TEXTING AND INTEGRATION: A MIXED METHODS STUDY OF THE USE OF TEXTING WITHIN THE ACADEMIC ADVISING FUNCTION AND ITS INFLUENCE ON STUDENTS' INTENT TO PERSIST

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AUTHORIZATION TO SUBMIT

DISSERTATION

This dissertation of Andrew Otto, submitted for the degree of Doctor of Philosophy in Educational Leadership with a major in Educational Leadership and titled "Texting and Integration: A Mixed Methods Study of the Use of Texting Within the Academic Advising Function and Its Influence on Students' Intent to Persist," has been reviewed in final form. Permission, as indicated by the signatures and dates given below, is now granted to submit final copies.

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DEDICATION

This dissertation is dedicated to my family. To my parents for instilling in me a love for learning, a drive to be better than I was the day before, and for demonstrating sacrifice throughout childhood so I might know what it means to love and provide for my children.

To my children, Finley, Sawyer, and Baylor. To Finley, for understanding sometimes on Daddy days we would need to be in the office together where I would do homework, and you would sit at your desk playing on your "computer" or drawing. And on other days, "asking" me to have a play day with Daddy instead. To Sawyer, your love and zeal for life pushed me to finish so as not to miss anymore moments than I had to. Our morning typing sessions may have not put a lot of words to paper, but they were meaningful because you were there. To Baylor, while you weren't "around" for most of this journey, the first six months of your life were filled with Daddy trying to finish what he started. You completed our family just as I was completing this part of my life.

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ABSTRACT

Texting as a form of communication has become universal. Its impact on the student experience in the university setting cannot be ignored, particularly as it relates to academic advising and retention. Given the expected decline in the college-going student population, universities are placing emphasis on academic advising given its high correlation with retention. Vincent Tinto's theory of student departure serves as the theoretical framework for this mixed methods study which examined student interactions with advisor via text as a factor of integration and its influence on the student's intent to persist. The explanatory sequential research study employed an online survey as well as semi-structured interviews. Results indicate a significant and positive correlation between the interaction a student has with an academic advisor via text and their intent to persist, although the amount of texting that occurred did not significantly affect their intent to persist. Additionally, the semi-structured interviews suggest specific motives lead to students texting with an advisor. Furthermore, texting impacts the relationship between a student and advisor and does, to some extent, impact the student's intent to persist.

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Chapter I

Introduction

In United States higher education, institutions face extreme pressure to maintain and grow enrollment. The industry currently faces a rigorous task as the average cost to attend a four-year institution rose nearly 13% from 2009 through 2017 (National Center for Education Statistics, 2018). Increases in tuition are meant to offset rising costs; however, in order to recruit the prospective student, institutions are discounting tuition leading to minimized net tuition revenue (Mintz, 2021). Additionally, the college-going student population is dwindling. Fewer students are attending college (National Student Clearinghouse Research Center, 2021b), and the population is expected to decline even more over the next ten years (Barshay, 2018; Grawe, 2018; 2021). In addition to the economic and demographic influences, the COVID-19 pandemic has provided additional uncertainty. Fall 2021 new student enrollment was down 2.7% nationwide compared to the prior year (National Student Clearinghouse Research Center, 2021b). Furthermore, the financial stressors imposed on the prospective and current students and higher education institutions by the COVID-19 pandemic make predicting future enrollment trends nearly impossible (Dennis, 2021; Thomas & Allen, 2021). The current and projected decline in traditional student population and the uncertainty brought on by COVID-19 will challenge viable institutional student populations as recruiting new students will become more difficult. Thus, enrollment management professionals must explore other avenues to fill the expected voids.

Student enrollment trends contribute greatly to the stress on an institution academically, fiscally, and culturally (Lynch& Lungren, 2018; Tinto, 1993, 2006). For every current student who leaves an institution, two incoming students must matriculate to maintain enrollment

growth. Meeting that goal will be a challenge now and in the future when an expected 15% decrease in the college-going student population between 2025 and 2029 will severely impact anticipated enrollment growth (Barshay, 2018; Grawe, 2018). As recruitment of new students happens in this challenging and competitive landscape, retention of an institution's current students becomes imperative.

The academic advising function is a critical component of retention in higher education; in fact, studies have shown it is one of the greatest contributors to student retention efforts of institutions (ACT, 2010; Elliot, 2020; Harris, 2018; Hart-Baldridge, 2020). Additionally, Vincent Tinto's model of student departure, a foundational model in student persistence, emphasizes the relationship between the advising function and the retention of students (Mannan, 2007; Tinto, 1975, 2006). Jayne Drake (2007), the Vice Dean for Academic Affairs at Temple University, a past president of the National Academic Advising Association, and an oft cited author on the subject of academic advising, emphasized academic advising's importance to institutional success, "Student success must be at the core of all institutional work and decision making; therefore, academic advising is critical to the success of higher education" (p. 11). Therefore, colleges and universities must strive for adequate advising departments to improve the retention of students. However, academic advising is often neglected among the components of a student support system (Gutierrez et al., 2020).

Effective interactions between students and faculty or staff significantly influence student retention (DeLaRosby, 2017; Tinto, 1993; Pascarella & Terenzini, 1980). Additionally, if increased regular contact and the quality of those contacts are viewed as positive by the student, retention and higher student success is likely to occur (DeLaRosby, 2017; Capstick et al., 2018). Several studies have examined this impact of student/faculty interactions on

retention; however, little is known from research and literature on the student/advisor communication practices or preferences regarding communication to impact retention. Previous research indicates face-to-face communication as a highly preferred method of communication (Chan et al., 2019; Green & McCann, 2021; Seemiller, 2017; Swanson et al., 2018). However, the literature also shows the expanding use of communication technologies such as email, text, and social media (Chan et al., 2019; Klempin et al., 2019; Seemiller, 2017; Swanson et al., 2018; Tippetts et al., 2021). Before the COVID-19 pandemic started in 2020, studies indicated increasing usage and preference of other communications methods including texting (Holte & Ferraro, 2018; Lister-Landman et al., 2017; Swanson et al., 2018). In some instances, depending on the type of information being communicated, students may choose texting as the preferred form of communication used (Taylor & Serna, 2019a; Tippetts et al., 2021). This comes as no surprise given the world's affinity with the cell phone. A recent study found that 60% of college students send between 11 and 100 texts per day (Taylor & Serna, 2019b), indicating a significant shift in student behavior as it relates to communication, interactions, and relationships within higher education.

Text messaging provides an intimacy and immediacy the current generation yearns for (Seemiller, 2017; Swanson, et al., 2018), contributing to the inclination of adolescents to use texting as their preferred method of communication (Lister-Landman et al., 2017; Swanson et al., 2018). With these expectations and preferences in mind, studies have demonstrated the impact texting can have in relation to student retention, persistence, and graduation rates (Castleman & Page, 2016; Taylor & Serna, 2019a). Thus, understanding the potential impact texting has on influencing student's interactions, retention, and persistence is critical as it can empower higher

education administrators to examine and make appropriate changes to their communication practices with their student populations.

Statement of the Problem

Retention is important in higher education for many reasons, and institutions are held accountable for retention rates on many fronts, including prospective student populations, government funding, and budgets (Elliot, 2020; Grawe, 2018; Lynch & Lungrin, 2018; Sanders & Killion, 2017; Walters & Sevedian, 2016). For instance, as part of 20 U.S.C. 1092, institutions are required to report retention rates (Institutional and Financial Assistance Information for Students Act, 1986).

Colleges and universities face decreasing student populations, a trend that is expected to continue for the next decade (Barshay, 2018; Grawe, 2018, 2021; National Student Clearinghouse Research Center, 2021b), and there is lost revenue and along with additional cost in recruiting a new student to replace a student who chooses to leave (Millea et al., 2018). These two realities create new pressures for colleges and universities to enhance connections with their students and further their retention efforts.

An effective way colleges and universities can enhance those student connections is through academic advising, as it appears to be a positive contributor to retention efforts (Drake, 2011; Hatch & Garcia, 2017; Sanders & Killion, 2017; Uddin; 2020). Projected decreases in student enrollments as well as increased costs associated with new student recruitment are forcing institutions to provide better supports and retention resources to students who choose to attend their college or university (Dennis, 2021; Thomas & Allen, 2021), and the student advisor relationship should be at the forefront of those efforts.

Academic advising's influence on retention has been analyzed through several lenses. Some studies emphasized a generally positive impact on retention (Corcelius & Crosswhite, 2020; Drake, 2011; Hatch & Garcia, 2017; Sanders & Killion, 2017). Others considered student perception of the advising function as it relates to retention (ACT, 2010; Barnes & Parish, 2017; Walters & Seyedian, 2016). Previous research also analyzed items such as the amount of contact between advisors and students and its impact of quality, student success, and retention (Capstick et al., 2019; Tippetts et al., 2021). Furthermore, communication and interaction between an advisor and student play a significant factor in a student's academic progress (DeLaRosby, 2017; Hatch & Garcia, 2017; Lynch & Lungrin, 2018; Thomas & McFarlane, 2018; Yunusova, 2021). Therefore, the influence academic advising and, specifically, the communication between a student and their advisor has on instititutional retention efforts cannot be overstated.

College and university retention endeavors must examine the use of prevalent technologies used by the population to meet the needs and expectations of the current student generation as it relates to communication (Barber, 2020; Romsa et al., 2017; Swanson et al., 2018). Modes of communication among traditional college students lend themselves to further examination (Swanson et al., 2018). Text messaging, for instance, no longer serves as a novelty form of communication with 97% of the population texting daily (Pew Research Center, 2017). Rideout (2016) notes U.S. teens, in particular, send on average 55 texts per day. Texting appears to achieve the immediacy needs expected of the current college student in terms of communication (Baytiyeh, 2018; Rew & Hosterman, 2018). Research including students 17–18 years old indicates they have a willingness to communicate information over a wide range of topics such as relationships, school, or risky behaviors through texting, indiciating its prefernce as a communication medium (Fletcher et al., 2018).

Because of these preferences and trends, institutions must be purposeful and intentional with their utilization of communication technologies to create value for the student, taking into account expectations of context and frequency (Jaggars & Karp, 2016; Sanders & Killion, 2017; Taylor & Serna, 2019a). This kind of strategic outreach from faculty and staff that is frequent and rewarding can contribute to the retention of students (Tinto, 1993), and the prevelance of texting in society and its ability to create value by meeting expectations for communication present an opportunity for further examination regarding higher education retention efforts.

A study conducted by Swanson et al. (2018) concluded that technology and its various uses in academia and non-academic communication is continuously evolving. The study emphasized the need for continuous evaluation and improvement of communication practices within higher education as it faces students who have varying experiences, competencies, and preferences with communication. This is especially true following the COVID-19 pandemic (Barber, 2020). Although the amount of contact with an advisor has been shown to affect retention (Braun & Zolfagharian, 2016; Capstick et al., 2019; Tippetts et al., 2020), research is lacking on how texting impacts the student-advisor relationship, the experience of the student, and it's influence on retention efforts and student persistence. The problem is that colleges and universities have limited understanding relating student experience with the advising function when the interaction between an advisor and advisee occurs via text and how the experience of communicating with an advisor via text impacts students' intentions to persist.

Significance of the Study

Retention is a momentous topic in higher education exacerbated by the current and expected decline in student enrollment in coming years and the cost associated with recruitment of these new students (Tippetts et al., 2020). There is an expected 15% decline in college-going

students identified over the next decade by Grawe (2018) and Barshay (2018). The COVID-19 pandemic fueled and exacerbated the decline in student enrollment, and from 2019 to 2021, during the pandemic, there was a 13.1% decline in freshmen enrollment across the country, as well as a decrease of 7.8% in total enrollment (National Student Clearinghouse Research Center, 2021b). Combine the smaller prospective student population with replacement costs and lost revenue associated with the departure of a student, as noted by Millea et al. (2018), retention of the current student becomes paramount. Thus, it is necessary to develop retention strategies to positively impact student persistence (Tinto, 2017).

Academic advising functions as a key contributor to student retention (ACT, 2010; Drake, 2011; Tinto, 1975, 2007; Sanders & Killion, 2017; Uddin & Johnson, 2019) and has long been considered a key component of student persistence (Crockett, 1978; Tinto, 1987, Tippetts et al., 2020). Given the significance the academic advisor plays in a student's experience and success, added institutional understanding of the student-advisor relationship has the potential to enhance college and university retention efforts (Lynch & Lungrin, 2018; Sanders & Killion, 2017; Thomas & McFarlane, 2018). Studies have examined the amount of contact between a student and advisor and its impact on the student-advisor relationship as well as on student satisfaction (Braun & Zolfagharian, 2016; Thomas & McFarlane, 2018). Additionally, the amount of contact has been shown to lead to increased persistence (Tippetts et al., 2020). New technologies are finding their way into every day life, and the reliance on mobile devices by the Generation Z is growing (Ferraro, 2018; Holte & Ferraro, 2018; Pew Research Center, 2017; 2021). As such, communication within the student-advisor relationship requires further examination (Swanson, et al., 2018l; Tippetts et al., 2020).

The current college student's preference for communication continues to shift further toward the mobile medium (Swanson et al., 2018; Taylor & Serna, 2019a). Thus, there is a commensurate shift that must occur in communication between the advisor and advisee to maintain a positive advising function (Sanders & Killion, 2017; Tippetts et al., 2020). To satisfy the preferences of the current student and positively impact the satisfaction perceived in advising functions, some researchers contend out-of-class communication such as text messages or social media can be beneficial (Chan et al., 2019; Tippetts et al., 2021). However, the literature regarding mobile communication in relation to academic advising is limited, given the emphasis placed on student/advisor relationship, the communication that occurs, and the integration that follows in the theory of student departure (Chrysikos et al., 2017; Mannan, 2007; Pascarella & Terenzini, 1980; Tinto, 1975, 1993, 2006). This study seeks to understand texting's possible influence on student persistence and retention.

Although current literature reveals the increased importance of technologies such as mobile communication within university functions such as advising to aid in efficiencies and effectiveness (Swanson et al., 2018; Taylor & Serna, 2019a; Tippetts et al., 2020), several scholars caution against implementing technology just for the sake of implementation, stressing that such implementation must be for specific and strategic reasons (Jaggars & Karp, 2016; Klempin et al., 2019; Taylor & Serna, 2019a; Thomas & McFarlane, 2018). Furthermore, understanding why a student is willing to communicate outside of class and what the purpose of that communication is contributes to a student's willingness to communicate (Rew & Hosterman, 2018; Russett & Waldron, 2017). The interaction between student and advisor, however, must be monitored because student preference and the amount of interaction has the ability to affect the satisfaction of the advising function or the institution in general (Barnes & Parrish, 2017; Braun

& Zolfagharian, 2016; Taylor & Serna, 2019a). However, the lack of literature focused on the impact texting has on the advising function, how mobile communication fits into students' communication practices, or how student-advisor interaction via text impacts a student's intention to persist is lacking. The purpose of this study is to examine undergraduate students' experiences regarding how student-advisor interaction via text messaging impacts their intent to persist in their degree program with a given institution.

Background

Academic advising in higher education has long been part of the student experience. Historically, advising practice focused on prescriptive forms of advising focused on student academic progression and graduation (Anft, 2018; Braun & Zholagarian, 2016; DeLaRosby, 2017; Lema & Agrusa, 2019). Prescriptive advising in the form of assisting students in course registration to fulfill graduation requirements fell by the wayside as developmental advising took root and became the more common form of advising (DeLaRosby, 2017; Donaldson et al., 2016). Developmental advising takes a holistic approach that is individualized, engages the student, and is relational (Drake, 2011; Harris, 2018; Lynch & Lungrin, 2018). Advising has transitioned into an integrating process rather than a transactional process (Klempin et al., 2019; Thomas and McFarlane, 2018), and the advising function now connects the student to various facets of an institution rather than serving as merely a component of the degree completion process.

The shift in advising style parallels the dispersion of Tinto's (1975, 1993) theory of departure throughout higher education. The emphasis Tinto places on social and academic integration as a contributor to a student's persistence and an institution's retention efforts aligns with the holistic approach of developmental advising (Mannan, 2007; Manyana et al., 2017;

Tinto, 1975, 1993, 2006). A facet of Tinto's theory of departure is the recognition that an effective retention program at a higher education institution focuses on integrating individuals into the social and academic community through conscious and frequent outreach, contributing to meaningful relational bonds being made with the student (Tinto, 1975, 1993, 2006). A student's persistence is a longitudinal outcome of these interactions which occur between the individual and the institution through which they are enrolled (Tinto, 1975; 2017). This finding is supported in works by Pascarella and Terenzini (1980, 1991, 2005) and Mayhew et al. (2016), which focused strictly on the impact integration has on student persistence and institutional retention.

Developmental advising places emphasis on the student-advisor relationship (Drake, 2011; Harris, 2018; Lynch & Lungrin, 2018). A vital aspect of this relationship is in the communication that occurs between the student and advisor. Tinto (1993, 2006) highlights conscious and frequent outreach as contributors to the development of relational bonds, and, as such, it is necessary to examine the communication that occurs between the student and the advisor. Further studies have examined the amount of contact as it relates to retention, student satisfaction, or perception of quality (DeLaRosby, 2017; Capstick et al., 2019). Additional research explored student preference regarding mode of communication with face-to-face communication remaining a heavily preferred form of communication among college students (Qayyum, 2018; Swanson et al., 2018). However, preference may be changing as some studies have found texting to be an increasingly preferred method of communication (Seemiller, 2017; Swanson et al., 2018; Tippetts et al., 2020).

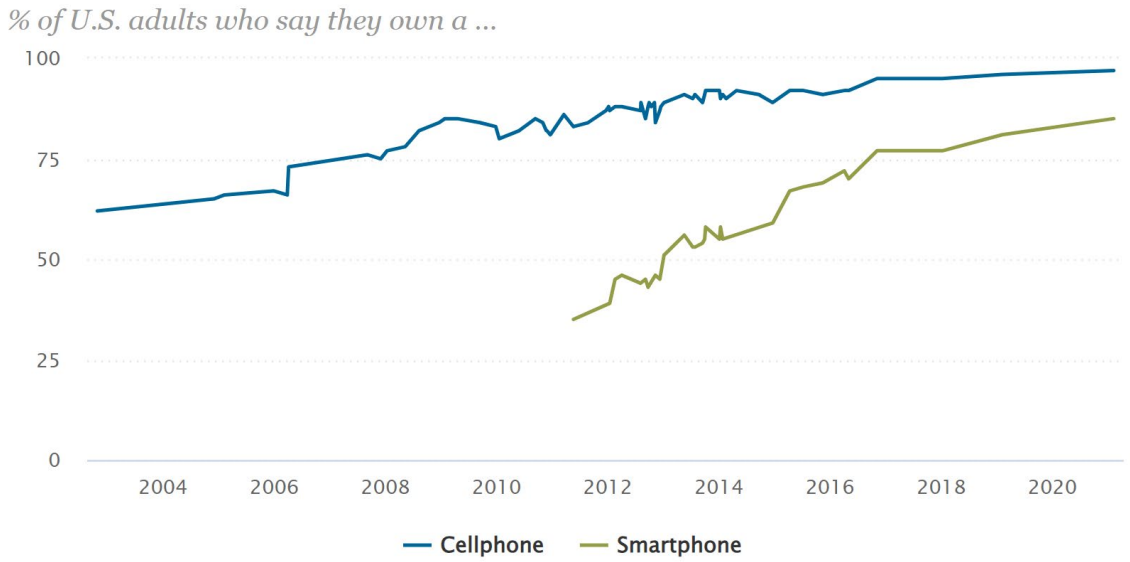
The growing prevalence of texting among students compelled further study surrounding the impact of texting as a form of communication in the higher education setting. Cell phones are

no longer luxury item—cell phone ownership among adults in the United States is just over 97% with 85% of the population owning a smartphone (Pew Research Center, 2021). As can be seen in Figure 1, a survey by the Pew Research Center (2021) shows a growth in cell phone ownership among adults of over 30% in a 17-year period. The pervasive nature of cell phones in society has also increased technology literacy and increased skills of communication via mobile technology. This is particularly true of the college-aged population. For students between the ages of 18 and 29, cell phone ownership sits higher than the national average at 100%, and smartphone ownership for this group is right at 96% (Pew Research Center, 2021). As of the year 2017, texting was exceedingly common with over 97% of the 223 million smartphone users in the United States texting regularly. (Pew Research Center, 2017).

Furthermore, the capabilities of smart phones have affected communication in unforeseen ways. Messaging and the transfer of information occurs instantly, and the students' communication expectations in undergraduate settings have evolved to coincide with the capabilities of the technology at their fingertips. Colleges and universities must better understand this everchanging communication and technological reality if they desire to connect and communicate with prospective and current students in relevant and meaningful ways, especially between the student and advisor.

Figure 1

Growth in Cell Phone Ownership



(Pew Research Center, 2021)

Some studies see texting as merely a means to broker further communication between the advisor and the student, leading to further interaction (Castleman & Meyers, 2020; Junco et al., 2016). However, other studies have seen the use of text messaging contribute to student success (Carmean & Frankfort, 2018; Castleman & Meyer, 2020; Yeung & Ngueyn-Hoang, 2020). It is clear that texting is influential in the student experience. Communication between the student and advisor is at the heart of student integration and institutional retention efforts. This, combined with student expectations of the academic advising function and the universal ownership and usage of cell phones by college students, elicits further examination of the use texting within the advising function and its influence on student persistence.

Research Questions

An advisor's impact to their advisee is both social and academic, and it serves as a catalyst for further integration in these settings (Pascarella & Terenzini, 1980; Tinto, 1993, 2006). Moreover, the presence of an advisor factors significantly into a student's perception of

experience and success (Hatch & Garcia, 2017; Thomas & McFarlane, 2018). Thus, examining the communication between student and academic advisor provides needed information to potentially impact institutional integration efforts to further connect the student to the academic and social settings. The impact of the number of contacts between advisor and student has demonstrated positive effects on the advising function such as satisfaction of quality and the building of relationship between the student and academic advisor (Capstick et al., 2019; DeLaRosby, 2017). Texting may serve as the medium through which increased outreach can occur due to the prevalence of cell phone use and texting (Pew Research Center, 2017, 2019; Taylor & Serna, 2019b; Yeung & Ngueyne-Hoang, 2020). Furthermore, some studies show students' preferred methods of communication include texting (Seemiller, 2017; Swanson et al., 2018; Taylor & Serna, 2019a). To examine how texting impacts student integration, the research questions for this study are:

1. Does interaction between a traditional undergraduate student and advisor via text impact a student's intention to persist?
2. Does the amount of texting between a student and their academic advisor influence their intent to persist?
3. How do students experience texting with an advisor and its impact on their intent to persist?

Description of Terms

This study uses several key terms consistently throughout. To assist the reader, the definitions are as follows:

Advising or Academic Advising. Academic advising is the interaction between a representative of an institution, the advisor, and students through which guidance in areas

ranging from academic studies, professional growth, and personal growth occur (Chan et al., 2019; DeLaRosby, 2017; Drake, 2011). In this study, advising and academic advising are used interchangeably.

Advisor or Academic Advisor. An academic advisor is a representative of an institution—faculty member or professional staff member—who provides guidance in areas ranging from academic studies, professional growth, and personal growth (DeLaRosby, 2017; Fassett, 2020; He & Hutson, 2017; Tinto, 1993).

Retention. This is a commonly used term referring to the act of institutions maintaining a student as a member of its academic community (National Student Clearinghouse Research Center, 2021a; Manyanga et al., 2017; Tinto, 1993, 2007, 2017).

Persistence. This is a commonly used term referring to the act of a student continuing enrollment in a subsequent term regardless of institution (National Student Clearinghouse Research Center, 2021a; Tinto, 2017)

Texting. Texting is communication through short message service (SMS) via cell phones; the messages are easy to write, quick to send, and delivered near instantaneously (Rew & Hoserman, 2018).

Tinto's Theory of Student Departure/Tinto's Model. A widely used theory of student attrition and retention. Tinto's original exploration examined student background and motivation and their resulting impact on persistence (Tinto, 1975). The theory has since evolved to include the roles higher education institutions play in student departure and influencing social and intellectual development of their students, as well as courses of action to take to affect student dropout through retention practices (Tinto, 1993). Additionally, further contribution to Tinto's Theory of Student Departure include the recognition of a plateau in student persistence

and retention caused by three challenges higher education institutions currently face: institutional action, program implementation, and student access (Tinto, 2006).

Overview of Research Methods

The researcher opted for a mixed-method design because although quantitative data can be used to answer the research questions, further insight can be gleaned through the inclusion of qualitative data collected in the form of semi-structured, one-on-one interviews regarding the student experience, perception of the use of texting when communicating with an advisor, and intent to persist (Creswell & Plano Clark, 2018; Greene et al., 1989; Marshall & Rossman, 2016). The quantitative portion of the study utilized a survey to examine the relationship between a student and advisor's communication via text and their intent to persist, and to discover if there were any differences among the various academic class levels—freshman, sophomore, junior, senior. The semi-structured interview is a form of data collection that allows the researcher to collect data in a manner that is efficient but also allows for elaboration on the participants' part to further express their opinion (Cresswell & Plano Clark, 2018; Marshall & Rossman, 2016). It was deemed necessary to include a qualitative component to fully grasp student perception of texting and its impact on the advising function and the student's intent to persist.

The study sample consisted of 403 students from three small, Midwestern baccalaureate colleges: diverse fields. The institutions are located in the Midwest United States, and participants were 18–24, the typical age for a traditional-aged college student per the literature (Causey et al., 2020; Chung et al., 2017; Moody, 2019). Students under 18 were not included in the study due to lack of access of guardian information and the inability to gain consent.

