. ST: No Resp., Adv. | -.06 | -.00 | .08 | -.04 | .03 | .10* | -.11* | -.00 | -.32*** | -- | -- | -- |
| 22. ST. Resp., No Adv. | .07 | -.05 | .03 | .05 | -.18*** | -.12* | .22*** | .10* | -.66*** | -.22*** | -- | -- |
| 23. ST: Resp., Adv. | -.07 | .00 | -.03 | .13* | -.17*** | .04 | .05 | .16** | -.33*** | -.11* | -.23*** | -- |

*Note.* Correlations among variables for Fall-Only At-Risk Students ($n$ = 504) are reported above the diagonal; for Fall-Spring At-Risk Students ($n$ = 395), below.
* $p < .05$ ** $p < .01$ *** $p < .001$

percentage of at-risk sophomores (Retained, 49%; Not Retained, 19%), the percentage of at-risk juniors (Retained, 35%; Not Retained, 28%), and the percentage of at-risk seniors (Retained, 8%; Not Retained, 48%). Additionally, differences were noted for on-campus residency (Retained, 13%; Not Retained, < 1%) and the percentage of at-risk students who were Pell eligible (Retained, 33%; Not Retained, < 1%). In assessing the statistical significance of these findings, results failed to reject the null hypothesis ($H_{OII}$: There are no statistically significant differences between at-risk students who were retained and at-risk students who were not retained) as statistically significant differences in retention existed for at-risk freshmen, $x^2(1)=(7.17)$; $p=(.007)$; for at-risk sophomores, $x^2(1)=(93.29)$; $p=(.000)$; and for at-risk seniors, $x^2(1)=(182.28)$; $p=(.000)$. Furthermore, statistically significant differences in retention were demonstrated for at-risk students who received Pell grants, $x^2(1)=(176.72)$; $p=(.000)$; and for at-risk students who lived on campus, $x^2(1)=(57.36)$; $p=(.000)$. Although not achieving statistical significance, marginal differences in retention were noted for at-risk juniors, $x^2(1)=(4.32)$; $p=(.038)$; and at-risk students identifying as other racial minorities, $x^2(1)=(2.99)$; $p=(.084)$.

Of the full sample, 504 students were deemed at-risk during the Fall 2017 semester only. This subsample was analyzed separately from the full sample due to experiencing a single semester of exposure to treatments. Students deemed at-risk during the Fall 2017 semester alone mirrored the full sample in terms of academic classification (e.g., freshmen, 5%; sophomores, 33%; juniors, 30%; seniors, 33%), gender (e.g., females, 62%; males, 38%), and racial demographics (e.g., white, 62%; Black, 26%; other minorities, 12%). Furthermore, 116 first generation students (23%) were at-risk during the Fall 2017 semester only. Approximately 5% of at-risk students belonged to the Greek community ($n = 26$), approximately 5% resided on-campus ($n = 25$), and approximately 89% were Louisiana residents ($n = 450$). Less than one-fifth

of the students received Pell grants (13%). In reviewing the high school performance of students at-risk during the Fall 2017 semester only, the mean GPA earned was a 3.19 (*SD*=.40, range=1.91-4.00). Approximately 40% of the subsample attended a private high school (*n*=204), while the remaining 60% attended a public high school (*n*=300). On average, at-risk students in the subsample attained an ACT Composite score of 24 (*SD*=3.41, range=15-34). Regarding intrusive advising interventions, 246 were categorized into Group C (49%); 65 were categorized into Group D (13%); 151 were categorized into Group A (30%); and 42 were categorized into Group B (8%).

Of the full sample, 395 students were deemed at-risk during the Fall 2017 and Spring 2018 semesters. This subsample of students was analyzed separately from the full sample due to receiving exposure to treatments for two consecutive semesters. Of the 395 students, over one-half were female (59%), and the remaining 163 students were male (41%). Within the 395 total students, 31 were freshmen (8%), 131 were sophomores (33%), 132 were juniors (33%), and 101 were seniors (26%). In identifying the racial categories contained within the 395 total students, 57% of the students were white (*n*=226), 30% were Black (*n*=118), and the remaining 13% were categorized as "other" (*n*=51). Students who were first generation composed 22% (*n*=86) of the total group. Of the total 395 students, 4% were a member of a Greek organization (*n*=15), 8% lived on campus (*n*=33), and 89% were Louisiana residents (*n*=353). Approximately 18% of the subsample received a Pell grant (*n*=71). As it pertains to prior high school academic performance, the mean GPA earned by the subsample of participants was a 3.13 (*SD*=.45, range=1.70-4.00). Approximately 30% attended a private high school (*n*=117), while the remaining 70% attended a public high school (n=278). The mean ACT Composite for the

students deemed at-risk during the Fall 2017 and Spring 2018 semesters was a 24 (*SD*=3.44, range=13-34).

Within the subsample, the classifications of the treatment variable by semester were similar. Students receiving the treatment variable in the fall semester were categorized as: 50% were in Group C (*n*=197); 11% were in Group D (*n*=44); 28% were in Group A (*n*=112); and the remaining 11% were in Group B (*n*=42). Students receiving the treatment variable in the spring semester were categorized as: 48% were in Group C (*n*=191); 10% were in Group D (*n*=38); 32% were in Group A (*n*=126); and the remaining 10% were in Group B (*n*=40).

**Research Question Two (RQII)**

RQII: To what extent do the intrusive advising interventions predict student retention when controlling for student demographics?

RQII was analyzed through multiple measures; the intention of the analyses was to assess the extent to which intrusive advising interventions influenced retention among at-risk students when controlling for student demographics. The classification tables for each model are included in the appendix. In Table 4.3, I present the results of binary logistic regressions conducted for the subsample of students who were at-risk for the Fall 2017 semester only. I represent the influence of demographic characteristics on Fall 2018 retention to establish a baseline in Model 1. Relative to at-risk freshmen, results indicated that at-risk sophomores (OR=2.65, *p*=.029) were 2.65 times more likely to be retained. Conversely, at-risk seniors (OR=.12, *p*<.001) were 8.33 times less likely to be retained than at-risk freshmen. Furthermore, at-risk students living on campus (OR=21.39, *p*=.003) were 21.39 times more likely to be retained than at-risk students living off campus. No other demographic characteristics demonstrated significant associations with retention.

Through the data included in Model 2, I assessed the influence of pre-enrollment characteristics on Fall 2018 retention, above and beyond the influence of demographic characteristics. Consistent with the baseline model, at-risk sophomores (OR=2.46, $p$=.045) were 2.46 times more likely to be retained than at-risk freshmen, while at-risk seniors (OR=.11, $p$<.001) were 9.09 times less likely to be retained than at-risk freshmen. Furthermore, the influence of on-campus residency remained consistent, as at-risk students who lived on campus (OR=18.29, $p$=.005) were 18.29 times more likely to be retained when compared with those students who did not live on campus. In spite of the consistency of these results, no pre-enrollment characteristics demonstrated significant associations with retention. Results of Bayesian Inclusion Criteria post-estimation demonstrated a marked increase in BIC between Model 1 (BIC = 575.45) and Model 2 (BIC = 590.13), indicating that the reduced model provides a better fit than the full model.

Through the data in Model 3, I assessed the influence of financial aid on Fall 2018 retention, above and beyond the influence of demographic and pre-enrollment characteristics. Results demonstrated consistency with previous models in terms of the influence of academic classification, as at-risk sophomores (OR=2.89, $p$=.036) were 2.89 times more likely to be retained than at-risk freshmen and at-risk seniors (OR=.14, $p$<.001) were 7.14 times less likely to be retained in comparison to at-risk freshmen. Furthermore, results demonstrated that at-risk students who live on campus (OR=7.74, $p$=.064) were 7.74 times more likely to be retained than at-risk students who live off campus. Additionally, at-risk students who had a Pell grant (OR=109.52, $p$<.001) were 109.52 times more likely to be retained. However, Black students (OR=.43, $p$=.007) were 2.33 times less likely to be retained in comparison with white students. As with Model 2, no pre-enrollment characteristics were significantly associated with retention.

However, relative to the baseline model, results of the Bayesian Inclusion Criteria post-estimation demonstrated a significant decrease between Model 1 (BIC = 575.45) and Model 3 (BIC = 524.73), indicating the full model provided a better fit over the reduced model.

In Model 4, I examined the influence of the intrusive advising initiative, above and beyond the influence of demographic, pre-enrollment, and financial characteristics. Consistent with previous models, at-risk sophomores (OR=2.94, $p$=.036) were 2.94 times more likely to be retained than at-risk freshmen, while at-risk seniors (OR=.14, $p$<.001) were 7.14 times less likely to be retained than at-risk freshmen. Again, at-risk students who lived on campus (OR=7.56, $p$=.068) were 7.56 times more likely to be retained, and at-risk students who received Pell grants (OR=104.05, $p$<.001) were 104.05 times more likely to be retained than those without Pell grants. Furthermore, Black students (OR=.41, $p$=.005) were 2.44 times less likely to be retained in comparison with their white counterparts. Regarding the influence of intrusive advising, a marginally significant association was demonstrated in which at-risk students who responded to the outreach telephone call received, but who did not seek out in-person advising (OR=1.69, $p$=.064) were 1.69 times more likely to be retained than those who did not respond to the outreach telephone call and did not seek out in-person advising. The results of Bayesian Inclusion Criteria post-estimation indicated a marked decrease between the baseline model (BIC = 575.45) and the full model (BIC = 538.22), indicating a better fit than the baseline model. However, Model 3 (BIC = 524.73) demonstrated a better fit overall.

In Table 4.4, I included the results of binary logistic regressions conducted for the subsample of students who were at-risk for the Fall 2017 and Spring 2018 semesters. I examined the influence of demographic characteristics on Fall 2018 retention to establish a baseline in Model 5. Results demonstrated that at-risk juniors (OR=.40, $p$=.061) and at-risk seniors

(OR=.089, $p$<.001) were less likely to be retained than at-risk freshmen; specifically, at-risk juniors were 2.50 times less likely to be retained than at-risk freshmen, and at-risk seniors were 11.24 times less likely to be retained than at-risk freshmen. Additionally, at-risk students who resided on campus (OR=10.25, $p$=.002) were 10.25 times more likely to be retained than at-risk students who did not live on campus. No other demographic characteristics demonstrated significant associations with retention.

I assessed the influence of pre-enrollment characteristics on Fall 2018 retention, above and beyond the influence of demographic characteristics in Model 6. Consistent with the baseline model, at-risk seniors (OR=.08, $p$<.001) were 12.50 times less likely to be retained in comparison to at-risk freshmen, while at-risk juniors (OR=.40, $p$=.065) were 2.50 times less likely to be retained in comparison to at-risk freshmen. Furthermore, at-risk students who were living on campus (OR=9.57, $p$=.003) were 9.57 times more likely to be retained than at-risk students who live off campus. Regarding pre-enrollment characteristics, at-risk students who attended a private high school (OR=1.77, $p$=.036) were 1.77 times more likely to be retained than at-risk students who attended a public high school. No other demographic or pre-enrollment characteristics demonstrated significant associations with retention. Results of Bayesian Inclusion Criteria post-estimation demonstrated a marked increase in BIC between Model 5 (BIC = 500.61) and Model 6 (BIC = 513.63), indicating that the reduced model provided a better fit than the full model.