Prior to conducting research, the researcher acquired certification concerning ethics and human subject training (Appendix A). The researcher also obtained Institutional Review Board (IRB) approval before moving forward with the study (Appendix B). IRB approval required site permission letters from each research site (Appendix C). The survey was distributed through student email lists or daily email newsletters via email from each site (Appendix D), and students were sent reminder emails (Appendix E). Participants were asked to complete a consent form before taking the survey.

The study utilized a survey consisting of demographic information and portions of Pascarella and Terenzini's (1980) Institutional Integration Scale (IIS) to collect quantitative data regarding how texting impacts student perception of the advising function and their intent to persist (Appendix G). Pascarella and Terenzini used Likert scales within the IIS, and the subscale of student-faculty interaction and institutional commitment were used (Pascarella & Terenzini, 1980). The "interactions with faculty subscale" was modified to include the advisor in place of the faculty member and the inclusion of texting. The subscale which measures interactions with faculty outside of the classroom has also been modified as previously noted because of the extent advisors play in the advising experience of students and its occurrence outside of the classroom (DeLaRosby, 2017; He & Hutson, 2017; Tinto, 1993). Additionally, faculty have long served as academic advisors and continue to do so (DeLaRosby, 2017; He & Hutson, 2017; Tinto, 1993). The use of the Institutional Goals and Commitments subscale is an avenue to measure student intent to persist as identified by previous studies (Braxton et al., 2000; Dwyer, 2017; Pascarella & Terenzini, 1980). Student names and identifiers were scrubbed from the sample to ensure anonymity. IBM SPSS Version 27 was used to analyze the data.

As part of the survey sent to students, participants were asked if they would like to volunteer for the semi-structured interview. The researcher then sought out via email those who indicated they would be willing to take part in the semi-structured interview (Appendix H) and communicated electronically to set up a time to complete the interview portion of the study. Before the interviews took place, the participants completed a consent form (Appendix I). The interviews were either conducted face-to-face or electronically through Zoom™ (Appendix J) and lasted between 15–20 minutes. The total number of interviews conducted was 13. The interviews were recorded, transcribed, and coded to determine themes.

Organization of the Study

The study is organized into five chapters. Chapter 1 consists of an overview of the topics to be discussed and analyzed throughout the study. Chapter 2 provides a literature framework upon which the study is constructed. Chapter 3 comprises a comprehensive description of the methodology used for the study and provides further detail of the sample population. Chapter 3 further discusses the instrument used. Chapter 4 presents the results of the study. Lastly, Chapter 5 consists of a discussion of the results, implications of said results, and implications for future research.

Chapter II

Review of Literature

Introduction

Advising has long been understood to be a key component to student success and outcomes such as persistence (DeLaRosby, 2017; Drake, 2011; Lynch & Lungrin, 2018; Thomas & McFarlane, 2018; Tinto, 1975, 1993, 2006; Yunusova, 2021). As a contributor to such outcomes, advising shifted from a traditionally prescriptive advising model to one with emphasis on the development and growth of the student (Chan et al., 2019; DeLaRosby, 2017; Drake, 2011; Yunusova, 2021). One reason for this shift has been the continued development of the theory of student departure and retention. As part of this theory, integration in the academic and social setting is bolstered by the advising process and the relationship a student has with the advisor or faculty member (Pascarella & Terinzini, 1980; Tinto, 1975, 1993, 2006). The relationship with an academic advisor is no longer simply transactional; it is instead one of the more meaningful relationships students have in their educational experience (DeLaRosby, 2017; Drake, 2011; Walker et al., 2017).

Parallel to the shift in advising models, the advancement of technology and its adoption by the student population also changed drastically. Cell phone ownership and usage has become commonplace with nearly every student having access to a cell phone. Between the ages of 18 and 29, 100% of the population has a cell phone (Pew Research Center, 2021). Additionally, student preference for communication via texting on a cell phone has grown significantly (Junco et al., 2016; Lister-Landman et al., 2017; Swanson et al., 2018; Taylor & Serna, 2019a). This shift has influenced student expectations of communication, driving their need for immediacy

and constant feedback (Baytiyeh, 2018; Carr, 2021). Such communication shifts cannot be ignored as they pertain to the interactions between the student and the academic advisor.

Because of these shifts, it becomes imperative to understand the implications mobile communication technology, such as texting, can have on the advising function. Tinto's theory of student departure and retention serves to provide scope to the advising function and its capacity to contribute to student integration (Tinto 1975, 1993). Additionally, further examination of the purpose of academic advising, the past and current roles of the advisor, various advising models, and student expectations of advising must occur. Student expectations and preferences regarding communication—including items such as rate of communication and method of communication—must also be reviewed to truly comprehend how texting contributes to the advising function and impacts the student experience and the expectations of advising.

Theoretical Framework

When examining the components of academic advising, such as the role of the advisor, the various models, student expectations, and the communication involved in the student and advisor relationship, particularly as it pertains to student retention, it is important to understand where these components fall within the prevalent framework in the field of academic student retention—Tinto's Theory of Student Departure (Tinto, 1975, 1993). Tinto's theory places significant emphasis on the process between initial matriculation and when the student leaves college, whether through graduation or dropping out (Chrysikos et al., 2017; Tinto, 1975, 1993). Between matriculation and leaving college, interactions in social and academic settings, which include academic advising, occur for a student. These interactions contribute to what Tinto defines as integration (1975, 1993). Pascarella and Terenzini (1980) further Tinto's theory of

departure by focusing their research on social and academic integration and the impact these factors have on student persistence.

Tinto's Theory of Student Departure

A negative connotation of student departure often falls on the student, leaving them labeled as inadequate or uncapable of academic success (Tinto, 1975, 1993; Tucker, 2000). The negativity associated with the act of dropping out limits the ability of an institution to best serve the student. Tinto (1993) indicates that such thought causes "the tendency to direct attention toward the goal of efficiency rather than effectiveness, and the tendency to ignore the perspective of the individual" (p. 5). In placing causality of student departure solely on the student, institutions may fall prey to placing emphasis on the number of students that graduate over student learning and growth. In this case, if the student does leave, according to Tinto, the student's perspective is relegated to obscurity.

Student departure, however, cannot be positioned as simply a decision a student makes on a whim. Student departure is a process that is multidimensional and is impacted by interactions between the student and the institution and influenced by the contributing characteristics of both the student and the institution (Chrysikos et al., 2017; Mayhew et al., 2016; Tinto, 1975, 1993). The original conceptual model, as seen in Figure 2, identified five constructs which contributed to interactions between the student and the university: family background, individual attributes, pre-college schooling, goal commitment, and institutional commitment (Tinto, 1975).

The process of student departure is viewed as longitudinal. A student enters the college setting with various elements which will affect the interactions that occur within the college

setting, resulting in a decision regarding departure (Nicoletti, 2019; Tinto, 1975, 1993). Figure 2 represents the original longitudinal process of student departure (Tinto, 1975).

Within this model, a student's family background, individual attributes, and pre-college schooling influence their expectations and motivations for continuing their educational pursuits, which are then brought into the university setting (Tinto, 1975, 1993). These expectations and motivations take the form of goal commitment and institutional commitment, which are deemed central to a student's decision to persist in the higher education setting (Tinto, 1975, 1993).

Figure 2

A Conceptual Schema for Dropout from College

(Tinto 1975)

These characteristics—family background, individual attributes, pre-college schooling, goal commitment, and institutional commitment—then carry over into the university setting, which

consist of both academic and social communities. The interactions within these communities contribute to what is considered the most significant factor as to whether a student persists—integration (Tinto, 1975; 1993; 2006).

Within academic communities, the initial model placed interactions surrounding grade performance and intellectual development as drivers of academic integration, whereas peer-group interactions and faculty interactions contributed to a student's social integration (Tinto, 1975). Given the prior characteristics the student brings into the university setting, and the resulting integration that occurs due to the interactions within the setting, the student now has revised goal and institutional commitments as seen in Figure 2. The higher the levels of integration within these communities, the greater the commitment to the institution and goals, specifically degree completion, will be (Tinto, 1975, 1993). Conversely, if lower levels of integration occur, students are more likely to leave (Tinto, 1975, 1993).

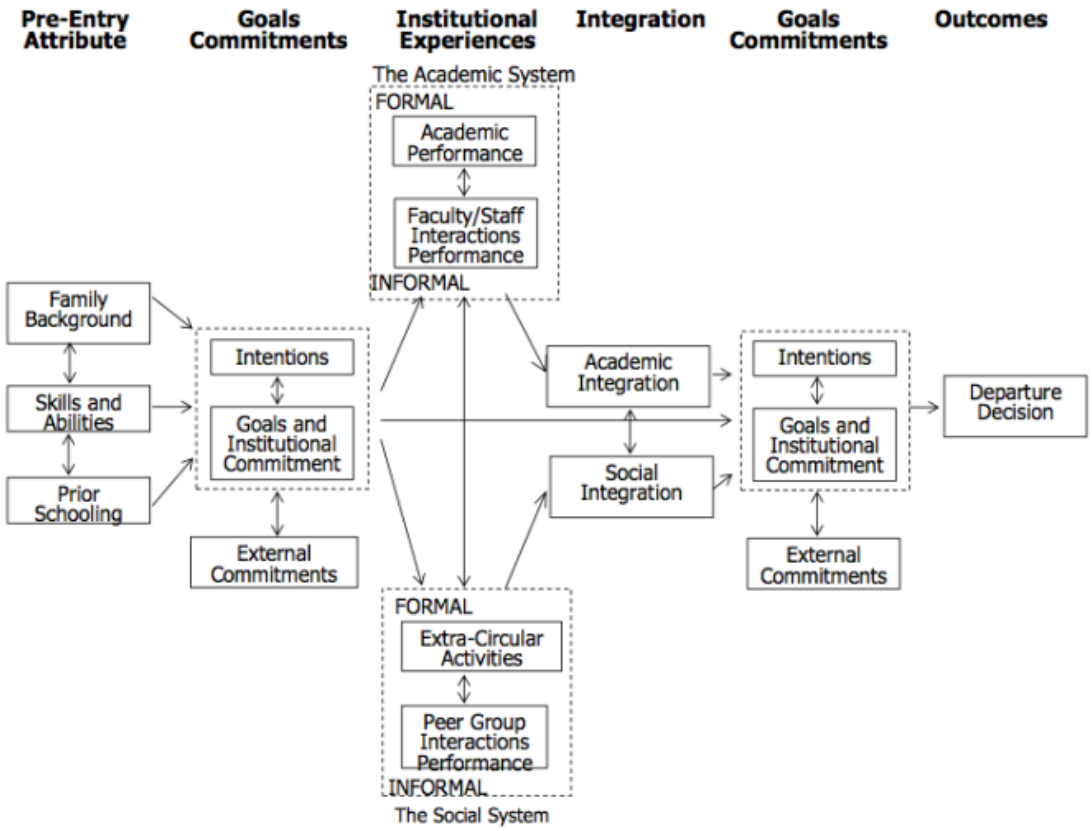
The original model presented by Tinto (1975) presents an isolated longitudinal process that occurs solely within the university setting although it is impacted by factors the student brings prior to entrance to the college setting—family background, individual attributes, and pre-college schooling. In the model, the process occurs within the vacuum of a university and is not affected by any external forces. Tinto (1993) has since adjusted his theory of student departure to include a student's external commitments within their college experience such as family, work, and community. These factors contribute directly to the initial goals, institutional commitments, and intentions, and they influence how a student interacts in the academic and social communities (Tinto, 1993). These external commitments can influence goals, institutional commitments, and intentions either positively or negatively. The external commitments continue to influence the revised intentions, goals, and institutional commitments following

academic and social integration as well (Tinto, 1993). Figure 3 shows the inclusion of external commitments within the model of student departure. Furthermore, while a student may have a positive interaction throughout their university experience, the external commitments can be so impactful that the student departs regardless of integration (Tinto, 1993).

Tinto (1993) further modified the longitudinal process of student persistence by placing additional emphasis on the interactions in the academic and social community that occur within the university setting. Figure 3 illustrates this revised concept. A significant change within this concept emerges in the interdependence that occurs within the academic and social setting, noting further the interplay between formal and informal interactions as well. Interactions within the formal academic system, such as academic performance, can affect a student's willingness to interact with faculty and staff, leading to either further or lesser integration (Tinto, 1993). Likewise, the more a student interacts via extracurricular activities, the more likely they are to demonstrate integration within the informal setting (Tinto, 1993). This is particularly important given that peer-group interaction is considered the most influential source of student development and growth (Astin, 1977). The student's integration in the academic and social communities, both formally and informally, is driven by engagement and contributes to a sense of belonging, which then influences overall goals and motivations toward persistence (Chrysikos et al., 2017; Mayhew et al., 2016; Muller et al., 2017; Tinto, 1993, 2017).

Figure 3

A Conceptual Schema for Dropout from College



(Tinto 1993)

Pascarella & Terenzini's Model of Integration

Tinto's theory of departure serves as an overarching model with which to examine the factors that influence a student's decision to persist or withdraw from college (Tinto, 1975; Tinto, 1993). Academic and social integration is a significant component of Tinto's theory (Tinto, 1975; Tinto, 1993), and several studies have been conducted to examine the extent, significance, and validity of their influence on a student's intentions to persist (Mayhew et al., 2016; Pascarella & Terenzini, 1980; 1981, 1991, 2005; Terenzini et al., 1981).

To provide validity to Tinto's theory of student departure, particularly as it relates to integration, Pascarella and Terenzini (1980) developed the Institutional Integration Scale (IIS)

to measure a student's intention to persist. The IIS has four measures of integration—peer-group interactions, interactions with faculty, faculty concern for students, and academic and intellectual development—as well as a measure of student institutional and goal commitments (Pascarella & Terenzini, 1980). The initial study found the contributions of the scales measuring student-faculty relationships—measured by interactions with faculty and their concern for student development and teaching—were noticeably strong with the average scores of the students persisting one standard deviation higher than those who did not (Pascarella & Terenzini, 1980). This study has been replicated numerous times and in various forms and has shown to be a reliable and valid measurement of integration within the Tinto model as a predictor for intention to persist (Dwyer, 2017; French & Oaks, 2004; Terenzini et al., 1981). Pascarella and Terenzini also suggest external characteristics such as personality, ability, educational aspiration, professional aspiration, prior achievements, and experiences in school and family and/or home background can also affect student persistence or withdrawal.

Institutional Integration within Academic Advising

With the advent of Tinto's theory of student departure and retention, significant emphasis has been placed on the process between initial matriculation and when the student leaves college, whether through graduation or by dropping out (Tinto, 1975, 1993). This theory highlights a student's academic and social integration as an integral factor in student persistence (Chrysikos, et al., 2017; Mannan, 2007; Mayhew et al., 2016; Pascarella & Terenzini, 1980; Tinto, 1975, 1993, 2006, 2017). Persistence is a "longitudinal outcome of the interactive process between the individual and the institution" (Tinto, 1993, p. 54). As such, the function of advising takes on prominence as a contributor to integration in both the academic and social setting and the resulting student persistence.

Tinto (1975, 1993, 2017) identifies relationships with faculty, advisors included, as being integral to a student's social integration, which leads to further academic integration, both of which then contribute to a student's persistence. The interaction with staff is also identified as a significant contributor to student involvement, thus integration (Astin, 1977). This is supported by more recent research which identifies the relationship with an advisor as being one of the most significant a student has in terms of student experience and connection within the university setting (Chrysikos et al., 2017; Mayhew et al., 2016; Tinto, 1975, 1993).

Communication is a key contributor to this important relationship between advisor and student. Conscious and strategic outreach can serve as a tool to further social integration (Tinto, 1975, 1993) and drive engagement of the student within the community (Tinto, 2017). Thus, it is no surprise that communication between the student and advisor shapes a student's perception of advising satisfaction and effectiveness (Tinto, 2006; Walker et al., 2017). Communication serves as an avenue for integration because often the motivation behind communication with an advisor is relational, functional encouragement, and participatory (D'Alessio & Banerjee, 2016; Harris, 2018; Jaradat & Mustafa, 2017) Communication connects students with others and transmits information, influencing the student integration which is foundational to the theory of student departure (Tinto, 1975, 1993).

As the utilization of technology at institutions has increased, students' expectations surrounding the advising function have evolved. Students view qualities such as responsiveness, immediacy, individual attention, and accessibility as necessary in the advising function (DeLaRosby, 2017; Romsa et al., 2017; Walker et al., 2017; Zhang et al., 2019). The significance of these expectations demonstrates Tinto's theory of departure is still relevant and that communication-driven integration, facilitated by the advisor, remains crucial to student

persistence and institutional retention programs (Tinto, 1975, 1993, 2006, 2017). The advisor serves a vital role in the integration of a student within the academic and social communities of an institution. The advisor's ability to connect and communicate with a student is integral to the process of integration.

The Academic Advisor in Higher Education

Academic advising of the traditional undergraduate student is an integral component of the student experience at the university level and serves as a key cog in the student journey from their freshman year through graduation. Academic advising at its core is the interaction between an advisor and student that serves as guidance in areas of academic, personal, and professional growth (Chan et al., 2019; DeLaRosby, 2017; Drake, 2011;Tinto, 1993; Yunusova, 2021). Interactions with advisors, both formally and informally, are considered integral in establishing and supporting a student's position within academic and social communities (Tinto, 1993, 2017).

The relationship between the academic advisor and the student advisee is often the first and most meaningful the student will encounter in their collegiate experience (Drake, 2011; Elliot, 2020). Research emphasizes the significance of this relationship, its impact on student integration, and its direct influence on persistence and retention (Anft, 2018; Mayhew et al., 2016; Pascarella & Terenzini, 1980; Tinto, 1993). Thus, the impact academic advising can have on a student academically, professionally, and personally cannot be overstated, nor can its impact on an institution be dismissed.

Historical Role of Academic Advisor

Academic advising is now generally understood as interactions between representatives of an institution known as advisors—typically a faculty member or full-time administrator—and students (Chan et al., 2019; DeLaRosby, 2017; Drake, 2011; Lynch & Lungrin, 2018). These

interactions often focus on academic tasks such as course selection or major selection, professional development tasks such as career exploration, or personal issues that are far-reaching (Anft, 2018; Chan et al., 2019; DeLaRosby, 2017; Drake, 2011; Lynch & Lungrin, 2018). However, in the traditional sense, advising has focused on a student's academic progression and required course sequencing (Anft, 2018; DeLaRosby, 2017). Historically, faculty served as academic advisors (DeLaRosby, 2017; He & Hutson, 2017). This form of advising was deemed prescriptive advising and required little interaction between the student and advisor.

The advisor of old provided information and told students what to do; advising was a one-way street and strictly transactional (Braun & Zholagarian, 2016; Lema & Agrusa, 2019). This type of advising limited communication between advisors and students to a formal setting and contrasts Tinto's theory of departure that asserts integration into the academic and social communities require consistent interaction in both the formal and informal setting (Tinto, 1993). Emerging trends in advising, however, began to align with and develop parallel patterns with Tinto's Theory of Student Departure. As this began to happen, the generally accepted form of advising evolved to a developmental approach in which the relationship between the student and advisor focused not only on academic endeavors, but also on the holistic development of the student (Donaldson et al., 2016; Lynch & Lungrin, 2018; Thomas and McFarlane, 2018). The shift to the developmental advising approach occurred as a result of numerous factors that emphasized the need for successful advising functions.

Shift from Prescriptive to Developmental Advising

The shift from prescriptive advising to a more developmental advising approach mirrors the emphasis placed on retention. Faculty still serve as advisors, while institutions also employ

professional advising services (DeLaRosby, 2017; Fassett, 2020; He & Hutson, 2017; Tinto, 1993). The current decline in student enrollment has forced institutions to stress retention efforts (National Student Clearinghouse Research Center, 2021b), and this decline in enrollment is exacerbated by the expected decrease in the prospective student population (Barshay, 2018; Grawe, 2018, 2021; Pavlov & Katsamakas, 2020; Petrilli, 2020). In addition to a dwindling student population, student expectations regarding the advising function as it relates to their educational experience are also evolving, and students are no longer satisfied with receiving simple class selection from the advising function (Jaradat & Mustafa, 2017). Prescriptive advising responsibilities of advisors have lessened over time due to technological advancements that automated many of the processes associated with prescriptive advising (Simpson, 2018), and the transition from prescriptive advising to developmental advising represents the transformation of a function that requires more intimacy and attention by all parties to deem the process an equitable success for all, requirements that can't be met by technology.

Academic advising has long been about getting a result—graduation—as evident by the traditional prescriptive advising model that has dominated the advising function for decades (Drake, 2011; Thomas and McFarlane, 2018). This prescriptive model entails an authoritarian, transactional relationship in which the student is guided through graduation requirements by the advisor and enrolled in the next subsequent course (DeLaRosby, 2017; Donaldson et al., 2016; Drake, 2011). Prescriptive advising served as a means to an end.

Developmental advising does not limit itself to simply course selection and academic progression, instead choosing to place emphasis on the growth of the student within and outside of academia, facilitated by the relationship the student has with the advisor (Anft, 2018; Drake, 2011; Thomas and McFarlane, 2018; Yunusova, 2021). To facilitate growth of the student,

developmental advising took on less of a carbon copy approach, becoming more individualistic and catering to students needs and expectations (Birkeland et al., 2019).

This is not to say prescriptive advising has fallen by the wayside or that the current generation of students no longer needs such an approach. In fact, Kerkvliet and Nowell (2005) identify a non-correlation between increased academic support and mentoring and the retention of students, which contributes to a narrative of advising in line with the prescriptive model. Additionally, an advising function that is developmental in foundation but incorporates some prescriptive measures can be beneficial to advising, especially in how students perceive their advising function (Donaldson et al., 2016; Jaggars & Karp, 2016).

Student Population Decrease

The current decline in student enrollment is evident by the 7.8% decrease in overall enrollment among colleges and universities in the United States (National Student Clearinghouse Research Center, 2021b). The decline is exacerbated by a 13.1% decrease in enrolling freshman from 2019 (National Student Clearinghouse Research Center, 2021b). This decrease in overall and freshman enrollment, coupled with the expected decline in prospective student population over the next decade as predicted by Grawe (2018, 2021), creates necessity within an institution to focus on items it can control like retention (Barshay, 2018; Grawe, 2018, 2021; Pavlov & Katsamakas, 2020; Petrilli, 2020). Enrollment of new students used to be simply a matter of competition; however, in the current landscape, the population decrease does not support the prospect of new student enrollment as the only enrollment driver.

New student recruitment will remain a priority for institutions, but to combat the struggles of recruitment in a dwindling population, institutions are looking within to better serve their current student populations. Institutions have begun to emphasize retention efforts to align

with the expected decline in the student population (Tinto, 1993, 2006). This emphasis on retention and persistence efforts across the higher education landscape serve as a catalyst for what has become a transition from the prescriptive advising function that utilized faculty advisors to a more professional and all-encompassing advising function (Birkeland, 2019; Braun & Zholagarian, 2016; DeLaRosby, 2017; Lynch & Lungrin, 2018). Regardless of the changing needs of advising, a recent study of 13,000 faculty among 94 higher education institutions suggests faculty still play a major role in academic advising with 48% serving as academic advisors (Fassett et al., 2020). Understanding that the external landscape has shifted, higher education institutions are being forced to examine and transform internal functions to maintain their student population. The focus on a developmental approach is one such transformation.

Emphasis on Retention and Persistence

The projected landscape of higher education warrants attention given its perilous forecast. The recent decline of student enrollment and the predicted enrollment decline have influenced the focus of studies surrounding student retention and persistence, particularly in academic advising. Several studies place academic advising as a key contributor in a student's decision to continue with an institution (ACT, 2010; Anft, 2018; Drake, 2011; Elliot; 2020; Harris, 2018; Tinto, 2007). There are a limited number of studies that show no correlation between retention and staff support and student support services, such as advising. (Karimshah et al., 2013; Kerkvliet & Nowell, 2005); however, the discrepancy in the number of studies suggest these may be anomalies among studies regarding academic advising's impact on retention.

Communication with an advisor has been deemed a causal factor in a student's integration into the academic and social communities, an integration which ultimately contributes to a student's decision to persist or not (Pascarella & Terenzini, 2005; Tinto 1975,

1993). In more recent studies, the relationship and engagement which occurs between a student and advisor is positively associated with retention (Chrysikos et al., 2017; Vianden & Barlow, 2015). Furthermore, required participation in advising, having an assigned advisor, and the opportunity for individualized support from an advisor also benefit the student and their academic success (Donaldson et al., 2016; Jaradat & Mustafa, 2017). As such, advisors are uniquely positioned to lead student success and retention efforts (Dial & McKeown, 2020). Universities, recognizing the significance of the role of the advisor, are shifting to advising services with hired professionals who undergo significant training and continuing education to be able to serve the multi-faceted expectations of the current student (Anft, 2018). Such transitions have been proven to be extremely impactful for institutions in the realm of retention, persistence, and graduation, particularly among at-risk students (Anft, 2018). As a result, advising which transcends merely the selection of classes is emphasized in the developmental advising approach (DeLaRosby, 2017; Donaldson et al., 2016; Drake, 2011).

Student Expectation Changes

Developmental advising is built upon personalization (Jaggars, 2016; Klempin et al., 2019), emphasizing engagement and integration (Harris, 2018; Walters & Sevedian, 2016). The relationship between a student and advisor influences student engagement and integration (Drake, 2011; Harris, 2018; Klempin et al., 2019), an approach that falls in line with the expectations of current students—the need for personalization (Schwieger & Ladwig, 2018). Personalization consists of constant feedback and a personal, individualized relationship, conventional motivation and optimism, protection, team-orientation, and support to cope with external pressures and academic pressures (Schwieger & Ladwig, 2018; Walters & Sevedian,

2016). Students expect more from advising now than simply having their order of classes provided to them.

The current student's emphasis on personalization, expected feedback, and the expected relationship factor with advisors—and the potential for these factors to contribute to integration in the campus community—are noteworthy for institutions (Harris, 2018). Frequent and meaningful contact by an advisor in formal and informal settings supports integration into the academic and social communities and contributes to student persistence (Chrysikos et al., 2017; Pascarella & Terenzini, 1980; Tinto, 1975, 1993) The developmental advising approach is positioned to meet these expectations and do so in a manner that facilitates the integration required to aid in student persistence (Harris, 2018). However, expectations cannot be assumed to remain stagnant. Just as technology continually evolves, student expectations of the advising function change over time and must be continually assessed by institutions and faculty to be effective (Sanders & Killion, 2017; Zhang et al., 2017). For now, the advising of yesteryear, which focused on class selection, does not fulfill current student expectations surrounding the advising function which is driven by individualization, engagement, and the relationships between the student and advisor (Harris, 2018; Schweiger et al., 2018). To aid in these expectations, understanding the current technological and communication changes is imperative.

Technology and Communication Changes

Nothing has impacted higher education from top to bottom more than technological advancement and it's utilization by students. Take, for instance, the significant growth in ownership of the cell phone over the last decade. Cell phone ownership can be considered the norm with 100% of individuals between the ages of 18 and 29 owning a cell phone (Pew

Research Center, 2021). Student ownership of smartphones is also considered mainstream with 96% of the college-aged population owning a smartphone (Pew Research Center, 2021).

Today's higher education students are digital natives and have been immersed in technology since birth (Gutierez-Porlan et al., 2018; Schweiger et al., 2018; Swanson et al., 2018). The traditional-aged college student is considered a member of Generation Z, being born between 1995 and the early to mid 2010s (Green & McCann, 2021; Seemiller, 2017), and they have been raised to function in a technological environment and have adeptness and preference with current and developing technologies (Gutierez-Porlan et al., 2018; Green & McCann, 2021; Swanson et al., 2018). This is not the case for most faculty and advisors, however. Technology usage by faculty and staff depends on the corresponding culture's acceptance and perception of technology and is often limited to a specific task, whether teaching, administrative functions, or communication (Hart-Baldridge, 2020; Siegel et al., 2017). However, to best serve the student, faculty must be able to recognize and address expectations of the advising function, including technology usage (Mohr & Mohr, 2017; Romsa et al., 2017, Steele, 2018).

The inclusion of technology in the communication between the advisor and student, specifically texting, aid in meeting the expectations of immediacy and connectivity expected of the student (Anft, 2018; Carr, 2021; Rew & Hosterman, 2018; Romsa et al., 2017), and students expect individualized and instant feedback from academic advisors (Carr; 2021; Lynch & Lungrin, 2018; Sanders & Killion, 2017). Prescriptive advising, while certainly functional, lends itself to a one-way communication between the academic advisor and student, a communication flow that is in contrast to the collaboration and attentiveness of developmental advising (Anft, 2018; Braun & Zholagarian, 2016; DeLaRosby, 2017; Lema & Agrusa, 2019). The inclusion of technology, whether procedural or communicative, can contribute to the shift from prescriptive

to developmental advising, driving meaningful contact between the student and academic advisor (Kalamkarian & Karp, 2017; Lema & Agrusa, 2019). Further consideration of student communication behavior—including preference of method, rate of contact, and the current usage of mobile communication in the advising function—will aid institutions in meeting student expectations and further entrench students in and facilitate their integration into academic and social communities.

Current Role of an Academic Advisor

For academic advising to truly have an impact on student experience, universities must invest in and be strategic regarding their academic advising program (Walters & Seyedian, 2016). Academic advisors now function more holistically to meet the needs of the student and should be empowered to do so. The academic advisor resides at the heart of the student experience and, as such, must have the knowledge and be able to assist students in multiple capacities, not limited to academic endeavors (Anft, 2018). Therefore, advising must be emphasized by the higher education institution to better assist students.

Institutional Expectations of the Academic Advising Role

Expectations for the academic advising role are changing due to various factors. The projected student population decline remains one of the most pressing issues facing higher education (Barshay, 2018; Grawe, 2018; Pavlov & Katsamakas, 2020; Petrilli, 2020). The college-going student population is expected to decrease by 15% between 2025 and 2029 (Barshay, 2018; Grawe, 2018). The forecasted drop in college-going students in the next 10 years suggests it will become more imperative that institutions are able to retain the students who do choose to attend their school. Universities implement several strategies to aid in retention such as warning systems, faculty mentoring, advising, and programming (ACT, 2010; Anft,

2018; Haverila et al.,2020). A greater emphasis on advising efforts continues to take place at most institutions, especially given advising's impact on retention and sustainability for the higher education institution (ACT, 2010; Anft, 2018; Haverila et al, 2020; DeLaRosby, 2017; Drake, 2011).

To place further stress on institutions, along with the decrease in student population and associative revenue, universities funding is also on the decline (Akinsanmi & Olanrewaju, 2020; Delaney & Doyle, 2018; Yuen, 2020). Budget tightening is an immediate and stark reality as cuts are being made across universities. As a result, retention has become a priority while institutions look to maintain financial wellbeing (Barbera et al., 2020). However, those most accountable for retention, namely academic advisors, are often tasked to do more with less (Drake, 2011; Elliot, 2020; Lynch & Lungrin, 2018). The dependency on tuition revenue, lack of funding, and the increase in competition for new students is forcing universities to place emphasis on advising strategies to maintain revenue stream and viability (Barbera et al., 2020; Elliot, 2020).

Student Expectations of the Advising Role

Today's traditional student presents new challenges for the academic advisor (Romsa et al., 2017; Zhang et al., 2019). The current student wants more than the prescriptive and task-oriented advising which dominated past advising; instead, they expect to be catered to and developed at an individual level (Barber, 2020; Romsa et al., 2017; Zhang et al., 2019).

There is a time and a place for prescriptive advising; however, developmental advising, as noted previously, has taken root as the more common expectation of advising—students expect to be guided toward reaching their academic potential through exchange with their academic advisor (DeLaRosby 2017; Drake, 2011). This sentiment also emphasizes the positive relationship between the advisor and student as a key component to the developmental advising

approach and a university's retention efforts (Harris, 2018). A foundation of the exchange between student and advisor is communication.

Communication Between Academic Advisor and Advisee

The prominence of increased cell phone ownership among college-aged students suggests student communication may also be evolving (Pew Research Center, 2021; Yeung & Ngeuyn-Hoang, 2020). Communication continues to be a significant component of effective and valuable advising (Junco et al., 2016; Walters & Sevedian, 2016). Furthermore, communication between the advisor and student influences the integration of students into academic and social communities on campus (Hart-Baldridge, 2020; Tinto 1975; Tinto, 1993). Students' preferences regarding method and rate of communication should be considered when examining student communication practices (Swanson et al., 2018).

Preferred Methods of Communication

Students have numerous ways of communicating with their peers, faculty, and staff in the university setting: face-to-face, email, phone, text, and social media (Junco et al., 2016; Seemiller, 2017; Steele, 2018; Tippetts et al., 2021). Student preference largely depends on context or the purpose of the communication (Kalamkarian & Karp, 2017; Swanson et al., 2018). In more formal instances, particularly those deemed academic, face-to-face communication remains the preferred mode of communication (Chan et al., 2019; Green & McCann, 2021; Swanson et al., 2018). However, texting has become an increasingly prioritized form of communication among college students (Seemiller, 2017; Swanson et al., 2018; Taylor & Serna, 2019b). In a recent study, nearly 60% of community college students indicated they sent between 11 and 100 text messages per day while another almost 14% sent over 100 texts per day (Taylor & Serna, 2019b). Because of its significant growth in adoption among college students and its

rise in preference, texting may present itself as a way to further enhance integration in the academic and social communities through its use within the advising function.

For a student population that expects constant feedback and a personal, individualized relationship with their advisor, texting is a form of communication capable of meeting those expectations, evidenced in its rise as a preferred mode of communication (Seemiller, 2017; Walters & Sevedian, 2016). One of texting's most powerful qualities is its accessibility, and accessibility has been known to serve as a contributor to student perceptions of adequate academic advising (Walker et al., 2017), and texting is currently viewed as a form of communication that offers the capability to facilitate further communication or engagement between the student and advisor (Castleman & Meyers, 2020; CohenMiller, 2019; Junco et al., 2016). This information suggests texting may have a place within the advising function and serve as an effective mode of communication between advisor and student.

Texting offers a form of immediacy other forms of communication lack (Baytiyeh, 2018; Vermeulen et al., 2018a), allowing individuals to communicate back and forth without a gap in interaction. As such, its information transmission occurs instantly. Furthermore, texting provides intimacy other forms lack (Vermeulen et al., 2018a; Vermeulen et al., 2018b) which has been seen to contribute to the transmission of information that may not have been accessible in a face-to-face setting (Vermeulen et al., 2018a). Currently, there is a lack of research specific to the use of texting by advisors and its effect on student perception of the advising function.

Impact of Frequency of Contact

In addition to student preference in the mode of communication, outreach—or rate of contact—impacts a student's integration into the academic and social communities (Tinto 1975; Tinto, 1993). To serve the student and meet their expectations of engagement and integration,

regular interaction between the advisor and student must occur (Harris, 2018; Tippetts, et al., 2021; Walters & Sevedian, 2016). Outreach, as it pertains to the amount of contact and rate of contact, needs to be higher in order to have a positive impact on integration within the academic and social communities and to increase the likelihood of persistence (Tinto, 1975, 1993). Communication between an advisor and student is not a one-time occurrence. Because the advisor relationship is one of the most significant a student will have (D'Alessio & Banerjee, 2016; Dial & McKeowen, 2020; Drake, 2011; Harris, 2018), emphasis on sustained and coordinated interaction is necessary to facilitate growth of the relationship and quality of the advising function (Capstick et al., 2019; D'Alessio & Banerjee, 2016; Jaradat & Mustafa, 2017; Klempin et al., 2019).

Multiple studies have examined the effect communication between the student and advisor has on student success, outcomes, and quality (Capstick et al. 2019; DeLaRosby, 2017; Jaradat & Mustafa, 2017; Johnson & Stage, 2018). While some studies show little significance between high-impact student-advisor communication and retention or graduation (Johnson & Stage, 2018), there are studies which indicate there is a high correlation between advisor and student interaction which influences the student experience (D'Alessio & Banerjee, 2016; Harris, 2018).

Students who were satisfied with the amount of contact and the quality of interactions received from their advisor also expressed more satisfaction in the overall advising experience (DeLaRosby, 2017). Additionally, the number of times a student meets with an advisor in what is deemed an academic coaching session has been shown to positively impact the grade point average and retention of students (Capstick et al., 2019). Tippetts et al. (2020) discovered students who met with an academic advisor one or more times throughout the semester persisted

at a rate 9% higher than those who did not. Such results demonstrate the importance of frequent contact to facilitate student integration within the academic and social communities as suggested by Tinto's theory of departure (Tinto, 1975, 1993). Advising impacts student choices surrounding intended major, leading to increased likelihood of retention (Jaradat & Mustafa, 2017). Successful advisement requires a collaborative student-advisor relationship that cannot be fostered in one or two meetings but is instead fostered in regular and more frequent meetings (Capstick et al., 2019; DeLaRosby, 2017). These regular and frequent meetings help forge what should be a long-term and meaningful relationship between the student and advisor.

Current Usage of Texting in Academic Advising Functions

Technology usage within the advising function impacts the student experience (Jaggars & Karp, 2016; Kalamkarian & Karp, 2017; Tippetts et al., 2021), and there are also numerous studies which indicate the relationship between technology and student success as it relates to the advising function (Biddex et al., 2016; Klempin et al., 2019; Tippetts et al., 2021). These studies found that integrating technology into the advising function creates more meaningful, efficient, and effective advising interactions with students. Using technology also aids advisors by automating some of the prescriptive tasks so that they can focus on more meaningful developmental components of advising (Simpson, 2018). Text messaging as a form of communication for university functions is still relatively new, although the mass use of texting by the student population has warranted some study surrounding the topic (Castleman & Meyer, 2020, Castleman & Page, 2016; Tippetts et al., 2020; Tippetts et al., 2021).

The overall literature surrounding the use and incorporation of texting as part of standard practice in advising is limited. Studies surrounding student communication via texting are often focused on student experience, including studies of first-year students indicating that text

messaging may have a positive impact on student experience (Castleman & Meyer, 2020; Junco et al., 2016; Yeung & Ngueyen-Hoang, 2020). The information provided by institutions via text includes distributing information, providing encouragement, or enabling further access to staff (Castleman & Meyer, 2020; Yeung & Ngueyen-Hoang, 2020). Additionally, short text messages from the university, categorized as "nudges," have demonstrated there may be a positive correlation between texting and student persistence (Carmean & Frankfort, 2020; Castleman & Meyer, 2020; Castleman & Page, 2016; Yeung & Ngueyen-Hoang, 2020). These nudges are used to encourage students to enroll in classes for the upcoming semester, complete financial aid paperwork, and remember other important deadlines. Contrary to these findings, however, is a five-year study at the University of Texas–Austin in which 25,000 students were part of a study examining texting interactions as part of student coaching initiative (Oreopolous & Petronijevic, 2019). This study showed that while texting led to increased study time, there was no significant difference among grades or persistence between those who took part in the texting initiative and those who did not take part in the initiative (Oreopolous & Petronijevic, 2019).

Recently, some studies have examined texting as a contributor to the advising function. Tippetts et al. (2021) implemented a texting experiment within the advising function at a large institution and found students who were part of a two-way texting program were more likely to persist to the end of the semester. Additionally, through numerous focus groups, Tippetts et al. (2021) found students and advisors were receptive to using texting to improve communication during the advising function, particularly on conceptual, informational, and relational levels—60.8% of participating students had responded to at least one text throughout the semester. Texting between an advisor and student has also shown to contribute to further interaction between a student and advisor or faculty (Castleman & Meyers, 2020; Junco et al., 2016) Thus, it

begs the question, would texting as a regular form of contact between an advisor and student be considered a positive contribution to the advising function?

A key factor when considering text as a mode of communication between the student and advisor is the willingness to communicate in this medium, especially with an academic entity or connection. Several studies show students are willing to communicate via text-message given the information being transmitted (Taylor & Serna, 2019a; Taylor & Serna, 2019b; Tippetts et al., 2021). Mobile communication catered to the individual was viewed more positively than if classwork was communicated via texting (Taylor & Serna, 2019a). Moreover, students do not mind being contacted via text message regularly so long as it pertained to their academic careers (Tippetts et al., 2021). Texting has the capability to be a catalyst for student success, experience, and further integration within the academic and social communities; however, the research suggests the purpose of the communication and what is being communicated determines students' assessments of the inclusion of technology in communication.

Unknowns

In March 2020, the spread of COVID-19 brought about a dramatic shift in higher education across the United States. COVID-19 contributed to volatility, uncertainty, complexity, and ambiguity (VUCA) in higher education (Hong et al., 2021). As a result of COVID-19, students, staff, and faculty members pivoted to remote functions and learning almost instantly (June, 2020), and this shift included academic advising. As a result, institutions were forced to adapt from what prior research had indicated were preferences and expectations surrounding advising.

Face-to-face communication has long been the preferred mode for advising by students (Chan et al., 2019; Green & McCann, 2021; Swanson et al., 2018); however, during the early

months of the pandemic, true face-to face advising was not possible. Technology-mediated advising has been suggested to facilitate the transition to advising during and after the pandemic (Hu, 2020; Van et al., 2020), but transforming advising structures requires significant institutional support and commitment (Kalamkarian et al., 2017) and the immediate focus of institutions in response to the pandemic has been on instruction, technology, and mental health of the students (Inside Higher Ed, 2020; Van et al., 2020). Beyond the implementation of technology-mediated advising, there is little research surrounding advising in response the COVID-19 pandemic.

The impact of COVID-19 on student communication preferences, and expectations within higher education, particularly with advisors, is not yet known. After sustained remote functioning, will students maintain the preference of face-to-face communication with advisors (Chan et al., 2019; Green & McCann, 2021; Swanson et al., 2018)? Has the lack of face-to-face interactions caused a shift to more remote forms of communication like texting, an already rising preferred form of communication among college students (Seemiller, 2017; Swanson et al., 2018)? Additionally, are institutions in a place to shift to such forms of communication?

COVID-19's influence on the student and academic advising may be an anomaly, but it may also have a lasting impact that shifts how students integrate within the institutional setting. Communication with an advisor can be viewed as a contributor to student integration as communication is often motivated by relationships, functional encouragement, and participation (D'Alessio & Banerjee, 2016; Harris, 2018; Jaradat & Mustafa, 2017). Such contributors, along with the transmission of information and ability to connect students with others, is foundational in student integration (Tinto, 1975, 1993). How COVID-19 has influenced communication or

will continue to do so going forward further contributes to the VUCA landscape of higher education.

Conclusion

The current emphasis on student retention in higher education is fueled by multiple factors. The present decline in student enrollment across the country in higher education is pressing (National Student Clearinghouse Research Center, 2021b). The expected decline in college-going student population over the next 15 years will increase competition for incoming freshman and could drive freshman enrollment down (Barshay, 2018; Grawe, 2018, 2021; Pavlov & Katsamakas, 2020; Petrilli, 2020). Therefore, universities are turning to academic advisors to be key individuals in their retention efforts (DeLaRosby, 2017; Elliot, 2020; Drake, 2011). This rise to significance of the advisor and advising function mirrored the shift from prescriptive advising efforts to a model considered more developmental (Birkeland, 2019; Braun & Zholagarian, 2016; DeLaRosby, 2017). Furthermore, the advisor's place in retention efforts is supported by Tinto's theory of student departure (Pascarella & Terenzini, 2005; Tinto, 1975, 1993). Integration within the academic and social communities is known to be an indicator of student persistence, thus emphasizing further that the advisor's role in a student's experience is integral (Chrysikos et al., 2017; Pascarella & Terenzini, 2005; Tinto, 1975, 1993, 2006, 2017).

Students' expectations surrounding the advising function demonstrate the advising function's significance in integration of the student in the university setting. Students place emphasis on personalization (Klempin et al., 2019; Schwieger & Ladwig, 2018) and look for engagement and integration within the university setting (Harris, 2018). Relationships with advisors are also expected to extend further than just transactional (DeLaRosby, 2017; Drake, 2011; Walker et al., 2017). Thus, understanding student preference in terms of communication

specifically relating to the advising function—both medium and rate of contact—aims to meet these expectations. The increased use of texting presents new opportunities for advisors to further ingratiate themselves with the student and should be explored further.

Numerous studies examine college-age students' preference of method of communication in general (Qayyum; 2018; Rew & Hosterman, 2018; Seemiller, 2017; Swanson et al., 2018; Tippetts et al., 2021). Among these studies, texting is considered one of the favored methods of communication (Seemiller, 2017; Swanson et al., 2018; Tippetts et al., 2021), which mirrors the general population's use of texting as a form of communication (Pew Research Center, 2017). Higher rate of contact also contributed to student experience. In some instances, higher rate of contact between advisor and student indicates positive correlations to retention (Capstick et al., 2019). Higher rate of contact can also lead to positive correlations in student learning outcomes (Capstick et al., 2019). Regular and frequent contact contribute to the perceived success of the academic advising function as well (DeLaRosby, 2017). However, concern regarding high-impact practices and their lack of impact on graduation rates exists (Johnson & Stage, 2018). While limited, this supports the conclusion that more contact is beneficial, although these studies are few and far between. Other than these outlying studies, overall indicators support the idea that consistent and more frequent contact contributes to student integration as suggested by Tinto's theory of student departure (Tinto, 1975, 1993).

Texting is commonplace as a form of communication among college-aged students (Seemiller, 2017; Swanson et al., 2018; Taylor & Serna, 2019b), and yet, research surrounding its implications on the advising function remains limited. Texting provides the means to meet students' expectations surrounding preferred method of communication and rates of contact, but there appears to be a gap in how this translates in the academic advising setting. Do students

perceive texting with an advisor as an acceptable behavior? Is it preferred over other means? If so, is there certain content that is preferred to be communicated? Is there a certain acceptable rate of contact? Does it affect their perception of the advising function positively or negatively? Does texting affect engagement between student and the advisor? Does the opportunity to text contribute to the student's intent to persist? The implications of these questions have the potential to provide insight into how institutions and their advising functions can interact with students to drive further integration and better retain their student populations.

Chapter 3 will discuss the purpose of the study as presented in Chapter 1, addressing the research questions, description of the sample, research design, data collection instruments, procedures used to analyze the data, and identify limitations of the study.

Chapter III

Design and Methodology

Introduction

Key contributions to a student's experience and success at a higher education institution occur within the academic advising function (DeLaRosby, 2017; Lynch & Lungren, 2018; Tinto, 1975, 1993, 2006; Yunusova, 2021). Anft (2018) and Yunusova (2021) concur that advising is critical to student retention. Additionally, the interaction between a student and the faculty and staff has been positively associated with retention (Chrysikos et al., 2017). The academic advisor, whether staff or faculty, no longer serves as a merely transactional figure but provides one of the more meaningful relationships students have in their educational experience (DeLaRosby, 2017; Drake, 2011; Walker et al., 2017). Furthermore, regular and consistent communication contributes to the effectiveness of the advising function (DeLaRosby, 2017; Klempin & Barnett, 2019; Walker et al., 2017). Repeated and steady communication aligns with the current generation's expectations of the academic advisor, which include being attentive, accessible, and available (Anft, 2018; Jaggars, 2016). Utilizing technology, specifically the text messaging functions of cell phones, has the potential to generate efficiencies and effectiveness within the advising function to meet these expectations and is recommended (Klempin et al., 2019; Tippetts et al., 2021). Thus, understanding communication within the advising function of a university is key as institutions continually look for better ways to engage, retain, and aid students in persistence.

Because Tinto's (1975, 1993) theory places significant emphasis on a student's integration into the academic and social communities as a crucial contributor toward their decision to persist, it follows that texting will positively impact the advisor-advisee interaction.

Contact with faculty, including advisors, that is regular and consistent serves to integrate students into these communities (Tinto, 1993), and texting can facilitate that contact. Not always an isolated form of communication, texting is often used as a tool to facilitate other forms of communication, such as face-to-face meetings **(**Castleman & Meyers, 2020; Junco, 2016). And so, the inclusion of communication technologies in the advising function should be considered a means to further strengthen this integration. Tinto's theory of student departure (Tinto, 1975, 1993, 2006)—particularly the focus on student integration—and Pascarella and Terenzini's (1980) Institutional Integration Scale serve as the theoretical framework for this study and guided the researcher in the analysis of data.

This chapter describes the research design and methodology used to examine the relationship between a student's perception of communication via text with an academic advisor and their intent to persist. This chapter details the research methodology of this mixed method study, including the research questions. Additionally, it provides a description of the participant sample, the instrument used in data collection, the analytical methods used, and the identified limitations of the study.

Research Questions

This mixed methods study investigated the influence communication via text between a student and academic advisor has on a student's intent to persist through the following research questions:

1. Does interaction between a traditional undergraduate student and advisor via text impact a student's intention to persist?
2. Does the amount of texting between a student and their academic advisor influence their intent to persist?

3. How do students experience texting with an advisor and its impact on their intent to persist?

Hypotheses

Given the research within the literature review in which communication preference is examined, the following null hypotheses were developed to answer the respective research questions:

1. Texting between a student and an advisor has no correlation on a student's intention to persist.
2. The amount of texting between a student and an advisor has no effect on the student's intent to persist.

Research Design

The main research methodologies utilized to formulate Tinto's student theory of departure were primarily quantitative and specifically correlational (Tinto, 1975, 1993). It is quantitative in that the theory provides a natural observation of the phenomena surrounding student departure as well as contributing factors without any influence from the researcher (Field, 2013). However, in only focusing on the data provided by quantitative research, complexities within the observation can be lost. Qualitative research provides insight into the humanity of the participants and the complexity of the observation (Marshall & Rossman, 2016).

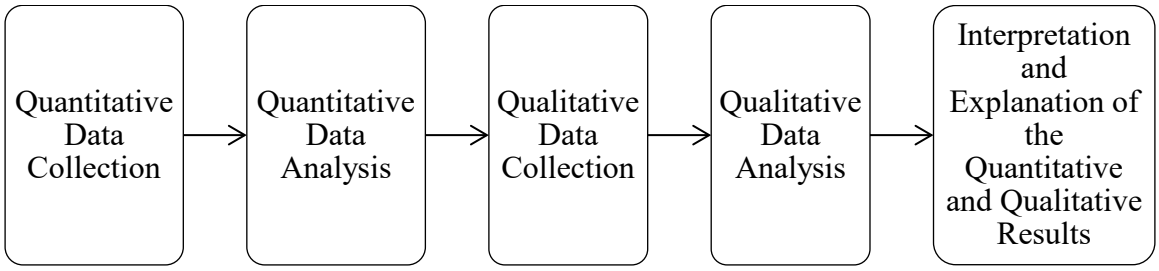
The study strove to develop a complete understanding of how text communication by the advisor within the advising function affects the integration of the student in the university setting and their intent to persist. The study used an explanatory sequential mixed methods design. Mixed method designs utilize quantitative and qualitative research methods to create a comprehensive understanding of the data collected when one research method will not produce

a holistic understanding surrounding the research questions; the two data sets serve as complimentary measures to enhance the findings (Bowen et al., 2017; Creswell & Plano Clark, 2018; Greene et al., 1989). Additionally, the inclusion of the two types of data collection contributes toward validity and accuracy of the findings through triangulation (Bowen et al., 2017; Bryman, 2006; Creswell & Plano Clark, 2018; Greene et al., 1989).

The explanatory sequential mixed method design employs qualitative research following the quantitative research to provide a more comprehensive explanation of the quantitative data (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). The design follows the explanatory sequential mixed methods design illustrated by Creswell & Plano Clark (2018). This sequence is depicted in Figure 4.

Figure 4

Explanatory Sequential Mixed Methods Research Design Process



Adapted from Creswell, J. W., & Plano Clark, V. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications. p. 79.