I assessed the influence of financial aid on Fall 2018 retention, above and beyond the influence of demographic and pre-enrollment characteristics in Model 7. Consistent with the previous models, at-risk juniors (OR=.27, $p$=.012) and at-risk seniors (OR=.07, $p$<.001) had a greater risk of not being retained than at-risk freshmen included in this study; specifically, at-risk

Table 4.3. Binary Logistic Regression Predicting Student Retention Among the Fall-Only At-Risk Sample (*n* = 504)

| Variables | Model 1 | | Model 2 | | Model 3 | | Model 4 | |
|---|---|---|---|---|---|---|---|---|
| | *OR* | *SD* | *OR* | *SD* | *OR* | *SD* | *OR* | *SD* |
| Gender: Female | 0.84 | 0.19 | 0.82 | 0.19 | 0.70 | 0.17 | 0.71 | 0.18 |
| *Race (Ref. White)* | | | | | | | | |
| Black | 0.68 | 0.17 | 0.69 | 0.19 | 0.43** | 0.13 | 0.41** | 0.13 |
| Other | 0.99 | 0.33 | 0.97 | 0.34 | 0.67 | 0.27 | 0.64 | 0.26 |
| *Classification (Ref. Freshman)* | | | | | | | | |
| Sophomore | 2.65* | 1.19 | 2.46* | 1.11 | 2.89* | 1.46 | 2.94* | 1.50 |
| Junior | 1.51 | 0.67 | 1.36 | 0.62 | 1.88 | 0.96 | 1.96 | 1.01 |
| Senior | 0.12*** | 0.06 | 0.11*** | 0.06 | 0.14*** | 0.08 | 0.14*** | 0.08 |
| On Campus Residence | 21.39** | 22.22 | 18.29** | 19.07 | 7.74 † | 8.56 | 7.56 † | 8.39 |
| Louisiana Resident | 0.91 | 0.33 | 0.88 | 0.33 | 0.64 | 0.25 | 0.59 | 0.24 |
| HS Academic GPA | | | 1.53 | 0.44 | 1.30 | 0.40 | 1.45 | 0.46 |
| Private HS | | | 0.79 | 0.18 | 0.91 | 0.22 | 0.86 | 0.21 |
| ACT Composite | | | 1.02 | 0.03 | 1.02 | 0.04 | 1.02 | 0.04 |
| Pell Grant | | | | | 109.52*** | 115.27 | 104.05*** | 109.18 |
| *Fall Treatment (Ref. No Resp./No Adv.)* | | | | | | | | |
| No Response, Advising Sought | | | | | | | 1.32 | 0.49 |
| Responded, No Advising Sought | | | | | | | 1.69 † | 0.48 |
| Responded, Advising Sought | | | | | | | 0.69 | 0.32 |
| AIC | 537.45 | | 539.45 | | 469.83 | | 470.66 | |
| BIC | 575.45 | | 590.13 | | 524.73 | | 538.22 | |

† *p*<.10 **p*<.05 ***p*<.01 ****p*<.001

juniors were 3.70 times less likely to be retained than at-risk freshmen, and at-risk seniors were 14.29 times less likely to be retained than at-risk freshmen. Black students (OR=.54, $p$=.069) were 1.85 times less likely to be retained than their white counterparts.

Again, at-risk students who lived on campus (OR=7.45, $p$=.011) were 7.45 times more likely to be retained than at-risk students who chose to not live on campus. Also, at-risk students who attended a private high school (OR=2.14, $p$=.009) were 2.14 times more likely to be retained than at-risk students who attended a public high school. Furthermore, at-risk students who received Pell grants (OR=125.41, $p$<.001) were 125.41 times more likely to be retained than other at-risk students. Relative to the baseline model, results of the Bayesian Inclusion Criteria post-estimation demonstrated a significant decrease between Model 5 (BIC = 500.61) and Model 7 (BIC = 444.60), indicating the full model provided a better fit over the reduced model.

In Model 8, I examined the influence of the intrusive advising initiative, above and beyond the influence of demographic, pre-enrollment, and financial characteristics. Consistent with the previous models, at-risk juniors (OR=.27, $p$=.015) and at-risk seniors (OR=.07, $p$<.001) were less likely to be retained in comparison to at-risk freshmen; at-risk juniors were 3.70 times less likely to be retained and at-risk seniors were 14.29 times less likely to be retained, both in comparison with at-risk freshmen. At-risk students who lived on campus (OR=7.38, $p$=.013) were 7.38 times more likely to be retained, at-risk students who received Pell grants (OR=140.38, $p$<.001) were 140.38 times more likely to retained, and at-risk students who attended a private high school (OR=2.22, $p$=.007) were 2.22 times more likely to be retained when equated against their respective comparison groups. Additionally, at-risk Black students (OR=.53, $p$=.065) were 1.89 times less likely to be retained in comparison to at-risk white students. Results indicated that neither the Fall 2017, nor the Spring 2018 intrusive advising