The explanatory sequential mixed methods design allows for examination of multiple variables and how those variables relate as determined through an ordered sequence (Cresswell & Plano Clark, 2018). The independent variable used to assess the impact texting between a student and advisor has on the intent to persist in this study is the student perception of social integration as measured by a modified version of the faculty interaction subscale of the Institutional Integration Scale designed by Pascarella and Terenzini (1980). The dependent

variable used is the student perception of institutional commitment measured by the Institutional Goals and Commitment subscale of Pascarella and Terenzini's same design. The two variables tested in the instrument consisted of Likert Scale-type questions which explored the student perceptions of interaction with an academic advisor and the student's intent to persist. When examining the differences among the perceived amount of texting that occurs between the student and advisor, the various groupings of differing degrees of communication will serve as the independent variables, while the intent to persist will serve as the dependent variable. Additionally, those who identify as not having any communication with an advisor will serve as the control group (Field, 2013). Data surrounding these variables were collected through an electronic survey distributed to an identified sample.

The study follows the explanatory sequential mixed methods design to help explain the quantitative results and provide insight into student attitudes and behaviors surrounding the use of texting in the advising functions (Creswell & Plano Clark, 2018; Subedi, 2016). As such, the qualitative portion implemented phenomenological research practices to collect, analyze, and interpret data. Phenomenological approaches to qualitative research focus on the collection of data via interviews of a specific shared experience among participants to compare and identify a crux to the experience (Marshall & Rossman, 2016). This approach is appropriate for this student population as they have all experienced this same phenomenon which is the criteria for the approach. Phenomenological research strives to provide clarity as to what was experienced and what influenced the experience (Moustaskas, 1994). A number of studies include a qualitative portion which provides depth to the student experience surrounding the advising experience (Dwyer, 2017; Walker et al., 2017; Zhang et al., 2019).

The qualitative data of the explanatory sequential mixed methods design are used to enhance understanding of the results found after analyzing the quantitative data (Creswell & Plano Clark, 2018; Subedi, 2016 Tashakkori & Teddlie, 1998). Following the quantitative portion of the study, the researcher implemented criterion sampling prior to conducting the qualitative semi-structured interviews, identifying participants who had previously completed the survey. Semi-structured interviews can be used to provide clarity to the data collected from the quantitative portion of research (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). The researcher conducted 13 semi-structured interviews. Following the interviews, the researcher transcribed, coded, and examined themes of the interviews.

Table 1 indicates the timeline for the study, including the site location, IRB approval, start and finish of data collection and analysis, and the defense of the dissertation.

Table 1

Research Timeline

Activity	Dates
Research Site Location Selection	March, 2021
IRB Final Approval	May, 2021
Secure Permission from Site Locations	June, 2021
Quantitative Data Collection	August – October, 2021
Quantitative Data Analysis	October, 2021
Qualitative Data Collection	October – December, 2021
Validation and Transcription of Interview Data	December, 2021
Qualitative Data Analysis	December – January, 2022
Analysis, Results, and Discussion	January – March, 2022
Dissertation Defense	April, 2022

Participants

Study participants were undergraduate students enrolled at three 4-year institutions in the United States which were members of a Midwest association of colleges. These campuses are represented by student populations ranging from 721 to 2,100 undergraduate students (KICA,

n.d.; National Center for Education Statistics, 2021). The institutions are categorized as small, baccalaureate colleges: diverse fields (The Carnegie Classification of Institutions of Higher Education, 2021). The institutions were chosen because of the size of and/or access to the student population to achieve an adequate sample size. The colleges were given pseudonyms to maintain anonymity of the institutions. Table 2 shows the undergraduate student populations by site.

Table 2

Site Population Overview 2020-2021

	Undergraduate Student Population
College 1	2085
College 2	1359
College 3	721
Total	4165

Note: Data collected from National Center for Education Statistics (2021)

College 1. College 1 is in the Midwest United States. College 1 is a 4-year, private not-for-profit institution in what is considered a rural setting. It serves an undergraduate population of 2,085 students (National Center for Education Statistics, 2021). The population of the surrounding community is 10,560.

College 2. College 2 is in the Midwest United States. College 2 is a 4-year, private not-for-profit institution in what is considered a rural setting. It serves an undergraduate population of 1,359 students (National Center for Education Statistics, 2021). The population of the surrounding community is 12,057.

College 3. College 3 is in the Midwest United States. College 3 is a 4-year, private not-for-profit institution in what is considered a suburban setting. It serves an undergraduate population of 721 students (National Center for Education Statistics, 2021). The institution is in a suburban setting. The population of the surrounding community is 138,161.

The researcher used participants who were classified as undergraduate students at traditional residential campuses of each site and were within the range of the traditional student age of 18-24 (Causey et al., 2020; Chung et al., 2017; Moody, 2019). Participants who were under the age of 18 and over the age of 24 were removed before the surveys were scored as they did not fit the general definition of the traditional college student for this study.

Participant Assembly

Following the specified process to contact students as established by each participating institution, the researcher sent 3,416 undergraduate students an email requesting participation in an online survey administered using Qualtrics™. The emails were sent through institutional avenues. A total of 2,020 students at College 1 received the instrument via email. Follow up emails were sent by the researcher through institutional avenues every week for three weeks following the initial email. A total of 675 students at College 2 received the survey via a campus newsletter email. Follow up emails were sent every other week three times following the initial email. A total of 721 students at College 3 received the instrument via email. Follow up emails were sent by the researcher through institutional avenues three additional times, every other week after the initial invitation. The survey request was sent to a total of 3,416 students.

To determine an accurate, necessary sample size, the researcher used the formula required for a finite population correction for proportions (Israel, 1992). The researcher used the recommended standard error of 5%, confidence level of 95% (Field, 2013; Israel, 1992). Because of the unknown degree of variability, 50% was used to determine a more conservative sample size (Israel, 1992). The resulting necessary sample size was 347 participants. The total number of attempted surveys was 466. A total of 63 participants did not complete the survey and were removed from the sample. The number of participants that completed the survey was 403,

therefore exceeding the minimum sample size requirements for quantitative analysis. The final 403 responses represent a 11.79% response rate. Table 3 illustrates the Qualtrics™ statistics broken down into the individual sites as well as the total.

Table 3

Survey Statistics

	Received Survey Request	Attempted Survey	Completed Survey	Response Rate
College 1	2020	236	210	10.4%
College 2	675	20	18	2.96%
College 3	721	208	175	24.27%
Total	3416	466	403	11.79%

The mean age of the study participants was 19.5. The percentage of males and females to complete the survey was 34.2% and 63.8%. The remaining 2% chose not to respond to the question regarding sex. Additional participant demographic information can be viewed for each site in Table 4.

Table 4

Participant Demographics

	College 1	College 2	College 3
Total Respondents			
Age			
18	65	4	69
19	53	3	42
20	39	5	27
21	42	5	24
22	11	1	12
23	2	0	3
24	1	0	5
Chose Not to Respond	0	0	1
Gender			
Male	69	2	67
Female	137	16	104
Chose Not to Respond	4	0	4
Year in School			
First Year	62	4	76
Sophomore	58	4	38
Junior	36	2	34
Senior	49	8	27
Ethnicity			
American Indian/Alaskan Native	0	0	3
Asian/Pacific Islander	8	0	5
Black or African American	0	3	18
Hispanic or Latino	17	1	28
White or Caucasian	177	13	105
Multiracial or Biracial	5	1	12
Race/Ethnicity Not Listed	2	0	3
Chose Not to Respond	1	0	1

The quantitative data were collected during the first phase of the study as it followed the explanatory sequential mixed methods research design (Creswell & Plano Clark, 2018; Subedi, 2016). The quantitative research serves as the primary source of data and the qualitative data are used to further rationalize the prior results (Creswell & Plano Clark, 2018; Subedi, 2016). The survey instrument provided only quantitative data for the study's analysis. The results of the

survey were analyzed prior to conducting the semi-structured interviews to inform the researcher if any modifications to the interviews were needed.

The researcher conducted semi-structured interviews with participants at each site. Participants indicated if they were willing to participate in the interview by completing a question at the end of the electronic survey. Between the three colleges, a total of 124 survey participants indicated interest in taking part in the follow-up semi-structured interviews. The number of participants at each college who indicated they were interested in taking part in the interviews were as follows: 56 at College 1, 6 at College 2, 62 at College 3. Fifteen participants from College 1 responded to outreach following random sampling regarding further participation in the semi-structured interviews. Three participants from College 2 responded to outreach regarding further participation in the semi-structured interviews. Seven participants from College 3 responded to outreach regarding further participation in the semi-structured interviews.

Multiple sampling methods were used to identify 13 student participants who had previously taken part in the quantitative portion of the study and who would take part in the semi-structured interview. Criterion sampling was used to ensure all participants met criteria for phenomenological research (Marshall & Rossman, 2016). The researcher used criterion sampling to confirm all students participating in the subsequent semi-structured interview had taken part in the quantitative stage of the study. Following the criterion sampling, the researcher implemented a combination of convenience sampling and simple random sampling. Convenience sampling is used in instances where the available population is limited. Participants were selected who were willing and available (Creswell & Plano Clark, 2018; Marshall & Rossman, 2016). The researcher then implemented simple randomized sampling on this population of students using an online randomizer instrument to select qualitative interview participants. Calculator.net's

random number generator generates a single number between an established lower limit (1) and upper limit (124). Each person who indicated willingness to participate in the interview was assigned a number which was then run through the online random sampling software three times. This ensures each participant within the population has the same chance of being selected (Creswell & Plano Clark, 2018). This process was completed with the interview volunteers from all sites resulting in a total of 13 volunteers confirming appointments for interviews. The researcher sought out and obtained permission from these 13 students to accurately examine the experience of students communicating via text messaging with an advisor.

Participants agreed to meet for one interview, either in-person or virtually, between October 1 and December 31, 2021. Scheduling was flexible to accommodate interviewee's schedule or preference. Audio recording was a component of all interviews, and following the interviews, all recordings were transcribed. The qualitative interview reflects the experience of texting between student and advisor as determined from the sample of participants for this study. The interviews were conducted via Zoom. Table 5 indicates the demographics of the participants taking part in the semi-structured interviews.

Table 5

Demographics of Semi-Structured Interview Participants

	Age	Gender	Academic Classification	Ethnicity
Student 1	18	Female	First-year student	White
Student 2	18	Female	First-year student	White
Student 3	18	Male	First-year student	White
Student 4	18	Female	Sophomore	White
Student 5	21	Male	Junior	Asian
Student 6	22	Male	Senior	White
Student 7	21	Female	Senior	Asian
Student 8	18	Female	First-year student	White
Student 9	21	Female	Senior	Hispanic
Student 10	18	Female	First-year student	White
Student 11	19	Female	Sophomore	White
Student 12	21	Male	Senior	Multiracial or Biracial
Student 13	19	Female	Sophomore	White

Data Collection

This study was conducted to better understand undergraduate student perception of the use of texting within the advising function, specifically between the student and the advisor. With the use of a sequential explanatory mixed method design, the researcher attempted to determine if the use of texting as a form of communication with an advisor impacted a student's intent to persist and how students perceived the use of texting as a form of communication and an influence on their intent to persist. The researcher conducted a survey and semi-structured interviews to examine student-advisor interaction and institutional commitment as a form of integration among undergraduate students.

The sequential explanatory mixed method design approach occurs in two phases. The quantitative data collection occurs first, and the qualitative data collection follows, with the intent of the latter to strengthen the former results (Bowen et al., 2017; Creswell & Plano Clark, 2018). The collection of both sets of data helped the researcher to better understand the student experience of texting within the advising function.

The researcher approached the gathering of data with the belief that research should be conducted with the participant's well-being in mind, and a priority of any research should be the assurance of participant protection (Marshall & Rossman, 2016). Prior to data collection, the researcher received a certificate of completion for ethics and human subject training through the Association of Clinical Research Professionals (Appendix A). Institutional Review Board (IRB) approval for the study was received through Northwest Nazarene University's IRB (Appendix B). As part of the approval process, the researcher received permission from the three study sites as well (Appendix C). The collection of data took place during the Fall 2021 semester.

Quantitative Data Collection

Prior to the study, the researcher received permission to use the survey instrument by the author (Appendix D). The survey instrument was then sent via email to students according to each institution's communications plan and policy. The researcher sent an email invite to a university official at each site, and the university officials then distributed communication to their respective student body (Appendix E). The students were also provided follow up invitations three more times (Appendix F). The email invite contained information about the study, the link to complete the survey, and information regarding a drawing for a $100 gift card. The link to the survey led the student to a digital consent form (Appendix G) to complete prior to the survey. The survey was open through October 2021.

The researcher used Qualtrics™ software for collecting quantitative data. Student demographic information was collected as part of the survey instrument to provide insight into the student population and to look for any possible differences among the various student

populations. The demographic section consisted of questions concerning demographic information including age, academic class, sex, and ethnicity and race (Appendix H).

Because academic and social integration is a key component of Student Departure Theory (Tinto, 1975, 1993), a measure of integration was included. Pascarella and Terenzini (1980) developed the Institutional Integration Scale (IIS) to measure student integration within the university setting. The original subscales of Interactions with Faculty and Institutional Goals and Commitments of the IIS were included in the survey administered by the researcher for the present study (Appendix H). The IIS used a Likert scale which included the following answers: 5-strongly agree, 4-agree, 3-neutral, 2-disagree, 1-strongly disagree (Pascarella & Terenzini, 1980). Within the Interactions with Faculty scale, the phrase 'non-classroom' was removed from three items and "to meet" was removed from one item. The phrase "via text" was added to four items to capture student-faculty interaction via text. Additionally, the term faculty was replaced with advisor to emphasize the interaction specific to academic advising and is justified because of the extent faculty play in the advising experience of students as noted in previous research (DeLaRosby, 2017; He & Hutson, 2017; Hart-Baldridge, 2020; Tinto, 1993). In fact, according to He and Hutson (2017), "Despite the growth and development of professional advising, most teaching faculty members assume advising responsibilities regardless of the advising model(s) adopted by their institution" (para. 1). Within the institutional commitment subscale, any negative wording was reversed as done by French and Oakes (2004) to increase reliability. Previous studies have also utilized this scale as a measure of a student's intent to persist (Braxton et al., 2000; Dwyer, 2017; Pascarella & Terenzini, 1980). The subscales used from the IIS and the associative modified questions are shown in Table 6.

Table 6

Survey Instrument Modeled from Institutional Integration Scale

Subscale	Institutional Integration Scale Questions
Interactions with Advisors	1. I am satisfied with the opportunities to speak to and interact with an advisor via text. 2. My interactions with an advisor via text have had a positive influence on my career goals and aspirations. 3. My interactions via text with an advisor have had a positive influence on my intellectual growth and interest in ideas. 4. Since coming to this college I have developed a good relationship with at least one advisor. 5. My interactions with an advisor via text have had a positive influence on my personal growth, values, and attitudes.
Institutional Goals and Commitments	6. I am confident that I made the right decision in choosing to attend this institution. 7. It is likely that I will register for classes at this college next fall. 8. It is important that I graduate from college. 9. Getting good grades is important to me. 10. I have an idea of what I want to major in. 11. It is important for me to graduate from this college.

Semi-Structured Interviews

Following the quantitative data collection, the researcher sought out 13 participants via email to take part in follow-up interviews (Appendix I). Of the 403 who took part in the survey, 124 agreed to take part in a follow-up interview. Twenty-five participants of those who agreed to take part in the interviews responded to individual outreach regarding participation. Participants for the interview portion of the study were identified from those who took part in the survey portion of the study and noted they would be willing to take part in the interview portion (Appendix H). Using criterion sampling and then convenience sampling, a group of 13 students was chosen. This number is deemed appropriate for the explanatory sequential mixed methods study according to Creswell and Plano Clark (2018). The interviews took place between October 2021 and December 2021.

Those chosen were provided with an additional informed consent form to complete, noting the inclusion of audio recording as part of the interview process as well as the inclusion of a $10 gift card for taking part in the interview (Appendix J). The questions asked during the semi-structured interview focused on the general topics of advising, communication, and the intent to persist (Appendix K). The questions adhered to phenomenological research standards and were constructed to develop a comprehensive description of the experiences shared by participants (Moustakas,1994). The questions were constructed to allow each participant's perspective to unfold as they experienced it, and to guide the interview process (Creswell & Plano Clark, 2018; Marshall & Rossman, 2016). The follow-up interviews were conducted in-person and via Zoom. The interviews lasted between 20 and 45 minutes and were conducted at times convenient to the participant. Once interviewed, the participants were provided a debriefing statement (Appendix L). The interviews were recorded, transcribed, coded, and analyzed to determine if any themes emerged from the interviews to support the quantitative data. Member checking was implemented to support validity and credibility (Marshall & Rossman, 2016), so member checking emails were sent to the participants to check for accuracy of the statement (Appendix M). Audio recordings and all corresponding documents were saved on a password protected drive.

Participant Protections

To minimize the risk to participants, the researcher included the following components as part of the study: confidentiality of the participant, confidentiality in data collection, and participant right to refuse. Regarding confidentiality of the participant, names of participants were not disclosed, maintaining confidentiality related to survey responses. By using Qualtrics™, the researcher also maintained confidentiality throughout data collection, creating

and using an anonymous survey (Swanson et al., 2018). Any data collected, notes, or transcripts were stored electronically. The files were encrypted and only the researcher and research supervisor had access to the password. The transcribed interviews were coded and purged of any further identifying information (Rew & Hosterman, 2018). Furthermore, pseudonyms were used to protect the identities of the participants, and no participant's name was associated with any statement used in the study (Harari, 2020; Rew & Hosterman, 2018). Lastly, all participants had the right to refuse to answer any or all questions. They could also discontinue participation if they chose to do so (Harari, 2020). Participants were given the contact information of the researcher and research supervisor to ask any questions or to remove themselves from the study. Any participant who chose to opt out had their information and records destroyed. Furthermore, all documents created or gathered in this study will be destroyed after three years.

Analytical Methods

Data analysis for the quantitative and the qualitative portions of the study occurred at different times. Per the explanatory sequential mixed methods design used, the data collected from the survey were analyzed first and the semi-structured interviews were analyzed later (Creswell & Plano Clark, 2018). Data analysis for the quantitative data collected using the Likert scale portion of the survey was conducted using SPSS 27 for Windows. The information was scored, input, and then the information was scrubbed. Descriptive and inferential statistics derived from the retrieved data were used to analyze the data. Descriptive statistics used regularly in the study include sums, means, and standard deviations.

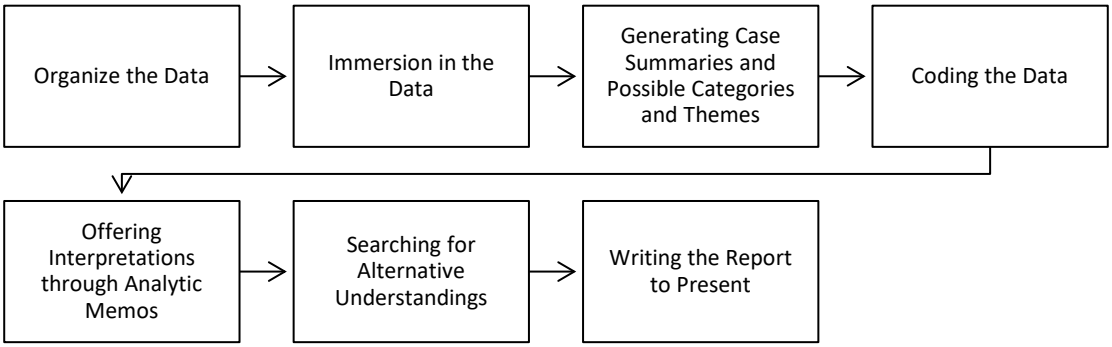
The survey was created and completed through Qualtrics™. After data collection, the data gathered were input into SPSS27 for analysis. The questions were coded and labeled. Pearson's correlation was run to examine the relationship between two variables (Field, 2013). The two

variables being examined are the subscales of Pascarella's and Terenzini's (1980) IIS of Interactions with Faculty and Institutional Goals and Commitments. The non-parametric test Spearman's rank was used to examine correlation between the two scales if assumptions of normality of the sample populations were not met (Field, 2013). Additionally, *t*-tests and analysis of variance (ANOVA) tests were conducted using the demographic characteristics and subscale scores to examine for any statistical significance (Field, 2013).

As part of the 13 semi-structured interviews, field notes, participant observation, nuances, and the setting were collected during the interview to further assist in identifying themes throughout data analysis (Marshall & Rossman, 2016). To guide the interview, the researcher developed questions that focused on the participants perception of what they experienced and how they experienced communicating with an advisor via text. The questions of what was experienced and how they experienced it serves as a foundation of the phenomenological approach (Moustakas, 1994). Following the interview, the researcher noted any initial thoughts regarding the interview to provide additional context to the experience documented. The researcher then followed the seven-phase qualitative analytic process described by Marshall and Rossman as seen in Figure 5.

Figure 5

Analytic Procedures for Qualitative Research



Adapted from Marshall, C. & Rossman, G. (2016). *Designing qualitative research.* (6th ed.). Sage Publications. p. 217.

The interviews were transcribed, reviewed, and organized. Through exploration of the data, the researcher developed codes and themes (Creswell & Plano Clark, 2018; Marshall & Rossman, 2016). The researcher noted evidence for the identified codes and themes in the form of direct quotes, multiple common perspectives, and vocabulary of the participants.

Reliability and Validity

To guarantee validity and reliability of the data collected, multiple measures were taken. Validity refers to whether an instrument measures what it is intended to measure (Carmines & Zeller, 1979; Cresswell & Plano Clark, 2018; Field, 2013). Because of modifications made to the survey, the researcher applied the content validity index to determine if the instrument retained validity. The content validity index (I-CVI) involves having a team of experts examine each item on the scale to determine the item's relevance to the construct (Martuza, 1977, Polit & Beck, 2006). Using this information, the researcher is also able to examine validity of the scale using the content validity index for scales (S-CVI). Eight experts who have served in an advising capacity for more than two years at their respective institutions provided their input regarding the items used in the survey. Their responses can be seen in Table 7.

Table 7

Content Validity Index

Item	Number in Agreement	Item CVI
Section 1: Student Advisor Interaction		
1	7	.875
2	8	1
3	8	1
4	8	1
5	8	1
Section 2: Institutional Goals and Commitments		
6	8	1
7	8	1
8	8	1
9	8	1
10	8	1
11	7	.875
	Mean Item CVI	.98
	S-CVI/UA	.82
	Mean Expert Proportion	.98

The I-CVI of the instrument is .98. This number is well above the recommended I-CVI of .7 (Polit & Beck, 2006). The S-CVI/UA is .82. An S-CVI/UA over .7 is deemed acceptable (Davis, 1992; Polit & Beck, 2004, 2006). Based on the I-CVI (.98) and the S-CVI/US (.82), the validity of the modified instrument was established.

Reliability examines whether an instrument can be interpreted consistently in various situations (Field, 2013; Creswell & Plano Clark, 2018). Cronbach's alpha is used to measure an instrument's reliability (Field, 2013). The original study conducted by Pascarella and Terenzini (1980) established predictive reliability regarding both the student-faculty interaction ($\alpha = .83$) and the institutional and goal commitment ($\alpha = .71$) scales, although French and Oakes (2004) reversed coded negative words to increase reliability among student-faculty interaction ($\alpha = .86$) and institutional and goal commitment ($\alpha = .76$). The Cronbach's alphas calculated are above

the recommended lower limit acceptable for reliability, which is a Cronbach's alpha coefficient of .7 (DeVellis, 2013; Field, 2013; Kline, 2005).

The interactions associated with the original faculty subscale and its five items are supported as a measure of Tinto's theory (Caison, 2007). Using the interactions with faculty subscale to measure a component of social integration, prior studies have demonstrated adequate reliability (α = .86) (French & Oakes, 2004). Additionally, the subscale was used more recently by Dwyer (2017) and modified to include in-class interaction rather than out-of-class interaction while still maintaining its reliability using Spearman's coefficient (α = .67). While under the acceptable .7 Cronbach's alpha threshold, the modified subscale can still be considered reliable because the scale is less than ten questions and Cronbach's alphas of .5 are common in such instances (Field, 2013; Nunnally, 1978; Pallant, 2001). To measure students' intentions to persist, the institutional commitment subscale was adopted from Pascarella and Terenzini, which has been used in a substantial number of studies regarding student persistence (Baker, et al., 2007; Dwyer, 2017; French & Oakes, 2004; Putulowski & Crosby, 2017) and shown adequate reliability (α = .76) in an oft referenced study by French and Oakes (2004) as well as the studies by Dwyer (α = .70) and Putulowski and Crosby (α = .88-.89).

The researcher examined the reliability of the modified instrument by conducting a pilot survey and calculating the Cronbach's alpha of the entire instrument as well as the individual subscales. The pilot data for the Cronbach's alpha for the entire instrument were calculated to be .75. The student-advisor subscale alpha was .9 and the institutional goals and commitment subscale alpha was .318. In examining the individual subscales, the researcher removed question 10, "I have an idea of what I want to major in," because of its indirect relation to persistence. Once removed, the overall Cronbach's alpha was .8. Additionally, the individual subscale alpha

for Institutional Goals and Commitment rose to .51 which is above the acceptable limit of .5 for scales under 10 items (Field, 2013; Nunnally, 1978; Pallant, 2001). Once modified, the Cronbach's alphas of the entire instrument and student-advisor subscale are above the acceptable value of .7 (DeVellis, 2013; Field, 2013, Kline, 2005), while the Cronbach's alpha for the Institutional Goals and Commitment subscale was still above the acceptable level of .5 (Fields, 2013, Nunnally, 1978, Pallant, 2001).

Validity and reliability for the semi-structured interviews were ensured through multiple means. The interview followed an identified protocol and used the semi-structured interview process as a guide for obtaining data (Creswell & Plano Clark, 2018; Marshall & Rossman, 2016). Prior to the interviews, an expert in phenomenological and sociological research with published journal articles using these methods reviewed the semi-structured interview guide to determine validity and reliability of the questions used (Creswell & Plano Clark, 2018). A protocol was identified to note essential data such as day, time, and place of the interview, list the guided questions, and create space to write down any auxiliary notes during the interview (Creswell & Plano Clark, 2018). The protocol serves the purpose of interview uniformity (Appendix I). Additionally, member checking occurred following the analysis of the qualitative data to ensure the accuracy of the interview (Creswell & Plano Clark, 2018; Marshall 7 Rossman, 2016).

Limitations

Limitations are present within every study, and identification of these limitations serves to illustrate the boundaries of the study (Creswell & Plano Clark, 2018; Marshall & Rossman, 2016; Theofanidis & Fountouki, 2018). The limitations identified in this study include the type, location, size, structure, and practices of academic advising of the institutions used as sites for

this study. All three sites are private institutions. Additionally, the three sites are either in rural or suburban settings. Lastly, all three sites are identified as small colleges and classified as Baccalaureate colleges: diverse fields (The Carnegie Classification of Institutions of Higher Education, 2021). The reason for the site selections were to maintain a similar setting for the study to take place. Also, the researcher had better access to these sites. Lastly, the advising structure and practices at each site may vary, thus contributing to slightly differing student experiences. While texting is a common practice, texting practices among students who attend public, larger, and/or differently located institutions may be different. Furthermore, the academic advising structure and practices may not be sustainable at other type of institutions.

Another limitation is that the study was reliant on opt-in volunteers for both the survey and the semi-structured interviews. The researcher could not ensure every student would complete the survey and interview portions of the study. Because of this, the researcher could not guarantee an accurate representation of the student population (Creswell & Plano Clark, 2018; Marshall & Rossman, 2016; Theofanidis & Fountouki, 2018). While the homogeneity of the participants as traditional undergraduate students does provide some safeguard to the limitations that volunteerism causes in a study (Guglielmino, 1989), understanding the existing limitations of the study is necessary to ensure generalizations are not applied to populations not represented. Past research indicated similar limitations regarding the use of convenience sampling (Lema & Argusa, 2019). This is especially true for the semi-structured interviews as convenience sampling was used. Because the researcher was limited to a small number of students who volunteered to participate in the interviews, that condition has the potential to limit generalizability across a population (Marshall & Rossman, 2016; Theofanidis & Fountouki, 2018).

Conclusion

This chapter described the research design and methodology, including participants, data collection, and analytic methods to be used. An explanatory sequential mixed methods design was implemented to capture initial quantitative data and qualitative data collected later. Participants for the study included traditional undergraduate students at three private colleges designated as baccalaureate colleges: diverse fields and located in the Midwest United States.

Quantitative data were compiled through an online survey sent through email to the undergraduate student population of the three research sites. The survey consisted of four demographic questions and 11 questions derived from Pascarella's and Terenzini's (1980) Institutional Integration Scale (Appendix G). Reliability and validity were established by past studies using the same instrument and modified versions (Caison, 2007; French & Oakes, 2004; Pascarella & Terenzini, 1980; Putulowski & Crosby, 2017). Additionally, the researcher established validity for the instrument utilized in this study. The I-CVI (.98) and S-CVI/US (.82) are both above the recommended score of .7 (Polit & Beck, 2006). Reliability was established for the instrument by calculating Cronbach's alpha (.8) which is above the acceptable value of .7 (DeVellis, 2013; Field, 2013, Kline, 2005). Data were analyzed using Pearson's correlation, ANOVA and Spearman's test with SPSS software. Semi-structured interviews were conducted to gather qualitative data following the review of questions by an expert in phenomenological and sociological research and the establishment of an interview protocol (Creswell & Plano Clark, 2018). Participants for the interviews were selected using convenience sampling. The participants opted into the interviews by indicating willingness to be interviewed following completion of the survey instrument. The researcher recorded, transcribed, analyzed, and coded the interviews to discern emerging themes.

Chapter IV

Results

Introduction

Higher education has placed an emphasis on student retention given diminishing resources (Elliot, 2020; Lynch & Lungrin, 2018; Sanders & Killion, 2017). This decline in resources is magnified by a shrinking college-going student population, wherein a 15% decrease is expected between the years 2025 and 2029 (Barshay, 2018; Grawe, 2018). To combat this, institutions have emphasized academic advising as one component of retention efforts (Chrysikos et al., 2017; Drake, 2011; Elliot, 2020) because the academic advisor is seen as a key contributor to retention efforts among students and institutions alike (ACT, 2010; Drake, 2011; Tinto, 1975, 2007; Sanders & Killion, 2017; Uddin & Johnson, 2019). A necessary element to understand in the academic advising function is the communication that occurs between the student and advisor (Swanson et al., 2018), and among college students, texting continues to increase as a preferred form of communication (Swanson et al., 2018; Taylor & Serna, 2019a). Because of this shift in communication preference, a similar shift should occur in communication between an advisor and advisee (Sanders & Killion, 2017; Tippetts et al., 2020). This study sought to explore the impact of texting within the advising function and on the student's intent to persist by utilizing Tinto's (1975) theory of departure as the framework for its research.

The foundation of Tinto's (1975, 1993) theory entrenched in departure is dependent on the integration of the student into the academic and social settings. The more integrated the student is in these settings, the more likely the student is to persist and vice versa. To further aid in the prediction of student persistence, the Institutional Integration Scale (IIS) was developed by Pascarella and Terenzini (1980). Specifically, this instrument examines student perception of

various facets of academic and social integration and a student's institutional goals and commitments (Pascarella & Terenzini, 1980). To examine the advising function and its use of texting and its impact on a student's intent to persist, the researcher used the Interactions with Faculty and Institutional Goals and Commitments subscales of the IIS, modifying the prior subscale to include the practice of texting.

The researcher conducted a mixed method study using data collected through the use of the modified IIS survey and semi-structured interviews to explore the students' perceptions of their interactions with advisors via text and its impact on their intent to persist. The mixed method design is used to provide further understanding of the quantitative data through the inclusion of qualitative data (Creswell & Plano Clark, 2018; Greene et al., 1989; Marshall & Rossman, 2016). The researcher chose an explanatory sequential mixed methods design. In doing so, the quantitative data were collected and analyzed first, followed by the collection and analyzation of the qualitative data to expound upon the quantitative results (Creswell & Plano Clark, 2018; Subedi, 2016; Tashakkori & Teddlie, 1998).

Quantitative data were gathered through the use of the survey instrument administered via email to the undergraduate student population at each site. The qualitative data were gathered through semi-structured interviews of participants who volunteered following the completion of the quantitative instrument. While a guide was constructed prior to the completion of the quantitative data collection, to follow the sequence of the explanatory sequential mixed methods design, the quantitative data were collected and analyzed to further inform the qualitative data collection process (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 1998). The following research questions guided this study:

1. Does interaction between a traditional undergraduate student and advisor via text impact a student's intention to persist?
2. Does the amount of texting between a student and their academic advisor influence their intent to persist?
3. How do students experience texting with an advisor and its impact on their intent to persist?

The results of the research questions above will be addressed individually and in the order presented above. The researcher will present the results using both quantitative and qualitative data where applicable.

Data Collection

Survey Instrument

A survey instrument (Appendix H) was used to gather quantitative data. The survey consisted of five demographic questions and 11 Likert scale questions. The Likert scale questions were obtained from Pascarella's and Terenzini's (1980) Institutional Integration Scale. The researcher received permission from its creator to use the scale and to make slight modifications to it (Appendix D). The modified scale explored the student's perception of student-advisor interaction via text and their perceived institutional goals and commitments as a measure for student intent to persist. Following reliability testing, question 10 was removed prior to distributing the survey to students. The researcher created the survey using Qualtrics™ and then coordinated survey distribution with the three participating sites. Each site distributed the survey on behalf of the researcher through various email formats.

Interview Protocol

Following the survey, participants volunteered to take part in the semi-structured

interviews. In line with the explanatory sequential mixed methods design, the interview protocol and guided questions were solidified following the completion of the survey and the analyzation of the resulting data (Creswell & Plano Clark, 2018; Greene et al., 1989; Tashakkori & Teddlie, 1998). The interview protocol was reviewed by a social sciences professor who possesses expertise in the field of phenomenological research to ensure the guided questions were valid and reliable (Creswell & Plano Clark, 2018). The researcher used the semi-structured interview guide (Appendix K) to conduct 13 interviews with participants. The 13 interviews are sufficient when conducting qualitative research.

Participants

Participants for this study were traditional undergraduate students institutions from the same Midwest association of colleges. The colleges were given pseudonyms to protect the institutions' identity: College 1 (C1), College 2 (C2), and College 3 (C3). Participants were classified as undergraduate students at traditional residential campuses of each site and were within the range of the traditional student age of 18-24 as identified by previous studies (Causey et al., 2020; Chung et al., 2017; Moody, 2019). The researcher worked with varying school administrators to distribute the survey to the undergraduate student populations.

Survey Participants

The online survey was distributed to 3,416 students. At each site, an identified administrator sent a recruitment email (Appendix E) to the undergraduate student population: C1 had 2020 undergraduate students receive the email; C2 had 675 undergraduate students receive the email; and C3 had 721 undergraduate students receive the email. The total number of surveys completed was 403. An additional 64 started the survey but failed to complete it. These participants' surveys were removed. The total number of responses represents a total larger than

the necessary sample size of 347 calculated using the finite population correction for proportions (Israel, 1992). This number also meets the sample size requirement necessary for a correlation analysis (c). Additionally, the total number of surveys complete represent a 11.79% response rate. The response rate is similar to other undergraduate survey response rates (Brooks, 2016).

Interview Participants

Following the completion of the online survey, participants were given the opportunity to volunteer in a follow-up interview. Using criterion sampling and then convenience sampling, a group of 13 students participated in the semi-structured interview. Of the 403 participants who completed the survey, 124 participants indicated they would be willing to participate in the semi-structured interviews. Twenty-five of the participants responded to direct outreach. Of the 25 who initially responded to direct outreach, 13 students volunteered and completed the consent form to participate in the semi-structured interview portion of this study. An interview sample of thirteen participants was deemed adequate for an explanatory sequential mixed methods study (Creswell & Plano Clark, 2018).

Reliability and Validity

To ensure reliability and validity of the data, the researcher employed numerous measures. The reliability of an instrument examines whether an instrument can be interpreted consistently in various situations (Field, 2013; Creswell & Plano Clark, 2018), and the validity of an instrument notes whether an instrument measures what it is intended to measure (Carmines & Zeller, 1979; Cresswell & Plano Clark, 2018; Field, 2013).

Survey Reliability and Validity

The researcher used the Institutional Integration Scale (IIS) as a foundation for the instrument in the study. The IIS was developed by Pascarella and Terenzini (1980). The

instrument utilizes two subscales from the IIS for the purpose of this study—Interactions with Faculty and Institutional Goals and Commitment (Pascarella & Terenzini, 1980). The term "advisor" replaced the term "faculty" to emphasize the interaction specific to academic advising. The phrase "non-classroom" was removed from three items and "to meet" was removed from one item in the interactions with faculty subscale. Additionally, the phrase "via text" was added to four items to capture student-advisor interaction via text. This researcher then labeled this subscale "interactions with advisors." This replacement is defensible given the extent faculty serve in the advising experience of students as noted in previous research (DeLaRosby, 2017; He & Hutson, 2017; Tinto, 1993). Reverse coding of all negative wording was done to increase reliability in a manner consistent with previous studies such as French and Oakes (2004). Additionally, the Institutional Goals and Commitments subscale has been used in studies to assess a student's intent to persist (Braxton et al., 2000; Dwyer, 2017; Pascarella & Terenzini, 1980).

The researcher conducted content validity prior to conducting a pilot survey. To establish content validity, the researcher requested eight experts with experience in advising to examine the relevance of the content of each item on the scale. The content validity index (I-CVI) for the instrument is .98 which is above the recommended I-CVI of .7 (Polit & Beck, 2006). The content validity index for scales (S-CVI) is calculated at .82 which again is over the recommended .7 deemed acceptable for S-CVI (Davis, 1992; Polit & Beck, 2004, 2006). Based on these findings, the instrument was deemed valid.

Reliability is measured using Cronbach's alpha (Field, 2013). Cronbach's alpha measures the consistency of the instrument as a whole or the individual factors or the scales that make up the instrument (Field, 2013). The original study by Pascarella and Terenzini (1980) demonstrated

reliability in both the student-faculty interaction (α = .83) and the institutional goal and commitment scales (α = .71). The Cronbach's alphas calculated are above the recommended lower limit acceptable for reliability is a Cronbach's alpha coefficient of .7 (DeVellis, 2013; Field, 2013; Kline, 2005). The IIS has been proven to maintain reliability in more recent studies which replicate or slightly modify verbiage (Baker, et al., 2007; Dwyer, 2017; French & Oakes, 2004; Putulowski & Crosby, 2017).

With validity confirmed and reliability established for the original instrument and modified successors, the researcher conducted a pilot of the modified instrument used in this study. The initial Cronbach's alpha for the instrument was .75. The Interaction with Advisor subscale alpha was .9 and the Institutional Goals and Commitments subscale alpha was .318. After analyzing the reliability of the two subscales, the researcher made the decision to eliminate question 10. In removing the question, "I have an idea of what I want to major in," the Cronbach's alpha for the Institutional Goals and Commitment subscale rose to .51 which is above the accepted Cronbach's alpha of .5 for scales under 10 items (Fields, 2013, Nunnaly, 1978, Pallant, 2001). The Cronbach's alpha of the entire instrument increased to .8 with the removal of question 10. Cronbach's alpha of the entire instrument is above the accepted value of .7 (DeVellis, 2003; Field, 2013; Kline, 2005). Table 8 provides a summary of the reliability of the instrument's subscales following the removal of question 10.

Table 8

Instrument Reliability Analysis (Pilot Survey)

Scales	Cronbach's Alpha	Number of Items
All Scales	.8	10
Interactions with Advisors	.9	5
Institutional Goals and Commitments	.51	5

After using SPSS to run reliability on the final survey data, the Cronbach's alpha for the final survey is .81. The alpha for the Interactions with Advisor subscale is .87 and the alpha for the Institutional Goals and Commitments subscale is .74. The values calculated all surpass the acceptable value of .7 (DeVellis, 2003; Field, 2013, Kline, 2005). See Table 9 for results of reliability testing for the final survey.

Table 9

Instrument Reliability Analysis (Final Survey)

Scales	Cronbach's Alpha	Number of Items
All Scales	.81	10
Interactions with Advisors	.87	5
Institutional Goals and Commitments	.74	5

Semi-Structured Interview Reliability and Validity

The researcher implemented multiple measures to ensure validity and reliability for the semi-structured interviews. The researcher followed an identified protocol and used the semi-structured interview process as a guide for obtaining data (Creswell & Plano Clark, 2018; Marshall & Rossman, 2016). One way to contribute to the reliability and validity of a semi-

structured interview is to have an expert in phenomenological research examine the questions of an instrument prior to its use to determine if the questions are appropriate and accurate for the purposes of the study (Creswell & Plano Clark, 2018). An expert in phenomenological research who works as a professor in the social sciences and has practice in extracting phenomenological data reviewed the questions. Using the feedback from this expert, the researcher modified some questions to better gather data surrounding participant experience and modified questions that indirectly articulated bias. The final protocol was established following the completion of the online survey (Appendix I). Lastly, member checking was done following the analysis of the data collected from the interviews to ensure accuracy (Creswell & Plano Clark, 2018; Marshall & Rossman, 2016).

Results for Research Question 1: Interactions Between an Advisor and Student Via Text and the Impact on Students' Intent to Persist

The first research question was developed to assess if there was any relationship between a student's interaction with an advisor via text and the student's intent to persist. The question was, "Does interaction between a traditional undergraduate student and advisor via text impact a student's intention to persist?" To assess this relationship, the researcher conducted an online survey using 10 Likert scale questions from the Institutional Integration Scale developed by Pascarella and Terenzini (1980). Specifically, the subscales of Interaction with Faculty and Institutional Goals and Commitments were used. The researcher modified the questions in the "Interactions with Faculty" subscale to include "advisor" instead of "faculty" as well as the addition of "text" to capture the interaction that occurs via text. This subscale is labeled Interactions with Advisors. The Institutional Goals and Commitments subscale has been used in previous studies to assess a student's intent to persist (Braxton et al., 2000; Dwyer, 2017;

Pascarella & Terenzini, 1980). See Table 6 for the initial questions included in the survey. Following reliability testing during a pilot study, Question 10 was removed.

The survey population consisted of 403 participants. This number meets the sample size requirement necessary for a correlation analysis between the Interactions with Advisors and the Institutional Goals and Commitments subscales (Bujang & Nurakmal, 2016). Table 10 shows the descriptive statistics for the two subscales used and includes the entire survey population.

Table 10

Online Survey Descriptive Statistics by Subscale (n = 403)

Scales	Mean	Standard Deviation	Maximum	Minimum
Interactions with Advisors	3.61	.91	1	5
Institutional Goals and Commitments	4.55	.66	1	5

The average frequency among the two subscales was calculated. A score of 4 or 5 indicated agreement of some kind with the item in the instrument, while a 3 indicated neither agreement nor disagreement. Given this scoring, the researcher reported any subscale with an average score above 3 as a positive frequency, indicating the student had a positive perception within the subscale. Table 11 shows the frequency of scores for the two subscales as well as the reported frequency.

Table 11

Scale Frequency Results for Online Survey (n = 403)

Scales	**Reported Frequency (*M*>3)**	$5 \geq M \geq 4$	$4 > M > 3$	$3 \geq M \geq 2$	$2 > M \geq 1$
Interactions with Advisors	**72**	35.0	37.0	23.3	4.7
Institutional Goals and Commitments	**95.5**	87.6	7.9	3.0	1.5

Note: Bold indicates reported frequency

The mean score for interactions with advisors via text was 3.61, indicating a positive perception of the interaction. The reported frequency of positive interactions is 72%. The mean score for a student's institutional goals and commitments is a 4.55. This indicates students had a positive perception of their intent to persist. The reported frequency of students with a positive perception of their institutional goals and commitments is 95.5%.

To further examine the relationship between student interactions with advisors via text as summarized in the responses to the scale, and their intent to persist as indicated with Institutional Goals and Commitments scale, the researcher ran a correlation analysis. When analyzing data using Pearson's correlation, there are four normality assumptions that must be met:

1. Both variables are to be measured at the interval or ratio levels (i.e., continuous).
2. The variables should be paired.
3. There is a linear relationship between the two variables.
4. There should be no significant outliers.
5. The variables should be approximately normally distributed (Laerd, 2018).

The researcher examined the data to determine if the assumptions were met to conduct Pearson's correlation. The first assumption was met given the use of a Likert scale to collect data because the Likert scale data are interval (Field, 2013). The second assumption was met given that each

participant's score on the Interactions with Advisor subscale was paired with their score from the Institutional Goals and Commitments subscale. The third assumption was met given the linear relationship between the two variables. The linear relationship between the two subscales is demonstrated in Figure 6.

Figure 6

Scatter Plot of Interaction with Advisor by Institutional Goals and Commitments

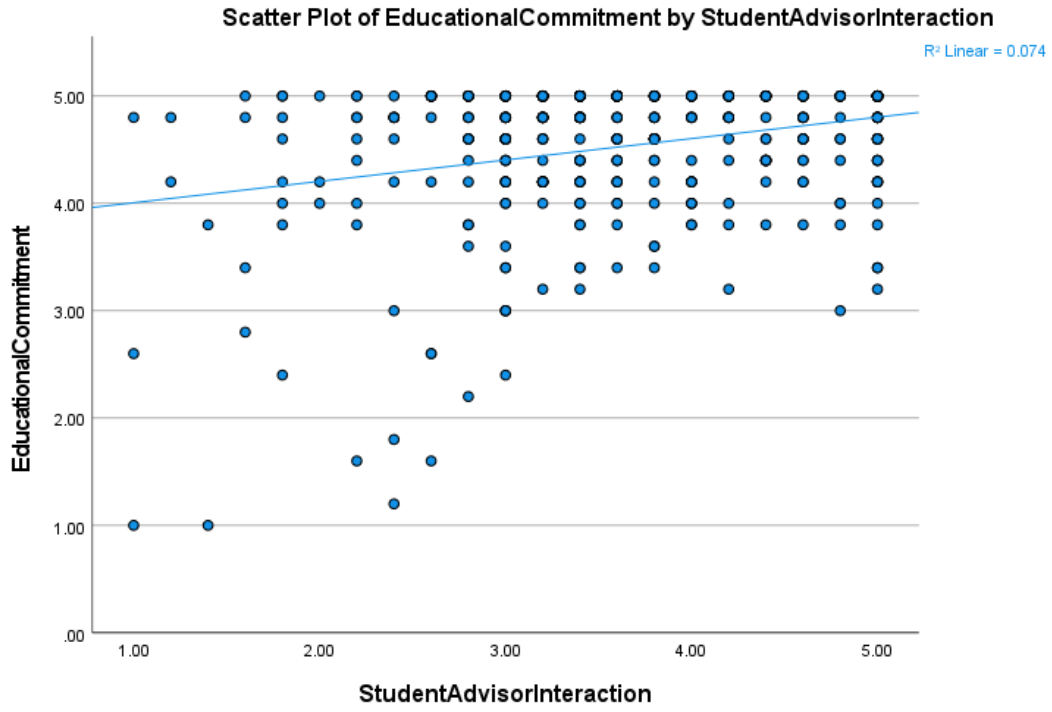


Figure 6 indicates there is a linear relationship between the two variables; as such, the third assumption is met. When examining Figure 6, however, the presence of outliers meant fourth assumption was not met. Lastly, the researcher analyzed the data to determine if the variables met the fourth assumption of normal distribution using the Shapiro-Wilk' non-parametric test for normality. This test is used to evaluate whether data deviate from the normal distribution (Field, 2013, Laerd Statistics, 2018). The results of the Shapiro-Wilk test are found in Table 12.

Table 12

Tests of Normality

	Shapiro-Wilk		
	Statistic	df	Sig.
Interactions with Advisor	.959	403	.000
Institutional Goals and Commitments	.717	403	.000

The normal Q-Q plots are shown in Figures 7 and 8.

Figure 7

Normal Q-Q Plot of Student-Advisor Interaction

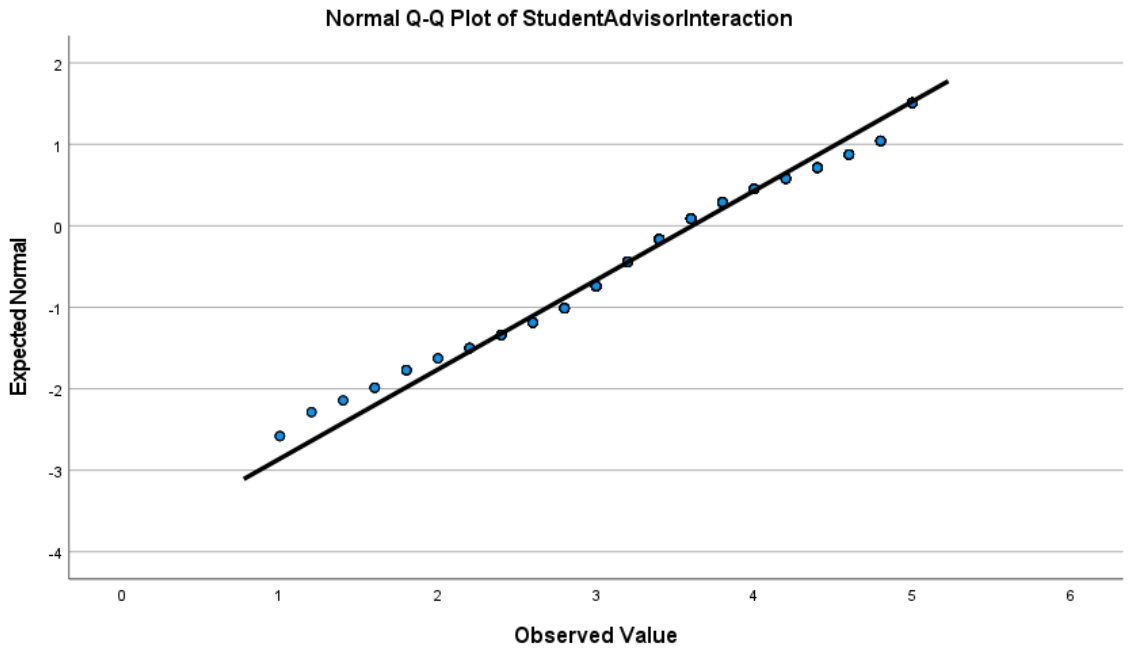
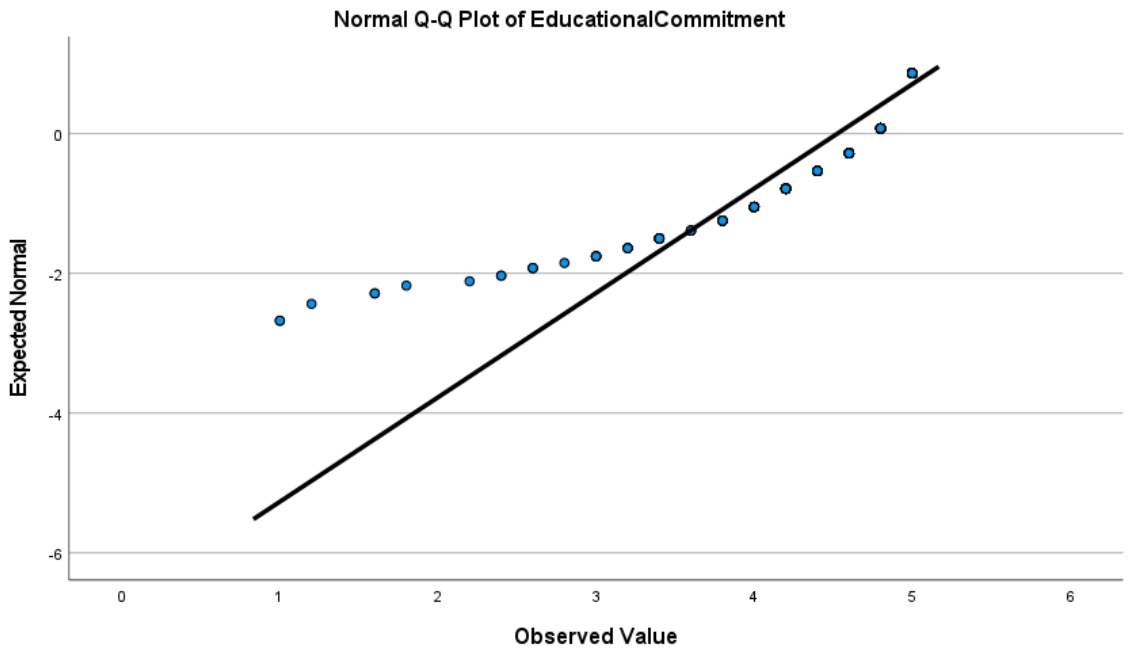


Figure 8

Normal Q-Q Plot of Institutional Goals and Commitments



Given the failure to meet the fourth and fifth assumptions necessary to run Pearson's correlation, the researcher chose to analyze the data for a correlation using Spearman's test.