Table 4.4. Binary Logistic Regression Predicting Student Retention Among the Fall-Spring At-Risk Sample (*n* = 395)

| Variables | Model 5 | | Model 6 | | Model 7 | | Model 8 | |
|---|---|---|---|---|---|---|---|---|
| | *OR* | *SD* | *OR* | *SD* | *OR* | *SD* | *OR* | *SD* |
| Gender: Female | 1.11 | 0.26 | 1.22 | 0.31 | 1.12 | 0.31 | 1.13 | 0.32 |
| *Race (Ref. White)* | | | | | | | | |
| Black | 0.89 | 0.24 | 1.02 | 0.30 | 0.54 † | 0.18 | 0.53 † | 0.18 |
| Other | 1.59 | 0.58 | 1.77 | 0.67 | 1.44 | 0.61 | 1.43 | 0.62 |
| *Classification (Ref. Freshman)* | | | | | | | | |
| Sophomore | 0.98 | 0.48 | 1.03 | 0.51 | 0.81 | 0.43 | 0.84 | 0.45 |
| Junior | 0.40 † | 0.20 | 0.40 † | 0.20 | 0.27* | 0.14 | 0.27* | 0.15 |
| Senior | 0.09*** | 0.05 | 0.08*** | 0.04 | 0.07*** | 0.04 | 0.07*** | 0.04 |
| On Campus Residence | 10.25** | 7.84 | 9.57** | 7.26 | 7.45* | 5.91 | 7.38* | 5.92 |
| Louisiana Resident | 1.25 | 0.47 | 1.12 | 0.43 | 0.77 | 0.32 | 0.76 | 0.33 |
| HS Academic GPA | | | 0.91 | 0.27 | 0.90 | 0.30 | 0.90 | 0.31 |
| Private HS | | | 1.77* | 0.49 | 2.14** | 0.63 | 2.22** | 0.66 |
| ACT Composite | | | 1.01 | 0.04 | 1.04 | 0.04 | 1.03 | 0.05 |
| Pell Grant | | | | | 125.41*** | 132.24 | 140.38*** | 149.70 |
| *Fall Treatment (Ref. No Resp./No Adv.)* | | | | | | | | |
| No Response, Advising Sought | | | | | | | 1.30 | 0.55 |
| Responded, No Advising Sought | | | | | | | 0.67 | 0.22 |
| Responded, Advising Sought | | | | | | | 0.80 | 0.36 |
| *Spring Treatment (Ref. No Resp./No Adv.)* | | | | | | | | |
| No Response, Advising Sought | | | | | | | 1.75 | 0.79 |
| Responded, No Advising Sought | | | | | | | 1.52 | 0.47 |
| Responded, Advising Sought | | | | | | | 1.34 | 0.70 |
| AIC | 464.80 | | 465.89 | | 392.87 | | 399.94 | |
| BIC | 500.61 | | 513.63 | | 444.60 | | 475.54 | |

† $p<.10$ *$p<.05$ **$p<.01$ ***$p<.001$

interventions were significantly associated with student retention among the subsample. The results of Bayesian Inclusion Criteria post-estimation indicated a marked decrease between the baseline model (BIC = 500.61) and the full model (BIC = 475.54), indicated a better fit than the baseline model. However, Model 7 (BIC = 444.60) demonstrated a better fit overall.

## Chapter Summary

In this chapter, I analyzed the data collected in addressing my two research questions. I presented specific tables to describe the variables in my study, to identify the correlations amongst the study variables, and to predict undergraduate student retention through logistic regression. Finally, I offered my conjectures as to which statistical models were the best fit based upon my analysis of the data.

# CHAPTER 5. DISCUSSION AND CONCLUSION

In this chapter, I will summarize my analyses of at-risk students enrolled in the College of Humanities & Social Sciences. Next, I will discuss implications for research, followed by an exploration of the limitations of my study. Finally, I will list future opportunities for research and draw relevant conclusions.

## Summary of the Study

In this study, I analyzed the background characteristics of at-risk students at midterm, and investigated whether statistically significant differences existed among such students who were retained as opposed to those who were not retained; and examined whether intrusive advising interventions predicted student retention rates when controlling for student demographics. As the current study was designed around contemporary literature on undergraduate student retention, it was imperative to determine if my interventions and findings were consistent. In addition, I wanted to review any outcomes in the context of Astin's (2001) Input-Environment-Outcome Model (I-E-O), the theoretical framework for my study.

In describing pertinent links to the literature on undergraduate student retention, the use of telephone calls in reaching out to students was based upon the work by Schwebel et al. (2008), who demonstrated the effectiveness of using both telephone calls and emails in prompting students to pursue academic advising. However, approximately 50% of the at-risk students in this study were not able to be reached via telephone. The Schwebel et al. study dates back to 2008, so I question whether students are still as likely to respond to both telephone calls and emails as what was demonstrated the findings of Schwebel et al (2008). From a Student Services perspective, we begin communicating messages to students of the importance of checking their University email accounts at new student orientation. However, anecdotally, students regularly

indicate to our staff that they do not check their University email accounts. This may seem ironic to higher education professionals and researchers given how technologically savvy and connected millennials and generation z students are, but their choices regarding social media and use of technology appear to be for specific purposes and academic information may not be a consistent source of connection for them. Unfortunately, there does not appear to be an easy way to confirm the accuracy of the aforementioned statement, specifically what number of students do not regularly check their University email accounts. However, if it is correct, it would demonstrate that at least one of the intrusive advising interventions included in this study was not effective. Given the current generation's reliance on technology, is there a more effective way to initially communicate with at-risk students about issues of concern outside of telephone calls and emails, perhaps through a more utilized form of social media?

Pleitz et al. (2015) found that students enter college with unrealistic expectations about the experience they will have. Further, they indicated that the larger the discrepancy between students' expectations and what they actually experience, the greater the odds of their not continuing their enrollment. What were the academic expectations of the at-risk students who were a part of this study? Would an academic counselor alone be able to assist in assuaging the discrepancies that could determine whether students chose to continue their enrollment?

As 89% of the at-risk students in my student are Louisiana residents, it is imperative that we create opportunities to make substantive shifts in the expectations of these same students. One example of a change made with the specific intent of changing the aforementioned expectations occurred during the Fall 2018 semester in the College of Humanities & Social Sciences. A course entitled HSS 1000 was created for freshman students pursuing a major under the College of Humanities & Social Sciences umbrella. The first half of the semester was

devoted to teaching students both information and strategies on how to successfully navigate their college experiences. Topics covered included: advising; time management; how to communicate properly with a college professor; and available resources. Through HSS 1000, we sought to standardize the foundational experience on campus for all of our freshmen students and not just certain subpopulations within that group. Although we were not able to singlehandedly address any performance issues as they pertain to deficits in college preparation through HSS 1000, we hoped to mitigate the impact of unrealistic expectations and promote our students' successes on campus.

As many of the at-risk students included in my analyses did not seek out any type of advising, the College's academic counselors would not have had an opportunity to effectively address any discrepancies in expectations that the at-risk students may have had. For example, despite the many outreach initiatives in place for the University's Center for Academic Success, students inquire with our staff about tutoring opportunities, and specifically whether there are any available. If an at-risk student who did not seek out advising simply looked for tutoring services on the A-Z portion of the University website, they would not see any information under "tutoring." The student would have to know to look under either the "Center for Academic Success" or "Academic Success, Center for" under the A-Z listing for details on tutoring services available. For an at-risk student who was lacking in social and cultural capital (Bourdieu, 1985), they may mistakenly view the lack of the keyword "tutoring" as an indicator that the University does not have tutoring opportunities available for students, which is, of course, incorrect. Many are also unaware of the differences between strategy and content tutoring and which service may best suit their own unique needs.

Another example as it relates to unrealistic expectations ties to the role of the academic advisor at a university. The responsibilities of an academic advisor are very different than that of a high school counselor. If an at-risk student either had a negative experience with a high school counselor or does not understand the role of an university academic advisor (in comparison with a mental health counselor, a career counselor, or the various other types of advisors/ counselors available on a college campus), they may not understand the importance of the advisor/ advisee working relationship and how that advisor can support them on their path toward academic success and ultimately, graduation.

Walsh and Robinson Kurpius (2016) demonstrated that one of the highest predictors of retention included living on campus. This outcome emphasizing the importance of living on campus and its relationship with academic success was consistent with the current study. Walsh and Robinson Kurpius (2016) noted the proximity of resources for those students who lived on campus and questioned whether that was at the foundation of their finding regarding the relationship between living on campus and increased rates of retention. Based upon the uniformity of both my findings and their results that span across universities, locations, and majors, I support their hypothesis. In addition to the accessibility of resources and subsequent ease of usage for those students who live on campus, these services are also advertised in a multitude of ways on campus (i.e., signs in high traffic areas on campus; notices on televisions in the dining halls, residential spaces, and libraries). I previously mentioned the challenges of communicating with students and noted that email does not always seem to be effective. Students living on campus may be more likely to become aware of available resources and perhaps increase their propensity to utilize said services.

As described in Chapters 1 and 2, Astin's (2001) I-E-O Model was the theoretical framework upon which my study was designed. For the purposes of my study, Astin's (2001) input factors encompassed descriptive characteristics including demographics (i.e., gender, ethnicity) as well as pre-enrollment characteristics tied to the student's high school performance (i.e., ACT Composite scores, high school GPA). For the purposes of this study, I characterized the environmental factor specifically through the role of intrusive advising interventions and examined the impact of intrusive advising upon students' decisions to enroll during the Fall 2018 semester. The outcome in Astin's (2001) model as determined in my study is whether or not students decided to continue their enrollment during the Fall 2018 semester.

In current literature about the impact of high school performance factors, these pre-enrollment factors, and especially high school GPA, are correlated positively with undergraduate student retention (Friedman & Mandel, 2009). In explaining the role of pre-enrollment factors through the I-E-O Model (Astin, 2001), they would be classified as input. However, these findings from current literature were not consistent with my study as the impact of high school performance factors varied across my models. For example, students who attended a private high school instead of a public high school were more likely to be retained in Models 6 and 7. Some conjectures to explain this specific finding include the students who attended private high schools perhaps had a more rigorous educational experience at the secondary level (e.g., more opportunity to take AP courses). These particular students may have also had access to better quality resources in high school, thereby making them better able to effectively navigate a college campus (e.g., technical literacy skills). More analysis is needed on this particular variable to build upon my hypotheses and more comprehensively determine why pre-enrollment factors

did not significantly impact undergraduate student retention in my study in contrast with findings in current literature.

Another variable that I found noteworthy was the impact of year classification on retention data, and specifically, the varied negative relationship for juniors and seniors demonstrated in the various models. One hypothesis as to why juniors are less likely to be retained in comparison with freshmen is that for most of the degree programs in the College of Humanities & Social Sciences, students entering their junior year would be enrolled in the core courses in their major. Prior to their junior year, students would likely be enrolling in General Education courses and other entry level courses at the foundational level. As previously noted, a junior would be exposed for the first time to the rigorous and concentrated coursework in their major field of study. Accordingly, they may experience a disconnect between their own skills and abilities and their major of choice, resulting in the grades of concern that prompted this particular study. Another theory posed by Schreiner and Nelson (2013) as to decreased retention numbers in juniors is, "It could be that by the time a student persists to the junior year, internal motivation and institutional fit outweigh variables that were important to their initial institutional choice and success in the first year of college" (p. 103). In connecting Schreiner and Nelson's (2013) theory with Astin's (2001) I-E-O Model, both internal motivation and institutional fit would be outcome factors, which would interconnect and potentially impact the defined outcome variable in this study, that of undergraduate student retention.