Spearman's rank order correlation was conducted because of the presence of outliers in Figure 6 and neither variable was normally distributed, as assessed using the Shapiro-Wilk test ($p > .05$) and observing normal Q-Q plots. Spearman's rank order correlation is a non-parametric test which is used to minimize the effects of extreme scores or violations of assumption of the sample population (Bryman & Cramer, 2005; Field, 2013; Laerd Statistics, 2018). To be able to run Spearman's test, three assumptions must be met:

1. Both variables are to be measured at the interval or ratio levels (i.e., continuous).
2. The variables should be paired.
3. There must be a monotonic relationship between the two variables (Laerd, 2018).

The first and second assumptions have already been met through examination of the data prior.

The researcher then examined Figure 6 to determine if there was a monotonic relationship. The researcher determined the monotonic relationship had been established. As such, the researcher decided to continue with Spearman's test. Table 13 shows the results when using Spearman's rho to assess correlation.

Table 13

Correlation Between Interactions with Advisors Via Text and Institutional Goals and Commitments

			Interactions with Advisor	Institutional Goals and Commitments
Spearman's rho	Interactions with Advisor	Correlation Coefficient	1.000	.170**
		Sig. (2-tailed)	.	<.001
		N	403	403
	Institutional Goals and Commitments	Correlation Coefficient	.170**	1.000
		Sig. (2-tailed)	<.001	.
		N	403	403

** Correlation is significant at the 0.01 level (2-tailed).

Given the results, there is a statistically significant, positive correlation between the interaction that occurs between the student and advisor via text and a student's intent to persist for the traditional undergraduate student, $r_s(401) = .170$, $p < .001$. Therefore, we can reject the null hypothesis and accept the alternative hypothesis.

Results for Research Question 2: Amount of Texting and Its Impact on Students' Intent to Persist

The second question was developed to assess if there was a difference between the amount of texting that occurs and a student's intent to persist. The variables used were the number of times the student communicated with an advisor via text over the past year and the

Institutional Goals and Commitment subscale. To assess the number of times a student texted with an advisor, the question, "Within the last year, how many times have you communicated with an advisor via text?" was asked. Participants were able to answer with "zero," "1–5," "6–10," or "10+." This question served as the independent variable. The Institutional Goals and Commitment subscale of the IIS has been used to assess student intent to persist in past studies (Braxton et al., 2000; Dwyer, 2017; Pascarella & Terenzini, 1980), and the Institutional Goals and Commitment subscale was used as the dependent variable in this study.

To assess the difference between the various groups, the researcher chose to run an analysis of variance (ANOVA). An ANOVA is run to establish if there are any statistically significant differences between two or more groups (Field, 2013; Laerd, 2018). The researcher conducted a one-way ANOVA to determine if there was a difference in a student's intent to persist based on the amount of texting that occurred with the advisor.

Prior to conducting the ANOVA, the researcher assessed the data for any violation of assumptions. The assumptions required to conduct an ANOVA are the following:

1. The dependent variable is continuous.
2. The independent variable is categorical with two or more independent groups.
3. There is independence of observations.
4. There are no significant outliers.
5. The dependent variable should be approximately normally distributed for each group of the independent variable.
6. There is homogeneity of variances (Laerd, 2018).

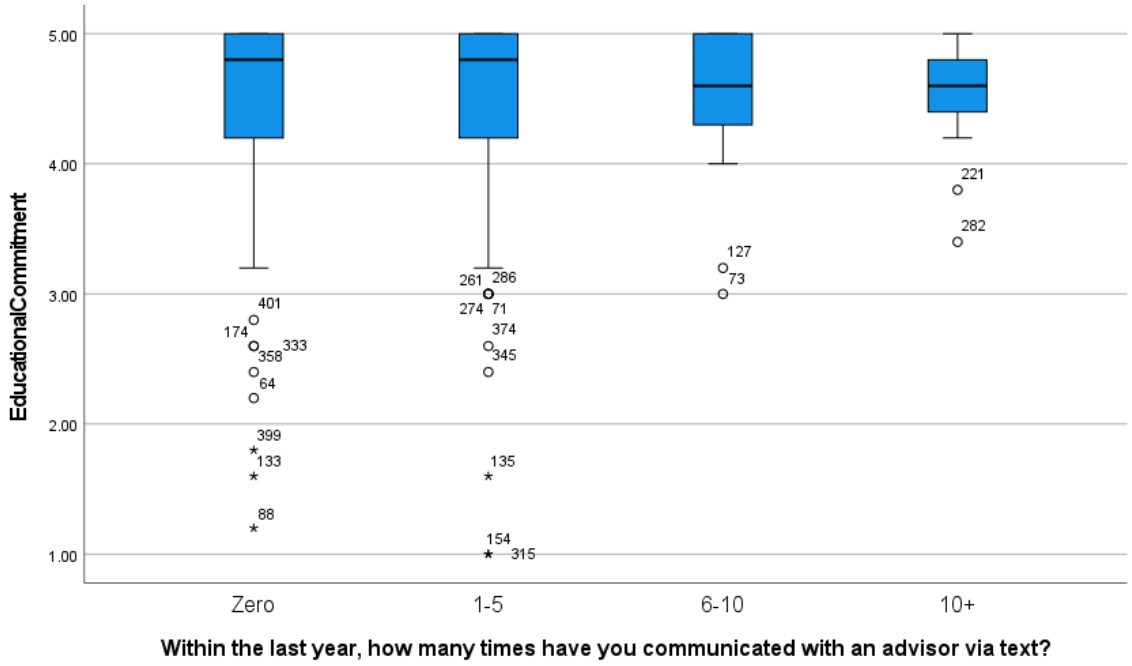
As noted previously, the Institutional Goals and Commitments subscale was measured using a Likert scale. The data gathered from this scale were continuous. Thus, the first

assumption was met. The second assumption also held true as there were more than two categorical groups as part of the independent variable. Participants were divided into four groups: zero texts between student and advisor (n = 234), 1–5 texts between the student and advisor (n = 125), 6–10 texts between the student and advisor (n = 23), and more than 10 texts between the student and advisor (n = 21). The observations could all be considered independent as no participant was a part of more than one category. As a result, the third assumption was satisfied.

The fourth assumption was violated because there were outliers within the data. Figure 9 shows the outliers within the data collected.

Figure 9

Observed Values



The fifth assumption was rejected. The data were not normally distributed, as assessed by the Shapiro-Wilk test (p > .05) and an observation of the normal Q-Q plots. The results of the Shapiro-Wilk test can be seen in Table 14.

Table 14
Tests of Normality

	Within the last year, how many times have you communicated with an advisor via text?	Shapiro-Wilk		
		Statistic	df	Sig.
Institutional Goals and Commitments	Zero	.716	234	.000
	1–5	.701	125	.000
	6–10	.814	23	.001
	10+	.876	21	.013

Figures 10–13 show the normal Q-Q plots for the various groups.

Figure 10

Normal Q-Q plot of Institutional Goals and Commitments for Zero

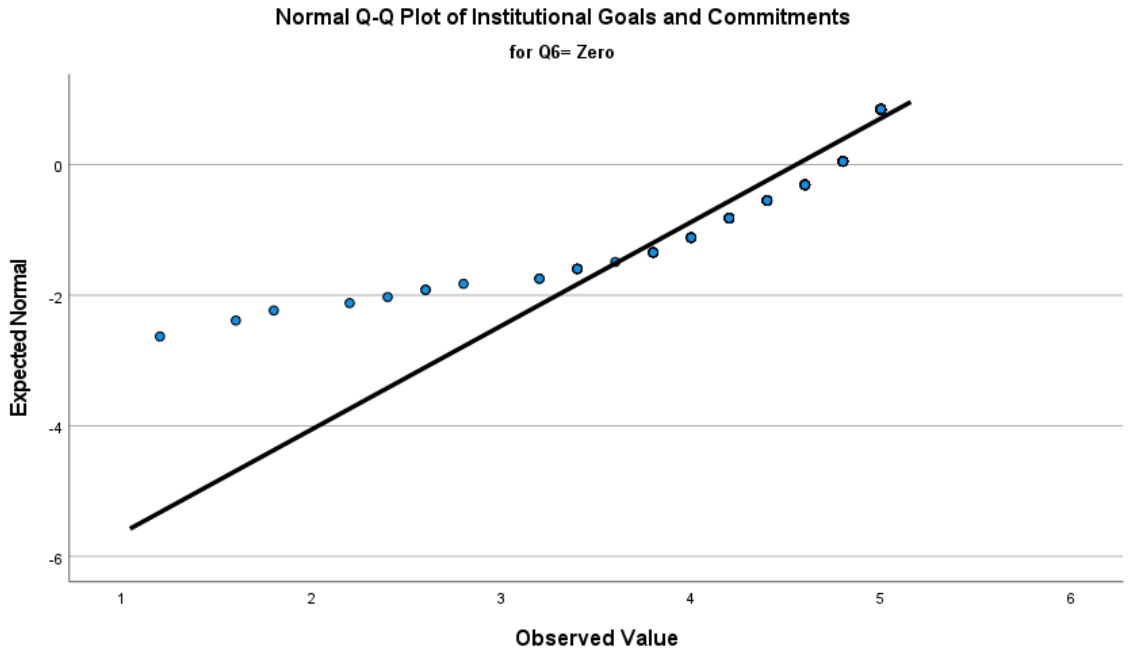


Figure 11

Normal Q-Q plot of Institutional Goals and Commitments for 1–5

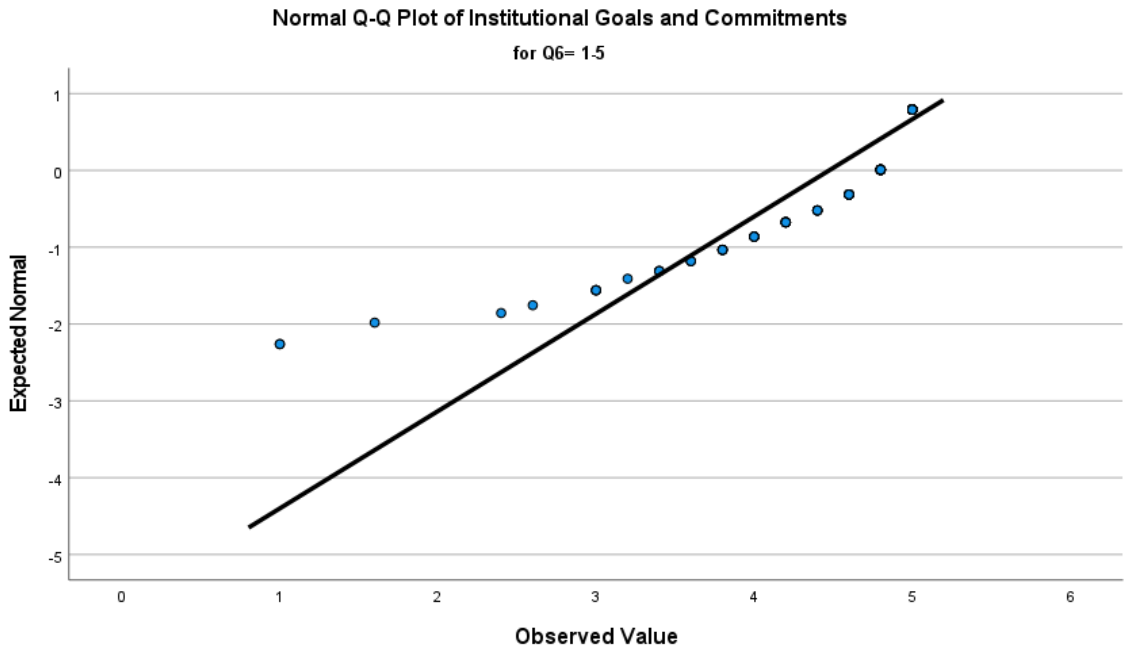


Figure 12

Normal Q-Q plot of Institutional Goals and Commitments for 6–10

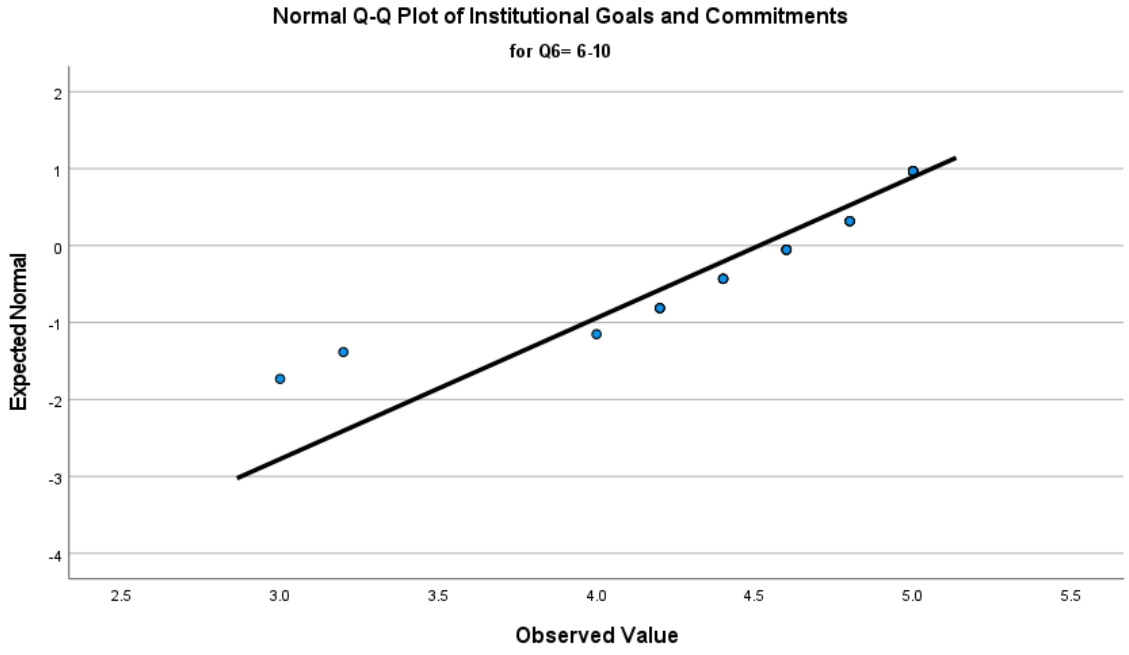
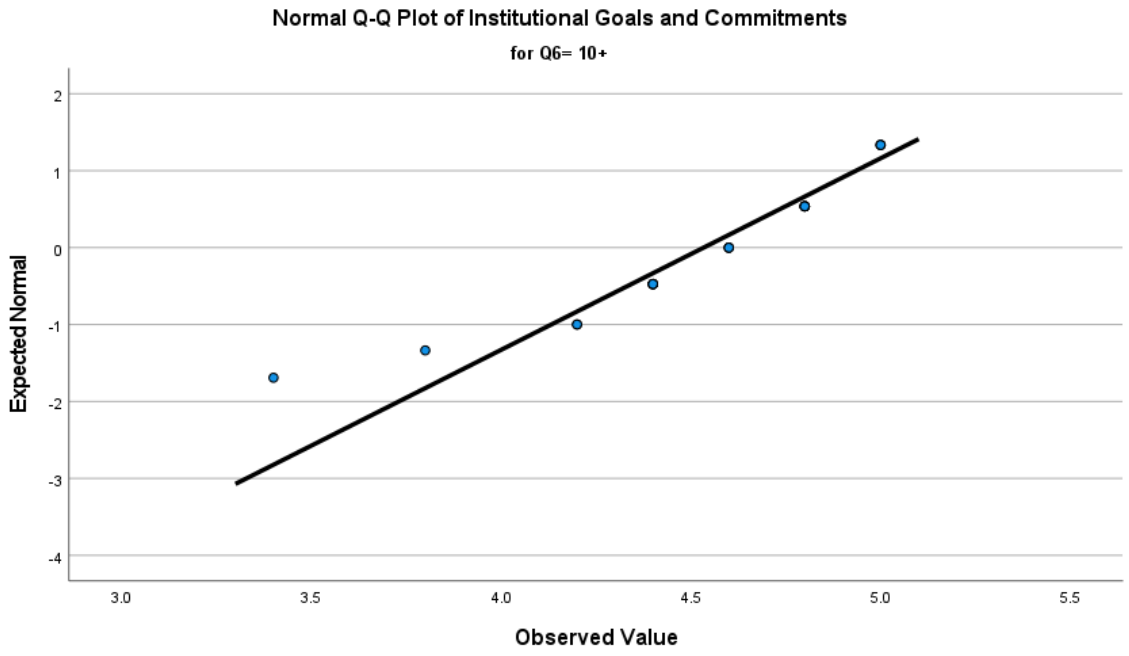


Figure 13

Normal Q-Q plot of Institutional Goals and Commitments for 10+



Additionally, the sixth assumption was violated. The data demonstrated a violation of the assumption of heterogeneity of variances, as assessed using Levene's test of homogeneity of variances (p = .03). The results of Levene's test are shown in Table 15.

Table 15

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Institutional Goals and Commitments	Based on Mean	3.077	3	399	.028
	Based on Median	1.124	3	399	.339
	Based on Median and with adjusted df	1.124	3	357.190	.339
	Based on trimmed mean	1.967	3	399	.118

As a result, Welch's F was calculated to account for the significantly different variances (Field,

2013). Table 16 shows the results of Welch's test.

Table 16

Robust Tests of Equality of Means

Institutional Goals and Commitment

	Statistic[a]	df1	df2	Sig.
Welch	.317	3	60.709	.813

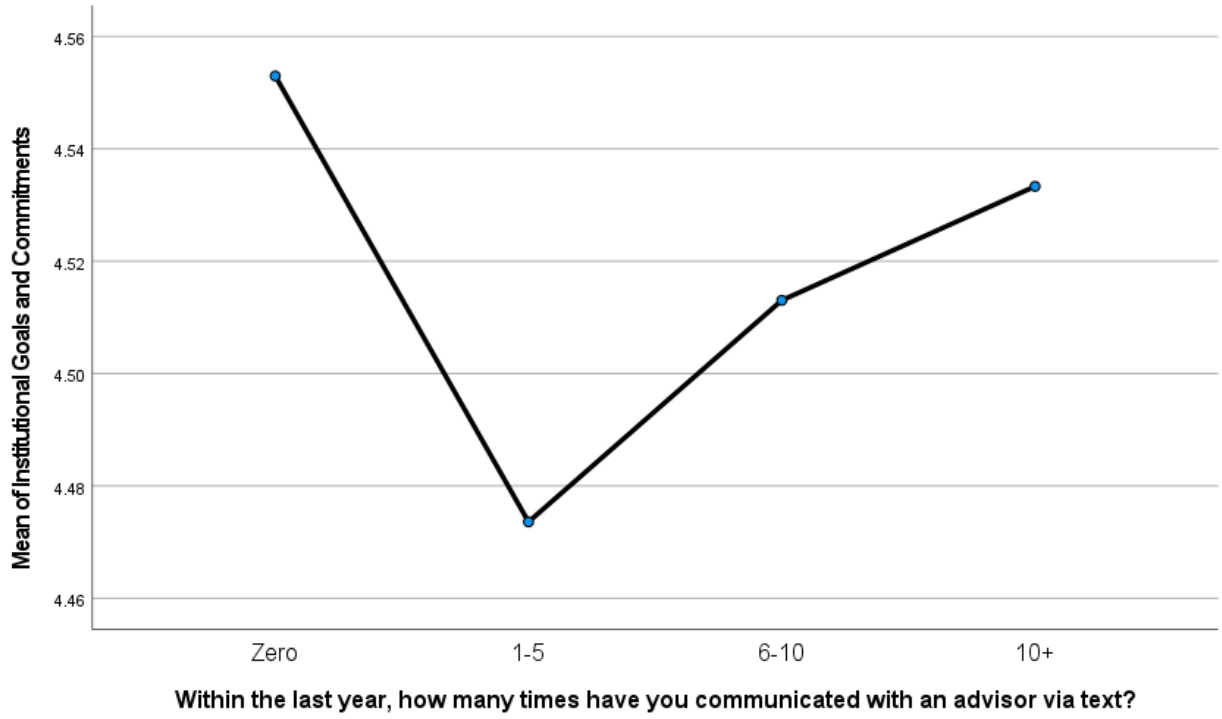
a. Asymptotically F distributed.

The ANOVA is a robust test able to overcome violations of assumptions in normality and homogeneity of variances (Field, 2013; Laerd, 2018). The inclusion of Welch's *F* adds additional support to overcome the violation of homogeneity. As a result, the researcher continued with a one-way Welch ANOVA.

Data are presented as mean ± standard deviation. Student intent to persist for students who did not text an advisor was 4.55 ± .63. Student intent then decreased for students who texted with an advisor 1–5 times (4.47 ± .79), however student intent to persist then increased when texting 6–10 times (4.513 ± .55) and continued to increase when texting 10+ times (4.53 ± .4). Figure 14 shows the mean plots.

Figure 14

Mean plots of Institutional Goals and Commitments



The differences in student intent to persist was not statistically significant when sorted by the amount of texting that occurred, $F(3, 60.7) = .317$, $p = .77$. Because the group means were not significantly different ($p > .05$), the null hypothesis is accepted. Results from the ANOVA can be found in Table 17.

Table 17

ANOVA

Institutional Goals and Commitments					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.518	3	.173	.384	.765
Within Groups	179.499	399	.450		
Total	180.017	402			

Results for Research Question 3: Student Experience with Texting an Advisor and Its Impact on Intent to Persist

The last research question was developed to examine the student experience with advising and its impact, if any, on intent to persist. The question was, "How do students experience texting with an advisor and its impact on their intent to persist?" To assess the student experience, the researcher conducted 13 semi-structured interviews. The questions for the interview were influenced by the quantitative data as guided by the explanatory sequential mixed method design (Creswell & Plano Clark, 2018; Marshall & Rossman, 2016). The questions follow the phenomenological approach to assemble a comprehensive account of the experiences of the participants (Moustakas, 1994). The questions allow the perspective of the participant to come through as they experienced the phenomenon of texting with an advisor (Creswell & Plano Clark, 2018; Dwyer, 2017; Marshall & Rossman, 2016; Russett & Waldron, 2017). The guide for the semi-structured interview can be found in Appendix K. The researcher transcribed and coded each interview. After the coding of each interview, the researcher categorized the codes into themes. The following primary themes were identified within the interviews: student motives for texting with an advisor; texting's positive influence on the relationship with an advisor; and texting's positive impact on a student's intent to persist.

Student Motives for Texting

Participants indicated there were motives that either had led them to texting or would lead them to texting with an advisor. Motives described by participants included the "convenience" of texting, the "timeliness" of texting, the "efficiency" surrounding texting, and the facilitation of further communication with an advisor. In total, 62 statements regarding why texting is used to communicate with advisors were made.

The most prominent motives described by students include the ease, convenience, timeliness, and efficiency surrounding texting. Student 12 said, “You don’t have to wait as long with texting,” and situations are “taken care of a lot faster.” Student 6 described the experience as positive, stating, “I just liked how quick it was. I feel like she [the advisor] answered a lot faster because the communication method [is] more simple.” Student 9 touched on the ease associated with texting, saying, “I think it is helpful when you just have a one-off question that you don’t have to write a whole formal email and a whole thing, if you’re just like, ‘Hey, is this class open?’ It is easier to get a one-off question answered.” Student 7 indicated “I think it’s easier to respond to text messages/notifications.” Student 4 also cited the ease and convenience associated with texting:

> It’s easier for me to reach her [advisor]. If I have questions, I don’t have to wait so long. It’s hard because email is so much harder to get in contact with someone. I don’t check my emails Saturday night. But if I was doing something, sometimes I’m trying to do something . . . and she can respond to me quickly.

Texting, according to the participants, served as a faster, more efficient, and convenient medium of communication compared to other forms.

Several participants described texting as a means to facilitate further communication with an advisor whether via email or in person. Student 2 noted how texting allowed them to communicate information and set up a time to meet in person, stating they would text, “Oh, I’m struggling in this class. Is there any way we can set up a meeting to go over about switching classes or dropping the class or anything?” Student 4 echoed this motive of facilitating further communication, mentioning they would text an advisor with questions like, “Are you in your office right now?” or “Do you have any time available today to help me with some of my classes

and something I'm struggling with?" Student 9 also mentioned texting to establish a future meeting, asking their advisor via text, "Hey, can I set up a meeting with you to talk later?" Student 1 described texting as an "inefficient way of actually getting anything done," however they did affirm texting's capability to facilitate meetings with their advisor, remarking, "in terms of planning meeting times, though, it's been really helpful."