A supposition as to why at-risk seniors were less likely to be retained than freshmen in this study include financial factors. Today's students often manage much more than a full-time course schedule; they also juggle one or more jobs with other family and personal commitments. The importance of financial factors in undergraduate student retention was outlined earlier in this

document (Millea et al., 2018), and specifically, the receipt of financial aid in the form of scholarships or grants. Depending upon their length of enrollment (and in particular, if their enrollment has reached beyond the traditional four to six-year timeframe), seniors may have exceeded the length of time in which they were eligible to receive financial aid. They would then have to finance their tuition and fees on their own, which may not be feasible. In addition, a senior who was at-risk may have not made the needed academic progress or met the required standards to receive federal financial aid. In addition, they also may have experienced a "degree of fit" issue with regard to their major coursework. If, for example, they participated in an internship and came to the realization that this real world experience did not coincide with their future career expectations, they perhaps would discontinue their enrollment, not being comfortable with the possibility of changing majors and thereby adding more time to their path to graduation.

One of the more prominent demographic factors that impacted undergraduate student retention rates in my study was that of race/ ethnicity, an input factor when viewed through the lends of the I-E-O Model (Astin, 2001). Specifically, Black students were less likely to be retained than white students across multiple models. In analyzing this finding, it is important to place it into the context of the Louisiana educational system at the secondary level, across the state as a whole, and across the country. According to WelfareInfo.org (2019), local high school students have a poverty rate of 27.9%, and undergraduate students have a poverty rate of 56.9% in the surrounding area. The city's poverty rate is 27.0%, but Black residents of Louisiana have a poverty rate of 31.6%. The national poverty rate for Black individuals is 25.2%. In contrast, white Louisiana residents have a poverty rate of 17.9%, and the national poverty rate is 10.3% (WelfareInfo.org, 2019). These statistics indicate that Black students of Louisiana are more

likely than individuals of any other race and ethnicity to experience poverty, which may mean that these students were also enrolled in underfunded schools with a lack of resources, and experienced inadequate staffing as it pertains to teachers. All of these factors may have impacted their educational experiences and also influenced their future opportunities at the college level. For example, Louisiana's Taylor Opportunity Program for Students (TOPS) scholarships are not distributed based upon any types of need-specific factors (*Shreveport Times*, 2016). As a result, the students who receive the TOPS scholarships are primarily those who are white and whose families have an annual income of $70,000 or more (*Shreveport Times*, 2016). Certainly, some families in the aforementioned group may have extenuating financial and other hardship issues that warrant the receipt of TOPS scholarships for their respective students. However, in other cases, TOPS may escalate social imbalances by providing the students who have the financial means to go to college funding opportunities that may not be necessary. In further adding to the list of obstacles that these students have had to address, when they get to college, they likely would not have attained the same levels of social and cultural capital (Bourdieu, 1985) as those students who did not live below the poverty line, thereby impacting their prospects for academic success at the university level.

Also of importance as it pertains to the academic success of Black students is the role of specialized advising needs. In connecting advising back to the I-E-O Model, of course, the intrusive advising interventions were the primary environmental factor studied. Museus and Ravello (2010) found that the advisors who were the most efficacious in working with students of color at a predominantly white institution (PWI) were those who appreciate that students of color experiencing academic concerns likely have other issues that are contributing as well (i.e., the academic issue should not be considered in isolation); advisors who were proactive; and

advisors "who humanize" their role (p. 52). Museus and Ravello (2010) concluded that "…institutional leaders must consider the investment of additional resources in academic advising services so that advisors can take the time to provide humanized, holistic, and proactive academic advising for students of color" (p. 56). In reviewing the role of race as an input factor and its relationship with proactive academic advising, perhaps the intrusive advising interventions deployed should occur at a point in the semester much earlier than midterm. However, there is not a current system in place at this University which allows for the systematic sharing of grade information with the appropriate support staff prior to midterm.

In Lee's (2018) research on Critical Race Theory (CRT) and academic advising, she describes CRT as the lens through which an advisor's exchanges with a minority student can either assist or impede the student's individual situation. She further explains that CRT allows for the advisor to contemplate the paths in which their encounters involving race shape their viewpoints and directly impact their exchanges with students. Lee noted that, "Within higher education, the sources of oppression might include university policies and procedures and interpersonal interactions of faculty members, staff, and advisors, among others" (p. 80). Further, she recommended a combination of "affirmation, support, and advocacy" in advising minority students (p. 81).

In considering Lee's (2018) research in the design of my study, the intrusive advising interventions may need to be constructed in a different way to allow for the advisor to be more sensitive to students' unique needs as it pertains to the reach-out initiatives. In also overlapping the Donaldson et al. (2016) reference to students initially having a negative association with required advising, this may help to explain why there was not a positive impact upon retention rates for Black students as it pertained to intrusive advising. Specifically, Black students may

have perceived the intrusive advising interventions in a negative context instead of the proactive and helpful manner in which it was intended. A possible suggestion as to how to alleviate this issue may be to utilize faculty advisors with whom the students have interacted in addressing the academic issues of concern in accordance with Rodger et al.'s (2014) design. This would allow for the at-risk Black students to interact with an individual with whom they have already established a rapport about the grades of concern. If the faculty advisors were of a minority race as well, this could further assist in addressing Lee's recommended means of supporting students of color.

Of course, poverty levels also directly impact the students who qualify for Pell grants and their educational experiences, particularly at the secondary level. In tying this variable back to the I-E-O Model (Astin, 2001), it would be considered as input. Similar to what is noted above as it relates to Black students (and the group of students receiving Pell grants does indeed overlap), students who receive Pell grants likely enter college with less social and cultural capital (Bordieu, 1985). As demonstrated by Smith and Allen (2006), advisors have an increased level of importance for students receiving Pell grants in comparison with students who have more stabilized and secure financial situations. Further, they noted that students who receive Pell grants appreciated the significance of the academic advisor in increasing their opportunities for academic success. To further highlight the importance of the advisor, Smith and Allen (2006) referenced that students who are not of traditional college age, minority students, and students who do not have adequate financial means are perhaps more in need of comprehensive advising services. Although there was not a statistically significant difference in the impact of intrusive advising interventions for those students who received Pell grants in my study, it is clear from

the literature that academic advisors can positively impact the level of academic achievement for this particular group of students.