The COVID-19 pandemic also affected student motives for texting with an advisor as described by Student 12, "I didn't start . . . getting into texting with my advisors until last year when COVID started happening and we had to deal with that at school, and there were just things that . . . [advisors] were getting so many different emails from students and administration that it seemed like my emails were getting lost." Table 18 shows the codes and frequencies the researcher identified relating to student motives for texting with an advisor.

Table 18

Codes for Theme of Student Motives for Texting

Theme	*Codes*	*Number of Participants*	*Number of References*
Student Motives for Texting	Easier	5	7
	Convenience	6	8
	Timely	10	20
	Efficiency	5	8
	Facilitating Further Communication	6	12
	Type of Information	7	7

Texting and Its Positive Influence on the Student/Advisor Relationship

In addition to the motives for texting with an advisor, participants also described texting in the context of the student/advisor relationship. Participants described an interaction which can require a prior relationship and impacts the relationship in a generally positive manner, although a few students do identify some ways the relationship may be affected adversely. Over half the

students noted texting with an advisor was dependent on having an already established relationship with their advisor. Student 5 described texting with their advisor as a result of connection over past experiences, “Because we are both foreigners in this country, she knows where I stand, from her point of view, so she said to text me if anything happens because none of my parents are here.” Prior relationships and connections, according to Student 12, are what make texting an acceptable form of communication, “it just depends on the relationship that you have with your advisor . . . . I think that if you’ve made a connection with them . . . both parties have come to an understanding.” Student 7 reiterated this thought, “It probably just depends on the relationship you have with your advisor.” Student 13 also noted the different relationships they have with their multiple advisors as the difference between texting one advisor and not the other, “I also have a way different relationship with her [advisor] than I do with my marketing advisor. So I wouldn’t see it appropriate to text him.” Additionally, texting with an advisor contributed to a student being more “comfortable” with an advisor. Student 11 stated with texting, “I feel more comfortable asking questions to my advisor,” while Student 5 saw texting as a way to “create a bridge to connect with her [advisor] easily.”

Texting with an advisor affects the perception that the relationship with the advisor becomes “more personal” or that the advisor becomes “more understanding.” Student 8 describes their perception of an advisor who texts with students:

> I think that you definitely feel like they care more and they’re willing to work with you and stuff like that, because if you texted them after their office hours or whatever, and they still respond then it’s like, “Okay, so they’re willing to go out of their way.”

Student 9 explains how texting impacts the relationship between the student and advisor, chipping away at the authoritative separation, stating, “I think [texting] makes your advisor not

just that kind of high-up academic, scary to talk [with] about your academic future. It makes it more accessible, I think."

While texting does seem to create a more personal relationship in which the student is more comfortable approaching advisors, participants also recognize texting can impact the relationship adversely as well. Participants describe texting as being "less formal" and "less professional." Student 13 recognizes texting can "change the professional relationship," but that change is inevitable. Student 10 describes texting as a less formal form of communication than email, explaining email, "feels a little more, I don't know, somehow formal or a little more professional." Furthermore, some participants mention texting leading to a possible diminished relationship with advisors. Student 7 posits texting, "could also . . . decrease how often you go in to see them [advisors], and I think that's the best form of communication, especially with questions and if you need help." Table 19 illustrates the codes and frequencies relating to texting in relation to the student/advisor relationship.

Table 19

Codes for Theme of Texting and Its Positive Influence on the Student/Advisor Relationship

Theme	*Codes*	*Number of Participants*	*Number of References*
Texting and Its Positive Influence on the Student/Advisor Relationship	Comfortable	4	4
	More Personal/Understanding	8	14
	Texting Depends on Prior Relationship	6	8
	Takes Away from Relationship	3	4
	Less Formal/Less Professional	9	18

Texting's Positive Impact on a Student's Intent to Persist

Lastly, participants describe texting as a possible positive contributor to their intent to persist. Texting with an advisor contributes to the enrollment process by quickening communication. Additionally, participants note a level of accountability driven by texting with

an advisor, as well as describing a perceived relationship in which the advisor is invested in seeing the student persist. In terms of making the enrollment process quicker, Student 12 describes the adding or dropping of classes as "time-sensitive" and texting as a way to communicate quickly when facing certain deadlines regarding enrollment. Student 13 illustrates a situation where she had not enrolled in classes and her advisor would text her, "Hey did you miss something?" or "I think you'd really enjoy these classes. You should make sure you get in one" or "Are you having scheduling problems?" When asked if texting contributed to his continued enrollment, Student 5 depicted texting as a contributor to relationship building which in turn impacted his intent to persist:

> Yes, it definitely has contributed to my enrollment throughout the whole semester or throughout the whole school year. It's more like because of text I've gotten to know her so well that I feel like if I were to, let's say not enroll in the next semester, not to say I'm letting her down, but kind of in a way, letting her down. Because I feel like one-on-one relationships with advisors are key to success.

Student 1 cited an appreciation of texting as a medium of communication with an advisor during the enrollment process, "I think it was really helpful having someone with me and guiding me through the process because it was very new to me and . . . yeah, it was a good collaboration." Texting served as a means to connect an advisor with a student new to the process of enrolling in classes. Student 6 depicted texting's impact on their intent to persist as a tool to be used. Texting could serve as "a reminder-type thing" or to "instill things within me or motivate me to do things." Table 20 denotes the codes as they pertain to the theme of texting's impact on student's intent to persist.

Table 20

Codes for Theme of Texting's Positive Impact on Student Intent to Persist

Theme	*Codes*	*Number of Participants*	*Number of References*
Texting's Positive Impact on Student Intent to Persist	Quicker to Connect Regarding Enrollment	5	5
	Accountability	4	5
	Advisor Invested in Relationship	4	4

Conclusion

Chapter IV presented the researcher's data collection procedures for the quantitative and qualitative data used in this study. Chapter IV also included information regarding the selection of participants and any necessary participant data. The researcher explained the steps used to ensure reliability and validity of the instrument. Quantitative and qualitative data results regarding the student's perception of their interaction via text and its impact on their intent to persist were presented.

The researcher implemented an explanatory sequential mixed methods research design. The mixed method design enhances the validity and accuracy of the finding through triangulation (Bowen et al., 2017; Bryman, 2006; Creswell & Plano Clark, 2018; Greene et al., 1989). In line with this design, the researcher completed the quantitative portion of the study prior to completing the qualitative portion (Creswell & Plano Clark, 2018; Subedi, 2016; Tashakkori & Teddlie, 1998). Data were collected from an online survey distributed to student populations at three sites and through semi-structured interviews with participants who had completed the online survey. The researcher analyzed 403 survey responses and conducted 13 interviews. The researcher used two subscales of the Institutional Integration Scale developed by Pascarella and Terenzini (1980). The scale and its subscales have been deemed reliable through previous studies (Baker, et al., 2007; Dwyer, 2017; French & Oakes, 2004; Putulowski &

Crosby, 2017). The researcher also conducted reliability and validity testing of the two subscales used prior to usage and found the instrument had acceptable Cronbach's alpha values. The semi-structured interviews used questions constructed prior to the interview to serve as a guide while also allowing the participant's perspective to drive the interview (Creswell & Plano Clark, 2018; Marshall & Rossman, 2016). Prior to usage, the questions were reviewed by an expert in phenomenological research with previous publications in academic journals to ensure reliability and validity (Creswell & Plano Clark, 2018). The questions follow the phenomenological approach to examine the participant experience (Moustakas, 1994).

The online survey used two subscales of the Institutional Integration Scale as the foundation for the instrument. The interactions with faculty scale was modified to include texting as a component and replace the word faculty with the term advisor. The interactions with advisor subscale was used to measure a student's perception of the interaction with an advisor via text and is a contributor to academic integration, while the institutional goals and commitments subscale was used to assess a student's intent to persist. The mean score for interactions with advisor was 3.61 and a reported frequency of 72%. The mean score for institutional goals and commitments was 4.55 and a reported frequency of 95.5%.

A correlation test was run using Spearman's rho to determine if there was a correlation between the interactions with advisor subscale and institutional goals and commitments subscale. A positive and statistically significant correlation was found between the interaction that occurs between a student and advisor via text and a student's intent to persist. If a student's score on the interaction with advisor subscale were to increase or decrease, the score of the institutional goals and commitments subscale would do the same, albeit to what extent is unknown.

An ANOVA was conducted to determine if there was a difference in the number of times

a student texted with an advisor throughout the year and the student's intent to persist. The institutional goals and commitments subscale was used to measure a student's intent to persist. The number of times a student texted with an advisor was collected in the online survey. The categories for this question included zero, 1–5, 6–10, and 10+. While there was an increase in mean scores from 1–5 to 6–10 and then again from 6–10 to 10+, there was not a statistically significant difference among the various groups in terms of their intent to persist.

The semi-structured interviews uncovered themes of student motives for texting with an advisor, texting's positive impact on the relationship with an advisor, and texting's positive impact on student intent to persist. Students were motivated to text an advisor because of the ease, convenience, and timeliness of the communication. Texting with an advisor was also determined by the information being transmitted. Additionally, texting with an advisor was often used to facilitate further communication with the advisor, often in person. Furthermore, texting with an advisor is often dependent on the prior relationship with an advisor. Students generally perceive texting with an advisor as positive and a contributor to a more personal and understanding relationship with the advisor; however, texting has the possibility of changing the formality and professionalism of the relationship. Additionally, texting can influence a student's intent to persist by providing an avenue for quicker connection with an advisor regarding enrollment, establishing accountability for enrollment in subsequent terms, and the perception that an advisor is more invested in the student and their academic future.

Chapter V

Discussion

Introduction

The 2.7% decrease in enrollment nationally in the past year suggests an uncertain and worrisome outlook for the higher education industry moving forward (National Student Clearinghouse Research Center, 2021b). This trend is expected to continue as declines in the college-going population over the next 10 years are projected (Barshay, 2018; Grawe, 2018, 2021). Given these projected decreases, a greater focus on the retention of current students will be required by institutions of higher education (Elliot, 2020; Grawe, 2018, 2021; Lynch & Lungrin, 2018; Sanders & Killion, 2017; Walters & Sevedian, 2016). As higher education institutions step up their retention efforts, many have identified academic advising as an area of focus (ACT, 2010; Anft, 2018; Chrysikos et al., 2017; Drake, 2011; Elliot, 2020; Tinto, 1975, 2007). Furthermore, communication between student and advisor is key to effective advising. Junco et al., (2016) and Walters and Sevedian (2016) affirm that good communication positively contributes to a student's perception of value and success of the advising function.

In a university setting, communication is no longer limited to face-to-face meetings as it now involves formats such as email, text messaging, and social media (Junco et al., 2016; Steele, 2018; Tippetts et al., 2021). Although students report using all formats, texting has become a preferred form of communication, in general, among college students (Kelly et al., 2012; Seemiller, 2017; Swanson et al., 2018; Robinson & Stubberud, 2012). This might be in part to the ubiquitous use of cell phones in student populations. One hundred percent of college students between the ages 18–24 own cell phones, per a survey by Pew Research Center (2021). Additionally, a recent study indicated nearly 60% of participating college students indicated they

sent 11–100 text messages per day while another almost 14% sent over 100 texts per day (Taylor & Serna, 2019b). Given the pervasiveness of texting among college students, this study examines undergraduate students' experiences regarding how student-advisor interaction via text messaging impacts their institutional commitment to persist in their degree program.

Student integration into the academic and social communities is identified as a contributor toward their decision to persist (Mannan, 2007; Mayhew et al., 2016; Pascarella & Terenzini, 1980; 2005; Tinto, 1975, 1993, 2006, 2017; Tucker, 2000). Tinto's (1976, 1993) theory of departure is a longitudinal process which results in a student's decision to persist with or withdraw from an institution. The process incorporates a student's background, pre-established goals and institutional commitments, interaction and integration within the academic and social settings, and adjusted goals and institutional commitments as components of a student's choice to persist with or leave an institution.

One facet of Tinto's theory of departure is the recognition that an effective retention program at a higher education institution focuses on integrating individuals into the social and academic community through conscious and frequent outreach. This contributes to meaningful relational bonds being made with the student (Tinto, 1993, 2006). To measure integration and predict student persistence, Pascarella and Terenzini (1980) developed the Institutional Integration Scale (IIS). The IIS is a survey of Likert scale questions consisting of multiple scales which measures student perception of academic and social integration as well as their institutional goals and commitments to determine students' intentions to persist (Pascarella & Terenzini, 1980). The various measures of academic and social integration include peer-group interactions, interactions with faculty, faculty concern for students, academic and intellectual development, and institutional and goal commitments (Pascarella & Terenzini, 1980). These

measures historically measured face-to-face interactions given the nature of communication technology at the time of the development of the instrument. However, with the advent, adoption, and preference of mobile technologies by college students as noted by Seemiller (2017), Swanson et al. (2018), and Taylor & Serna (2019b), as well as students' willingness to communicate with advisors using this medium per Taylor and Serna (2019a; 2019b) and Tippetts et al. (2021), the inclusion of the mobile interaction within the scope of Pascarella and Terenzini's IIS is necessary to understand student integration in the university setting.

This mixed methods research study utilized the interactions with faculty subscale, modifying it to examine the interactions that occur with advisors via text, as a measure of integration, the institutional goals and commitments subscale as a measure of persistence, and semi-structured interviews to answer the following research questions:

1. Does interaction between a traditional undergraduate student and advisor via text impact a student's intention to persist?
2. Does the amount of texting between a student and their academic advisor influence their intent to persist?
3. How do students experience texting with an advisor and its impact on their intent to persist?

Summary of the Results

The purpose of this study was to examine undergraduate students' experiences regarding how student-advisor interaction via text messaging impacts their institutional commitment to persist in their degree program. The study followed the explanatory sequential mixed methods design using qualitative data to provide further insight into the initial quantitative data (Creswell & Plano Clark, 2018 Subedi, 2016). The quantitative data included subscales adapted from

Pascarella and Terenzini's (1980) IIS, measuring student interaction with advisors via text and institutional goals and commitments (see Appendix H). Semi-Structured interviews were conducted to collect the qualitative data following the quantitative data collection.

The data were collected from traditional undergraduate students between the ages of 18 and 24 as defined by previous research (Causey et al., 2020; Chung et al., 2017; Moody, 2019). The participants were drawn from three Midwestern institutions. The institutions are coded as College 1 (C1), College 2 (C2), or College 3 (C3) to protect the institution's identity. Data regarding student and advisor interaction and students' intentions to persist were gathered through surveys emailed to student populations at each institution. The surveys contained demographic questions and the modified IIS subscales as discussed in Chapter Three and as presented in the survey's final form (see Appendix H). Once the data were collected, it was analyzed using SPSS software. Following the completion of the quantitative data collection and analysis, the interview protocol and guided questions were finalized (Creswell & Plano Clark, 2018; Greene et al., 1989; Tashakkori & Teddlie, 1998). The semi-structured interview guide was used to navigate the interview with participants (Appendix K). The guide and questions were reviewed by a phenomenological research expert prior to interviews being conducted, and participant identities were protected by assigning numbers as identifiers. The semi-structured interview data were used to enhance understanding of the results found after analyzing the quantitative data (Creswell & Plano Clark, 2018; Subedi, 2016; Tashakkori & Teddlie, 1998).

Research Question 1: Interactions Between an Advisor and Student Via Text and the Impact on Students' Intent to Persist

The first research question (RQ1) examined if there was any relationship between a student's interaction with an advisor via text and the student's intent to persist. To assess the

relationship, the researcher used data collected from 403 completed surveys which included subscales measuring student interaction with an advisor via text and the institutional goals and commitments. SPSS software was used to calculate descriptive statistics and average frequencies within the subscales and categories. The average score for the Interactions with Advisor subscale was 3.61 out of 5 with a reported frequency of 72%. The average score for the Institutional Goals and Commitments Subscale was 4.55 out of 5 with a reported frequency of 95.5%

Additionally, the researcher used SPSS software to run Spearman's rank correlation to examine the relationship between student interaction via text and the student's intent to persist. Spearman's rank correlation was run instead of Pearson's correlation because the data failed to meet the assumptions of normalcy needed to conduct Pearson's correlation. A significant, positive correlation was found between the interaction that occurs between the traditional, undergraduate student and the academic advisor via text and the student's intent to persist, $r_s(401) = .170$, $p < .001$. Therefore, the null hypothesis was rejected, and the alternative hypothesis was accepted.

Research Question 2: Amount of Texting and Its Impact on Students' Intent to Persist

The second research question (RQ2) explored if there was a difference between the amount of texting that occurs between student and advisor and a student's intent to persist. The researcher used the amount of texting a student had with an advisor and the Institutional Goals and Commitments subscale to examine the differences. The amount of texting a student had with an advisor within the last year was separated into four categories (zero, 1–5, 6–10, 10+) and served as the independent variable. The score on the Institutional Goals and Commitments subscale was the dependent variable.

To determine if there was a statistically significant difference in a student's intent to

persist based on the amount of texting that occurred with the advisor, the researcher conducted a one-way analysis of variance (ANOVA). There was no significant difference in a student's intent to persist based on the amount of texting a student had with an advisor, $F(3, 60.7) = .317$, $p = .77$. The null hypothesis is accepted because the group means were not significantly different ($p > .05$).

Research Question 3: Student Experience with Texting an Advisor and Its Impact on Intent to Persist

Student experience with texting an advisor and the impact it has on their intent to persist was explored with research question 3 (RQ3). The researcher conducted 13 interviews with students from the three campuses. Each interview was recorded, transcribed, and coded. The researcher categorized the codes into three main themes: student motives for texting, texting and its positive influence on the student/advisor relationship, texting's positive impact on a student's intent to persist.

All of the interview participants indicated various motivations which led them to text with an advisor. Participants described motives for texting an advisor which included the "convenience" it provided, the "timeliness" associated with texting, and the "efficiency" it contributes to communication. Motives for texting with an advisor were mentioned 62 times throughout the 13 interviews.

More than half the participants described interactions which impact their relationship with an advisor positively. Just under half the participants noted texting with an advisor was dependent on having an already established relationship with their advisor. Once texting was established, participants described feeling more "comfortable" while also revealing a concern surrounding the formality of the relationship. Texting in relation to the student/advisor

relationship was mentioned 48 times throughout the interviews.

Lastly, the theme of texting's positive influence on a student's intent to persist emerged. Participants noted texting provided an avenue for advisors to influence accountability. They communicated texting as a medium through which advisors could initiate short, quick, and targeted conversations surrounding enrollment in subsequent terms. Additionally, texting served as a tool to remind students about enrollment. Throughout the 13 interviews, texting and its influence on student persistence was mentioned 14 times.

Conclusions

The combination of the results for all study research questions indicate that the integration which occurs through interactions between a student and advisor via text does positively influence a student's intent to persist. The researcher utilized quantitative data collected as part of RQ1 and RQ2 to examine the relationship between the interaction with an advisor via text and the student's intent to persist, while the qualitative data collected in response to RQ3 is employed to enrich and supplement the findings of RQ1 and RQ2. The findings of the study suggest the more positive a student perceives the interactions that occur via text, the higher the student's intent to persist will be, and vice versa. However, the amount of texting which occurs does not significantly impact the student's intent to persist, although Figure 14 illustrates a slight increase in intent to persist the more students texted with an advisor, given at least one interaction via text.

The results of this study suggest texting serves to meet student expectations surrounding communication with an advisor resulting in a student who is more intent on persisting with an institution. These results are similar to the findings by Tippetts et al. (2021, 2022), which found students who participated in a texting program with advisors were more likely to persist to the

end of the semester. The positive perception of attributes associated with texting by students, as well as the impact—both realized and prospective—texting has on their relationship with the advisor, may contribute to the lack of difference seen within the data collected.

RQ1 specifically explored the relationship of a student's perception of interactions via text with an advisor and the student's institutional commitments and goals. The significantly positive correlation (r_s = .170) found between the student's interactions with advisors via text and the student's institutional commitments and goals reaffirms Tinto's (1975, 1993) theory that positive integration within the academic and social settings contribute to a student's intent to persist. Tinto (1993) emphasizes interaction as a component of integration and effective retention efforts, stating:

> Effective [retention] programs concern themselves with the integration of all individuals into the mainstream of the social and intellectual life of the institution and into the communities of people which make up that life. They consciously reach out and make contact with students in a variety of settings in order to establish personal bonds among students and between students, faculty, and staff members of the institution. *Particularly important is the continuing emphasis upon frequent and rewarding contact between faculty, staff, and students in a variety of settings both inside and outside the formal confines of the classrooms . . . of institutional life* [emphasis added]. (pp. 147-148)

Texting and the digital space serve as a setting outside of the formal confines of the classroom and should be incorporated into an institution's retention efforts.

Additionally, the findings expand upon Pascarella and Terenzini's (1980) IIS by examining how a student's intent to persist is influenced by interaction with an advisor using the nearly universal practice of texting (Pew Research Center, 2017). Texting has become an

increasingly preferred form of communication by the traditional college student (Seemiller, 2017; Swanson et al., 2018; Taylor & Serna, 2019b). The significant positive correlation between a student's perception of their interaction with an advisor via text and their intent to persist found within this study, coupled with texting's increase in preference, supports interaction via text's inclusion as a contributor to the integration which occurs in the student experience.

RQ2 examines if there was any difference in a student's intent to persist given the amount of texting that occurred between the student and advisor. There was no significant difference among the various groups. When looking at the average mean (see Figure 14), students who indicated they had not texted with an advisor scored higher on the institutional goals and commitment scale than any other category. However, 35% of the population are first-year students, completing the survey in their first semester, and may not have an established relationship with an advisor and/or may be overly optimistic about their intent to persist regardless. The increase seen in the scores for institutional goals and commitments based on the increasing amount of texting with at least one text, although not significant, is promising.

Tippetts et al. (2020) indicated the number of face-to-face meetings had an impact on student persistence. While texting does not constitute a meeting, it is contact that occurs between a student and advisor, and regular and frequent contact has been known to contribute to retention (Capstick et al., 2019; Tinto, 1975, 1993). Tippets et al., (2022) found that a student who participated in a texting program within an advising function was 1.48 times more likely to persist through the end of a semester. Furthermore, contact through texting can serve to facilitate actual meetings with an advisor (Castleman & Meyers, 2020; CohenMiller, 2019; Junco et al., 2016). In this study, Student 9 and Student 4 both indicated they had used texting as a means to set up in-person meetings with an advisor with questions "Hey, can I set up a meeting with you

to talk later?" and "Do you have any time available today to help me with some of my classes and something I'm struggling with?" respectively. Texting can add a dimension to the advisor-student interaction that can lead to further integration and a higher likelihood of persistence as noted by Tinto (1975, 1993).

Additionally, interviews with students indicated texting had a positive impact on their relationship with their advisor. This is substantial given the significance of the student-advisor relationship in the student experience (D'Alessio & Banerjee, 2016; Dial & McKeowen, 2020; Drake, 2011; Harris, 2018). Student 8 stated, "I felt like, literally, my advisor is texting me, so I know they really care." Student 5 echoed this sentiment saying, "When I text my advisor, I create a stronger bond with her." Furthermore, texting provides an intimacy other forms of communication lack (Vermeulen et al., 2018a; Vermeulen et al., 2018b). Student 6 noted the intimacy texting allows and its influence on the student-advisor relationship, expressing, "I think it [texting] can show they [advisors] care more, because that is a more personal, intimate setting to receive communication." Texting is an avenue for strengthening the student-advisor relationship and affecting further interactions with advisors which should consequently affect the student's intent to persist.

Interviews with students revealed that texting can be implemented as a tool by advisors to encourage students about enrollment. This supports previous research surrounding the inclusion of texting within the advising function and its impact on persistence (Tippetts et al., 2020). Students 6 and 13 both spoke positively of their experience texting with an advisor, particularly in terms of enrollment in subsequent semesters. Student 6 talked about texting's ability to be used as a "reminder" for enrollment, while Student 13 mentioned texting as an easy way for the advisor to contact her regarding enrollment in the next semester.

The combination of results from research question 1 and research question 3 suggest texting has a place within the communication that occurs as part of the advising function, while the results from research question 2 indicate the amount of texting is insignificant. The significant positive correlation (r_s = .170) associated with the interactions via text with an advisor and the student's intent to persist, as well as the contributions of the interviews, shows such a practice is impactful.

Recommendations for Further Research

Academic advising has long been seen as a positive contributor to student retention (Drake, 2011; Hatch & Garcia, 2017; Sanders & Killion, 2017; Uddin; 2020). As such, the communication and interaction which occurs between the student and the advisor has increased in importance (DeLaRosby, 2017; Hatch & Garcia, 2017; Lynch & Lungrin, 2018; Thomas & McFarlane, 2018; Yunusova, 2021). Additionally, there is an emergence and growing prevelance of new communication technologies such as social media, messaging applications, and texting (Russett & Waldron, 2017), with texting being ubiquitous throughout the college-student population (Pew Research Center, 2017; 2021; Seemiller, 2017). Thus, further examination of the communication within the student-advisor relationship with the inclusion of new technologies is recommended (Swanson, et al., 2018l; Tippetts et al., 2021). This study and its findings will contribute to the research and body of literature on retention by exploring student experience using text to communicate with an advisor, and its impact on their intent to persist.