In my study, the categorization of a student to either of the groups involving the receipt of in-person advising assistance (i.e., Groups B or D) included one single advising session prior to the University's deadline to drop classes and resign for the semester. It appears that the environmental factor of one advising session may not have been frequent enough, the advisor/ advisee working relationship strong enough, or the advising interventions intrusive enough to make a substantial impact as it pertained to undergraduate student retention rates.

Although the intrusive advising interventions were not found to be statistically significant in terms of impacting undergraduate retention in my study, this study was conducted with a limited group of students. A study like this one is simply the first step in a comprehensive assessment of services. Overall, there is a lack of research available on the assessment of intrusive advising practices. In a quantitative analysis like my study, there are many confounding factors in students' lives that impact their academic access. This analysis was based upon administrative data, so it is impossible to integrate the aforementioned confounding factors like mental health, family challenges, social networks, etc. into my analyses. In retrospectively reviewing the design of the current study, an alternative approach that may have been more effective in demonstrating the impact of intrusive advising interventions would have been to design a mixed methods study. This would have allowed the inclusion of qualitative interviews and follow-ups to better understand students' lived experiences.

As noted in Chapter 1, there has been a narrow variation in undergraduate student retention numbers over the past decade at the university in which my study was conducted. As a result, a small number of students being retained can have a large impact upon the university's

retention rates. In this study, a large analysis was conducted that included a significant percentage of the undergraduate student population in the College of Humanities & Social Sciences. Although my model was accurate, was it actually addressing the most prevalent issues impacting undergraduate student retention? Perhaps it would be more impactful to begin with small groups of students instead of the larger sample used in this study. For example, an academic counselor could sit and talk with students in small groups to discuss why they were not retained. For the students who were retained, an academic counselor could speak with these students about why the telephone calls and other intrusive advising interventions made a difference to them.

While I anticipated including majors as a variable in this study, models were run that included major specific information without effect. In summary, there were no statistically significant differences found between at-risk students in the majors housed in the College of Humanities & Social Sciences in my study.

**Implications**

While there was not a statistically significant impact of intrusive advising upon undergraduate student retention in this study, that does not diminish the importance of the role of the academic advisor. There has been a wealth of research that focuses on the impact of the academic advisor upon student success. Anecdotally, many students who were a part of the at-risk initiative discussed have expressed their appreciation regarding the assistance provided to them by their academic advisor. As demonstrated in the literature, there are many factors that impact student retention and that contribute to students' decisions to continue their enrollment or to not continue their enrollment. I was not able to control for all of those factors nor would I have a comprehensive understanding of the specific factors that may impact an individual student's

decision-making process in this particular study. Perhaps a mixed methods or qualitative study that included a focus on the individual student experience would have been more impactful in terms of the demonstration of the influence of intrusive advising interventions.

**Limitations**

A limitation of my study is that students have not been randomly assigned to the conditions available as they would in an experimental design. The students have assigned themselves to the conditions through their responses to the intrusive advising initiatives. Given that this is a University administrative activity, I am not able to, for example, only select a certain percentage of students to receive the at-risk telephone calls and a certain percentage to receive a letter mailed to their home address. Another limitation includes a factor not measured in this study, that of parental involvement. Anecdotally, parental involvement in the advising process increases every year. The parents of students in the College, for example, often have access to their students' Moodle accounts, through which they can directly monitor grades. This level of access may prompt parents to have conversations with their students to impress upon them the importance of retention and academic success. Parental pressures and their overall involvement in the educational process may contribute to an increase in levels of retention.

A third limitation of my study is the possibility of selection bias due to changes in telephone numbers, lack of access to a cell phone, or inaccurate telephone numbers listed in the University's student records database.

A fourth limitation in designing my study is the broad implementation of programming for all students in the College without taking into account individual student characteristics. For example, would an intrusive advising intervention that was effective with an 18-year-old full-time student be equally effective with that of a 55-year-old non-traditional, part-time student? In

an ideal scenario, scaled programming could be developed that pertained to small subsets of the College's student population. However, given the ongoing financial challenges faced by the University as a whole, it is also critical that the advising initiatives and programming created and implemented are efficient and effective for the majority of the student population.

A fifth limitation was the lack of student response in this study. Approximately 50% of the at-risk student population did not respond in any way to the intrusive advising interventions. As a result, it is not clear as to the potential impact of the advising experience upon individual students' decisions regarding the possible continuation of their enrollment.

Additional limitations were linked to the involvement of University faculty. As noted above, students were included in this study based upon their midterm grades. If a faculty member did not report midterm grades for their students, those students were not included in the College's outreach initiatives. Also, faculty occasionally misunderstand the NA reference in the midterm grade submission process, believing that NA meant that a midterm grade was not available for a student. When this misreporting occurred, it created confusion on behalf of the College's staff and, more importantly, on behalf of the students being contacted. Significant effort has been made by the University's current leadership to provide information to faculty on the importance of the submission of midterm grades. As a result, midterm grade submission during the Fall 2018 semester was at an all-time high of 83%. As midterm grades are often the only indicator available to demonstrate that a student may be in academic jeopardy, it is vital that faculty report this important information.

**Future Research Opportunities**

There are a number of findings within this study which lend to future research projects. There appears to be a paucity of literature surrounding the topic of the establishment of the

advising relationship and specifically, at what point it becomes most effective as this likely varies from individual to individual. However, I would hypothesize that the creation of a new group within the framework of this study that included a review of the frequency of the advising appointments for the at-risk students in Groups B and D may provide different results with regard to the impact of intrusive advising interventions on undergraduate student retention. In elaborating on my hypothesis in a more detailed capacity, I would like to analyze the retention rates of those at-risk students who had two (or more) advising appointments to determine if those at-risk students who met more frequently with an advisor were more likely to be retained.

Other findings that I would like to investigate further include students who received Pell grants and students who lived on campus being more likely to be retained; Black students being less likely to be retained in comparison with white students; and juniors and seniors being less likely to be retained in comparison with at-risk freshmen. Exploring these relationships could provide additional insight into the factors that promoted these specific groups' responses as it pertains to retention. In addition, a study exploring retention differences between majors and not solely focusing on at-risk students could lend results tied to possible support mechanisms necessary for selected groups of students. Next, there are opportunities for qualitative studies that utilize the information gathered by the graduate student callers in their individual conversations with the at-risk undergraduate students. Finally, a comparison of at-risk undergraduate retention rates with the data used in this study surrounding the intrusive advising interventions could be helpful in determining effectiveness on a larger scale.

**Conclusion**

In this study, I investigated the background characteristics of at-risk students at midterm, and whether there were statistically significant differences between at-risk students who were

retained vs. those at-risk students who were not retained; and whether intrusive advising interventions predicted retention when controlling for student demographics. Although intrusive advising interventions did not significantly impact undergraduate student retention in this study, there were several other important outcomes that resulted, namely tied to the background characteristics of those students likely to be retained. Through this study, my results demonstrated the need to continue to investigate retention, and the variables that impact it and our students' overall academic success.

## APPENDIX. MODEL DIAGNOSTICS AND CLASSIFICATION TABLES

*Model Diagnostics for the Fall Only At-Risk Sample*

| Model | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| ROC | .7995 | .8042 | .8630 | .8693 |
| Overall Accuracy | 72.82% | 72.22% | 75.79% | 78.57% |
| Sensitivity | 82.87% | 76.85% | 70.83% | 73.61% |
| Specificity | 65.28% | 68.75% | 79.51% | 82.29% |
| Positive Predict Value | 64.16% | 64.84% | 72.17% | 75.71% |
| Negative Predict Value | 83.56% | 79.84% | 78.42% | 80.61% |
| False-Positive Rate given True Negative | 34.72% | 31.25% | 20.49% | 17.71% |
| False-Negative Rate given True Positive | 17.13% | 23.15% | 29.17% | 26.39% |
| False-Positive Rate given Classified Positive | 35.84% | 35.16% | 27.83% | 24.29% |
| False-Negative Rate given Classified Negative | 16.44% | 20.16% | 21.58% | 19.39% |

*Note*. Cutoff of .50

*Model Diagnostics for the Fall Spring At-Risk Sample*

| Model | 5 | 6 | 7 | 8 |
|---|---|---|---|---|
| ROC | .7745 | .7812 | .8520 | .8571 |
| Overall Accuracy | 69.37% | 69.37% | 74.94% | 77.47% |
| Sensitivity | 64.88% | 74.15% | 72.68% | 76.10% |
| Specificity | 74.21% | 64.21% | 77.37% | 78.95% |
| Positive Predict Value | 73.08% | 69.09% | 77.60% | 79.59% |
| Negative Predict Value | 66.20% | 69.71% | 72.41% | 75.38% |
| False-Positive Rate given True Negative | 25.79% | 35.79% | 22.63% | 21.05% |
| False-Negative Rate given True Positive | 35.12% | 25.85% | 27.32% | 23.90% |
| False-Positive Rate given Classified Positive | 26.92% | 30.91% | 22.40% | 20..41% |
| False-Negative Rate given Classified Negative | 33.80% | 30.29% | 27.59% | 24.62% |

*Note*. Cutoff of .50

Model 1

| | True | | |
|---|---|---|---|
| Classified | D | ~D | Total |
| + | 179 | 100 | 279 |
| - | 37 | 188 | 225 |
| Total | 216 | 288 | 504 |

Model 2

| | True | | |
|---|---|---|---|
| Classified | D | ~D | Total |
| + | 166 | 90 | 256 |
| - | 50 | 198 | 248 |
| Total | 216 | 288 | 504 |

Model 3

| | True | | |
|---|---|---|---|
| Classified | D | ~D | Total |
| + | 153 | 59 | 212 |
| - | 63 | 229 | 292 |
| Total | 216 | 288 | 504 |

Model 4

| | True | | |
|---|---|---|---|
| Classified | D | ~D | Total |
| + | 159 | 51 | 210 |
| - | 57 | 237 | 294 |
| Total | 216 | 288 | 504 |

Model 5

| | True | | |
|---|---|---|---|
| Classified | D | ~D | Total |
| + | 133 | 49 | 182 |
| - | 72 | 141 | 213 |
| Total | 205 | 190 | 395 |

Model 6

| | True | | |
|---|---|---|---|
| Classified | D | ~D | Total |
| + | 152 | 68 | 220 |
| - | 53 | 122 | 175 |
| Total | 205 | 190 | 395 |

Model 7

| | True | | |
|---|---|---|---|
| Classified | D | ~D | Total |
| + | 149 | 43 | 192 |
| - | 56 | 147 | 203 |
| Total | 205 | 190 | 395 |

Model 8

| | True | | |
|---|---|---|---|
| Classified | D | ~D | Total |
| + | 156 | 40 | 196 |
| - | 49 | 150 | 199 |
| Total | 205 | 190 | 395 |

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## VITA

Rebecca E. Caire began her career in higher education after earning both her bachelor's and master's degrees from Louisiana State University (LSU). After serving as an academic counselor in the LSU College of Humanities & Social Sciences, she moved into the role of Assistant Dean in the Student Services unit, the position in which she has continued to serve for the past 15 years. Her professional interests include exploring new and innovative ways of advising students, and in supporting her students in achieving their graduation goals.