A limitation of this study was the type of institution the researcher chose to conduct the study. The researcher utilized three small colleges classified as baccalaureate colleges: diverse fields by the Carnegie Classification of Institutions of Higher Education (2021) with total enrollments ranging from 721 to 2,100. The researcher chose these institutions as sites for survey

distribution because of the size and/or access to the student population to achieve an adequate sample size and to maintain homogeny among the sites (Theofanidis & Fountouki, 2018). As this study focused on the student experience of texting with academic advisors in an undergraduate, liberal arts context, the application of findings to other institutions' students such as two-year associate's colleges (including career and technical focus) or graduate colleges would require additional research to determine the impact on the experience of texting as a phenomenon for those unique student populations. The study also only included institutions from the Midwest United States. Participant experiences may differ based on geographic region as well as types of communities such as urban and rural. As a result, delimitations identified within the study include differences among types of institution, demographics, regions, size, or community settings. Additional research could be done by conducting similar studies at different type and sized institutions from different locations and expanding on the demographic research within the field (Alvarado & Olson, 2020).

Additionally, a limitation of the study is the inability to control the advising function and process at each site, and thus expectations within the advising model may vary (Alvarado & Olson, 2020; Kapinos, 2021). Moreover, perceived differences by students and/or institutions surrounding the role and definition of advisor can be considered a limitation. Because the study focused on three institutions, and because there are no uniform standards for advising functions, the findings may not be applicable to all advising programs. Institutional advising structure varies across different institutions (DeLaRosby, 2017). Advisors can be faculty members or professional advisors depending on the institutional structure (DeLaRosby, 2017; Fassett, 2020; He & Hutson, 2017; Tinto, 1993). The scope of the advising structure, including who the advisor is (faculty member or professional staff), and how, when, and how much advisors communicate

within a given advising process, was not examined. Therefore, additional research at institutions with similar advising structure and practices may help to strengthen the findings of this study.

The study included the utilization of first-year students in their first semester as participants. Additionally, the survey was conducted within the first two months of attendance at their respective institution. Given the timing of the survey and the varying advising processes at participating sites, the first-year students may not have had the opportunity to have meaningful interactions with their advisor (Capstick et al., 2019). Additional research conducted later in the semester or in the 2nd semester of the school year could be completed to capture more students who have had more experience with the advising function. Furthermore, a longitudinal study to examine student perception at multiple points in their career may provide additional insight into the academic advising function, the communication that occurs between the student and advisor, and student persistence patterns.

Participants of this study completed the online survey voluntarily with answers surrounding their interactions with advisors via text and their intent to persist. Self-selection and self-reporting such as this limit the generalization of the results (Ross & Bibler, 2019; Theofanidis & Fountouki, 2018). Furthermore, the qualitative portion of the study inherently has limitations surrounding bias, analysis, and interpretation (Marshall & Rossman, 2016). The researcher employed the assistance of an expert in qualitative analysis to evaluate the interview questions for bias and member checking to ensure student experience and perception were accurately represented. Future research examining specific institutional data surrounding texting practices between students and advisors and persistence data, as well as the inclusion of student and advisor experiences with texting, would expand upon the results found within this study.

Lastly, following the beginning of the COVID-19 pandemic, studies have encouraged the

exploration and transition to technology-mediated advising (Hu, 2020; Van et al., 2020). The lasting impact of the COVID-19 pandemic has yet to be determined, and continued research surrounding students' evolving communication preferences and practices in light of the pandemic may provide further insight. Moreover, student receptivity to texting as an advising tool reinforces the need for further research in this area (Tippetts et al., 2021).

Implications for Professional Practice

The findings of this study suggest institutions should utilize texting to communicate with the student population to positively influence the students' intent to persist and to impact institutional retention efforts. This study found communication via text message served as a vehicle for improving efficiency in communication, increasing rapport between the student and advisor, and promoting further communication between student and advisor. This study is important because student communication with an advisor via text as a form of integration, and its influence on students' intent to persist is not well established.

The quantitative and qualitative findings of this study on the use of texting in advisor-student interactions support Tinto's (1975, 1993) model that academic and social integration influences students' intent to persist. Within Tinto's model, integration in the academic and social setting are a contributing factor to a student's intent to persist (Pascarella & Terenzini, 1980; Tinto, 1975, 1993, 2006). Further understanding of the student/advisor relationship has the potential to improve retention rates or positively impact institutions'retention efforts (Lynch & Lungrin, 2018; Sanders & Killion, 2017; Thomas & McFarlane, 2018). College and universities should look to implement texting between the student and the advisor to further the integration of the student in the academic and social setting, positively influencing students' intentions to persist and consequently influencing institutional retention efforts.

While the use of texting within the advising function is a novel practice, there are other studies that support the findings of this study and the use of texting between students and advisors to impact student persistence and retention efforts. This study demonstrated that there is a significant positive correlation between a student's interaction with an advisor via text and their intent to persist. This study, which uses the "Interaction with an Advisor via Text" subscale as a measure of integration, along with previous studies (Castleman & Meyers, 2020; Junco et al., 2016) that demonstrate texting as a contributor to further interaction between a student and advisor, further support the inclusion of texting to increase integration. Furthermore, while this study examines a student's intent to persist, a previous study by Tippetts et al. (2021) found students who participated in a two-way texting program with advisors were more likely to persist than those that did not participate. Thus, to enhance institutional advising efforts, the strategic expansion of communication between students and advisors is necessary (Tippetts et al., 2020). The inclusion of texting within the advising strategy should be considered to contribute to the institutional integration of the student.

Student communication trends suggest texting as an increasingly preferred form of communication (Seemiller, 2017; Swanson et al., 2018; Taylor & Serna, 2019b), thus institutions should consider the inclusion of texting in their advising strategies. This study demonstrated student experience with texting an advisor was generally positive and used for its convenience, ease, immediacy, and development of their relationship with an advisor, and, in some, persistence in subsequent terms. These finding are in line with past research surrounding the immediacy and intimacy expected in communication between an advisor and student (Anft, 2018; Carr, 2021; Rew & Hosterman, 2018; Romsa et al., 2017). Texting provides the immediacy (Baytiyeh, 2018; Vermeulen et al., 2018a) and intimacy (Vermeulen et al., 2018a;

Vermeulen et al., 2018b) expectations of Generation Z.

Tippetts et al. (2021) examined student and advisor receptiveness to texting, and both populations acknowledged texting's ability to improve communication between the student and advisor, especially at relational, conceptual, and informational levels. Research stresses the importance of the student-advisor relationship and the impact that relationship has on student integration and, consequently, persistence and retention (Anft, 2018; Mayhew et al., 2016; Pascarella & Terenzini, 1980; Tinto, 1993). The positive outlook on texting between the student and advisor, and the significant positive correlation between student-advisor interaction via text and the student's intent to persist, as identified within this study, suggest its inclusion as a standard form of communication in the advising function could have positive impacts on a student's intent to persist and institutional retention efforts.

Conclusion

The projected student decline expected over the next 10 years (Barshay, 2018; Grawe, 2018, 2021), as well as the recent decline in freshman and total student enrollment (National Student Clearinghouse Research Center, 2021b), is concerning for higher education institutions moving forward, particularly given the insertion of an unpredicted pandemic. In response, institutions have placed heightened emphasis on their retention efforts (Elliot, 2020; Grawe, 2018, 2021; Lynch & Lungrin, 2018; Sanders & Killion, 2017) with academic advising being recognized as instrumental in retaining students (Drake, 2011; Sanders & Killion, 2017; Tinto, 1975, 2007; Uddin & Johnson, 2019). This explanatory sequential mixed methods study explored students' experiences regarding how student-advisor interaction via text messaging impacts their institutional commitment to persist in their degree program.

The study found a significantly positive correlation between the interaction that occurred

with an advisor via text and a student's intent to persist. This finding further supports advisor and student communication as a component of the integration of students in the academic and social communities on campus (Hart-Baldridge, 2020; Tinto 1975, 1993). The amount of texting, however, did not significantly impact the student's intent to persist. Additionally, texting with an advisor contributes to perceived efficiencies in communication, facilitation of other forms of communication, and further development of the student-advisor relationship.

Texting as a strategy of the advising function's communication with students has become a necessity. Texting aligns with current student preferences and, given the unforeseen impacts of the COVID-19 pandemic, may become a more prioritized form of communication. The strategic inclusion of texting in the advising communication function can positively influence a student's intent to persist and be a contributing factor to institutional retention efforts in the face of enrollment uncertainty in the coming years.

References

ACT. (2010). *What works in student retention? Fourth national survey.* ACT, Inc. 500 ACT Drive, P.O. Box 168, Iowa City, IA 52243-0168. https://files.eric.ed.gov/fulltext/ED510474.pdf

Akinsanmi, T., & Olanrewaju, O. (2020). Declining budgetary allocation to higher education in the United States: Causes and consequences for economic development. *Journal of Economics and Sustainable Development*, *11*(10), 106–111. https://doi.org/10.7176/JESD/11-10-12

Alvarado, A. R., & Olson, A. B. (2020). Examining the relationship between college advising and student outputs: A content analysis of the NACADA Journal. *NACADA Journal*, *40*(2), 49-62. http://dx.doi.org/10.12930/NACADA-19-33

Anft, M. (2018). Student needs have changed. Advising must change, too. *Chronicle of Higher Education, 64*(37), 24. https://www.chronicle.com/article/student-needs-have-changed-advising-must-change-too/

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

Baker, B. A., Caison, A. L., & Meade, A. W. (2007). Assessing gender-related differential item functioning and predictive validity with the institutional integration scale. *Educational and Psychological Measurement*, *67*, 545–559. https://doi.org/10.1177/0013164406292088

Bakke, E. (2010). A model and measure of mobile communication competence. *Human Communication Research*, *36*(3), 348–371. https://doi.org/10.111/j.1468-2958.2010.01379.x

Barber, V.H. (2020). Teaching and engaging Generation Z during the coronavirus. *The Department Chair*, *31*(1), 23–25. https://doi.org/10.1002/dch.30335

Barbera, S.A., Berkshire, S.D., Boronat, C.B., & Kennedy, M.H. (2020). Review of undergraduate student retention and graduation since 2010: Patterns, predictions, and recommendations for 2020. *Journal of College Student Retention: Research, Theory, and Practice*, *22*(2), 227–250. https://doi.org/10.1177/1521025117738233

Barnes, L. J., & Parish, R. (2017). Improving student-perceived benefit of academic advising within education of occupational and physical therapy in the United States: a quality improvement initiative. *Journal of Educational Evaluation for Health Professions*, *14*. https://doi.org/10.3352.jeehp.2017.14.4

Barshay, J. (2018). College students predicted to fall by more than15% after the year 2025. *The Hechinger Report,* September 10, 2018. https://hechingerreport.org/college-students-predicted-to-fall-by-more-than-15-after-the-year-2025

Baytiyeh, H. (2018). Students' use of mobile technologies: Motivational factors. *International Journal of Information and Communication Technology Education (IJICTE)*, *14*(1), 73–85. https://doi.org/10.4018/IJICTE.2018010106

Birkeland, K. F., Davies, T. L., & Heard, C. A. (2019). College mentoring 101: Student preferences and needs. *College Student Journal*, *53*(3), 315–326.

Bowen, P., Richard, R., & Pilkkington, A. (2017, May). Mixed methods—Theory and practice. Sequential, explanatory approach. *International Journal of Quantitative and Qualitative Research Methods*. *5*(2). 10–27

Braun, J., & Zolfagharian, M. (2016). Student participation in academic advising: Propensity, behavior, attribution, and satisfaction. *Research in Higher Education*, *57*(8), 968–989. https://doi.org/10.1007/s11162-016-9414-2

Brooks, D. C. (2016) ECAR study for undergraduate and information technology, 2017. In *EDUCAUSE*. EDUCAUSE

Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative research*, *6*(1), 97–113. https://doi.org/10.1177/1468794106058877

Bryman, A., & Cramer, D. (2005). Quantitative data analysis with SPSS 12 and 13. Routledge.

Bujang MA, Nurakmal B. (2016) Sample size guideline for correlation analysis. *World Journal of Social Science Research, 3*(1):37–46. https://doi.org/10.22158/wjssr.v3n1p37

Caison, A. (2007). Analysis of institutionally specific retention research: A comparison between survey and institutional databases methods. *Research in Higher Education*, *48*, 435–451. https://doi.org/10.1007/s11162-006-9032-5

Capstick, M. K., Harrell-Williams, L. M., Cockrum, C. D., & West, S. L. (2019). Exploring the effectiveness of academic coaching for academically at-risk college students. *Innovative Higher Education*, *44*(3), 219–231. https://doi.org/10.1007/s10755-019-9459-1

Carmean, C. M., & Frankfort, J. (2018, July 6). The right way to nudge students. *Chronicle of Higher Education*, *64*(37), 23. https://www.chronicle.com/article/the-right-way-to-nudge-students/

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment (Vol. 17).* Sage Publications. https://doi.org/10.4135/9781412985642

The Carnegie Classification of Institutions of Higher Education. (2021) *Size and setting.* The Carnegie Classification of Institutions of Higher Education. https://carnegieclassifications.iu.edu/classification_descriptions/size_setting.phphp

Carr, J. M., Rogers, K. S., & Kanyongo, G. (2021). Improving student and faculty communication: the impact of texting and electronic feedback on building relationships and the perception of care. *Research in Learning Technology*, 29. https://doi.org/10.25304/rlt.v29.2463

Castleman, B. L., & Meyer, K. E. (2020). Can text message nudges improve academic outcomes in college? Evidence from a West Virginia initiative. *Review of Higher Education*, 43(4), 1125–1165. https://doi.org/10.1353/rhe.2020.0015

Castleman, B. L., & Page, L. C. (2016). Freshman year financial aid nudges: An experiment to increase FAFSA renewal and college persistence. *Journal of Human Resources*, *51*(2), 389–415. https://doi.org/10.3368/jhr.51.2.0614-64558R

Causey, J., Huie, F., Lang, R., Ryu, M., & Shapiro, D. (2020). Completing college 2020: A national view of student completion rates for 2014 entering cohort. (Signature Report No. 19). *National Student Clearinghouse*. https://files.eric.ed.gov/fulltext/ED609975.pdf

Chan, Z. C. Y., Chan, H. Y., Chow, H. C. J., Choy, S. N., Ng, K. Y., Wong, K. Y., & Yu, P. K. (2019). Academic advising in undergraduate education: A systematic review. *Nurse Education Today*, *75*(January), 58–74. https://doi.org/10.1016/j.nedt.2019.01.009

Chung, E., Turnbull, D., & Chur-Hansen, A. (2017). Differences in resilience between 'traditional' and 'non-traditional' university students. *Active Learning in Higher Education*, *18*(1), 77–87. https://doi.org/10.1177%2F1469787417693493

Chrysikos, A., Ahmed, E., & Ward, R. (2017). Analysis of Tinto's student integration theory in first-year undergraduate computing students of a UK higher education institution. *International Journal of Comparative Education and Development*. https://doi.org/10.1108/IJCED-10-2016-0019

CohenMiller, A. S. (2019). Texting with students: Facilitating learning in higher education. *Preparing the higher education space for Gen Z.* (H. Schnackenberg, & C. Johnson, Eds.). IGI Global Publishing. https://doi.org/10.4018/978-1-5225-7783-8.ch009

Crecelius, A.R., & Crosswhite, P.L. (2020). Advising physiology students: Perceptions from the programs. *Advances in Physiology Education*, *44*(4), 646–652. https://doi.org/10.1152/advan.00184.2019

Creswell, J. W. (2015). *A concise introduction to mixed methods research*. Sage.

Creswell, J. W., & Plano Clark, V. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage.

Crockett, D. S. (1978). Academic advising: A cornerstone of student retention. *New Direction for Student Services*, *1978*(3), 29–35. https://doi.org/10.1002/ss.37119780306

D'Alessio, K. A., & Banerjee, M. (2016). Academic advising as an intervention for college students with ADHD. *Journal of Postsecondary Education and Disability*, *29*(2), 109-121.

Davis, L.L. (1992). Instrument review: Getting the most from your panel of experts. *Applied Nursing Research*, *5*, 194–197. https://doi.org/10.1016/S0897-1897(05)80008-4

Delaney, J., & Doyle, W. (2014). State spending on higher education capital outlays. *Research in Higher Education, 55*(5), 433–466. https://doi.org/10.1007/s1162-013-9319-2

DeLaRosby, H. R. (2017). Student characteristics and collegiate environments that contribute to the overall satisfaction with academic advising among college students. *Journal of College Student Retention: Research, Theory & Practice, 19*(2), 145–160. https://doi.org/10.1177/1521025115611618

Dennis, M. J. (2021). Pre-COVID-19 realities will become post-COVID-19 inevitables. *Enrollment Management Report*, *25*(2), 3–11. https://doi.org/10.1002/emt.30775

DeVellis, R. (2003). *Scale development: Theory and applications* (2nd ed.). Sage Publications.

Dial, M., & McKeown, P. (2020, November 18). Academic early alert and intervention: Why academic advisors are best suited to intervene with at-risk students. *Academic Advising Today*. https://nacada.ksu.edu/Resources/Academic-Advising-Today/View-Articles/Academic-Early-Alert-and-Intervention-Why-Academic-Advisors-Are-Best-Suited-to-Intervene-with-At-Risk-Students.asp

Donaldson, P., McKinney, L., Lee, M., & Pino, D. (2016). First-year community college students' perceptions of and attitudes toward intrusive academic advising. *NACADA Journal*, *36*(1), 30–42. https://doi.org/10.12930/NACADA-15-012

Drake, J. K. (2011). The role of academic advising in student retention and persistence. *About Campus, 16*(3), 8–12. https://doi.org/10.1002/abc.20062

Duque, L. C. (2014). A framework for analysing higher education performance: students' satisfaction, perceived learning outcomes, and dropout intentions. *Total Quality Management and Business Excellence*, *25*(1–2), 1–21. https://doi.org/doi.org/10.1080/14783363.2013.807677

Dwyer, T. (2017) Persistence in higher education through student-faculty interactions in the classroom of a commuter institution. *Innovations in Education and Teaching International. 52*(2), 325–334. https://doi.org/10.1080/14703297.2015.1112297

Elliott, R. W. (2020). Keeping college students in the game: A review of academic advising. *Interchange (0826–4805)*, *51*(2), 101–116. https://doi.org/10.1007/s10780-020-09401-5

Fassett, K., Woodlee, K. M., & BrckaLorenz, A. (2020). New insights into faculty advising: An overview of national patterns and trends. https://scholarworks.iu.edu/dspace/handle/2022/25850

Ferraro, F. R. (2018). Does age impact text-message dependence? *Journal of General Psychology*, *145*(2), 199–207. https://doi.org/10.1080/00221309.2018.1459453

Field, A. (2013). *Discovering statistics using IBM SPSS Statistics*. (4th ed). Sage Publications.

Fletcher, A. C., Benito-Gomez, M., & Blair, B. L. (2018). Adolescent cell phone communications with mothers and fathers: Content, patterns, and preferences. *Journal of Child and Family Studies*, *27*(7), 2125–2137. https://doi.org/10.1007/s10826-018-1054-z

French, B. F., & Oakes, W. (2004). Reliability and validity evidence for the Institutional Integration Scale. *Educational and Psychological Measurement*, *64*, 88–98. https://doi.org/10.1177/0013164403258458

Grawe, N. D. (2018). *Demographics and the demand for higher education*. Johns Hopkins University Press.

Grawe, N. D. (2021). *The agile college: How institutions successfully navigate demographic changes*. John Hopkins University Press.

Green, D. D., & McCann, J. (2021). The Coronavirus effect: How to engage Generation Z for greater student outcomes. *Management and Economics Research Journal*, *7*(1). https://doi.org/10.18639/MERJ.2021.9900041

Greene, J.C., Caracelli, V.J., & Graham, W.F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, *11*(3), 255–274. https://doi.org/10.3102/01623737011003255

Guglielmino, L. M. (1989). Reactions to Field's investigation into the SDLRS. *Adult Education Quarterly*, *39*(4), 235–245. https://doi.org/10.1177/0001848189039004005

Gutierrez, F., Seipp, K., Ochoa, X., Chiluiza, K., De Laet, T., & Verbet, K. (2020). LADA: A learning analytics dashboard for academic advising. *Computers in Human Behavior*, *107*(2020). https://doi.org/10.1016/j.chb.2018.12.004

Gutiérrez-Porlán, I., Román-García, M., Sánchez-Vera, M. (2018). Strategies for the communication and collaborative online work by university students. *Comunicar*, *26*(54), 91–99. https://doi.org/10.3916/C54-2018-09

Harris, T. A. (2018). Prescriptive vs. developmental: Academic advising at a historically black university in South Carolina. *NACADA Journal, 38*(1), 36–46. https://doi.org/10.12930/NACADA-15-010

Hart-Baldridge, E. (2020). Faculty advisor perspectives of academic advising. *NACADA Journal*, *40*(1), 10–22. https://doi.org/10.12930/NACADA-18-25

Hatch, D. K., & Garcia, C. E. (2017). Academic advising and the persistence intentions of community college students in their first weeks in college. *The Review of Higher Education*, *40*(3), 353–390. https://doi.org/10.1353/rhe.2017.0012

He, Y. & Hutson, B. (2017, January 1). Assessment for faculty advising: Beyond the service component. *NACADA Journal*. *37*(2), 66–75. https://doi.org/10.12930/NACADA-16-028

Himes, H. A. (2014). Strengthening academic advising by developing a normative theory. *NACADA Journal, 34*(1), 5–15. https://doi.org/10.12930/NACADA-13-020

Holte, A. J., & Ferraro, F. R. (2018). Tethered to texting: Reliance on texting and emotional attachment to cell phones: Research and reviews. *Current Psychology.* 1–8. https://doi.org/10.1007/s12144-018-0037-y

Hong, H. T. S., Bello, K. B., & bin Mohamad, S. (2021). Executing strategic risks mitigation plan amidst VUCA situation: a lesson from COVID-19. *Asia Proceedings of Social Sciences*, *8*(1), 55–59. https://doi.org/10.31580/apss.v8i1.1955

Hu, X. (2020). Building an equalized technology-mediated advising structure: Academic advising at community colleges in the post-COVID-19 era. *Community College Journal of Research and Practice*, *44*(10-12), 914–920. https://doi.org/10.1080/10668926.2020.1798304

Institutional and Financial Assistance Information for Students Act, 20 U.S.C. §1092 (1986) https://uscode.house.gov/view.xhtml?req=(title:20%20section:1092%20edition:prelim)%20OR%20(granuleid:USC-prelim-title20-section1092)&f=treesort&edition=prelim&num=0&jumpTo=true

Israel, G. D. (1992). Determining sample size. *IFAS, University of Florida, PEOD-5*.

Jaggars, S. S., & Karp, M. M. (2016). The transfer mission: Tried and true, but troubled? Community college missions in the twenty-first century: Transfer rates and transfer student performance. *New Directions for Community Colleges*, *(176),* 53–63. https://doi.org/10.1002/cc.20222

Jaradat, M. S., & Mustafa, M. B. (2017). Academic advising and maintaining major: Is there a relation? *Social Sciences*, *6*(4), 151. https://doi.org/doi.org/10.3390/socsci6040151

Johnson, S. R., & Stage, F. K. (2018). Academic engagement and student success: Do high-impact practices mean higher graduation rates? *The Journal of Higher Education*, *89*(5), 753–781. https://doi.org/10.1080/00221546.2018.1441107

Junco, R., Mastrodicasa, J. M., Aguiar, A. V., Longnecker, E. M., & Rokkum, J. N. (2016). Impact of technology-mediated communication on student evaluations of advising. *NACADA Journal*, *36*(2), 54–66. https://doi.org/10.12930/nacada-16-014

June, A. W. (2020, March 10). Are colleges prepared to move all of their classes online? *The Chronicle of Higher Education.* https://www.chronicle.com/article/Are-Colleges-Prepared-to-Move/248217

Kalamkarian, H. S., & Karp, M. M. (2017). Student attitudes toward technology-mediated advising systems. *Online Learning Journal*, *21*(2). https://doi.org/10.24059/olj.v21i2.918

Kansas Independent College Association. (n.d.). Colleges and Universities. Retrieved from http://www.kscolleges.org/colleges-universities

Kapinos, B. (2021). The perceptions community college advising coordinators have of their institutional advising models: An exploratory study. *The Journal of the National Academic Advising Association*, *41*(1), 80–93.https://doi.org/10.12930/NACADA-20-22

Karimshah, A., Wyder, M., Henman, P., Tay, D., Capelin, E., & Short, P. (2013). Overcoming adversity among low SES students. A study of strategies for retention. *Australian Universities' Review, 55*(2), 5–14. https://doi.org/10.1037/ppm0000100

Kelly, L., Keaten, J., Becker, B., Cole, J., Littleford, L., & Rothe, B. (2012). "It's the American lifestyle!": An investigation of text messaging by college students. *Qualitative Research Reports in Communication*, *13*(1), 1–9. https://doi.org/10.1080/17459435.2012.719203

Klempin, S., Kalamkarian, H. S., Pellegrino, L., & Barnett, E. A. (2019). A framework for advising reform. *Columbia University, Teachers College, Community College Research Center*. https://files.eric.ed.gov/fulltext/ED597852.pdf

Kline, R. (2005). *Principles and practice of structured equation modeling* (2nd ed.). Guildford.

Laerd Statistics. (2018). Statistical tutorials and software guides. Retrieved from https://statistics.laerd.com/

Lema, J., & Agrusa, J. (2019). Augmented advising. *NACADA Journal*, *39*(1), 22–33. https://doi.org/10.12930/NACADA-17-018

Levine, A., & Dean, D. R., (2012). *Generation on a tightrope: A portrait of today's college student*. Jossey-Bass.

Lister-Landman, K. M., Domoff, S. E., & Dubow, E.F. (2017). The role of compulsive texting in adolescents' academic functioning. *Psychology of Popular Media Culture*, *6*(4), 311–325. https://doi.org/10.1037/ppm0000100

Lynch, J., & Lungrin, T. (2018). Integrating academic and career advising toward student success. *New Directions for Higher Education*, *2018*(184), 69–79. https://doi.org/10.1002/he.20304

Mannan, M. (2007). Student attrition and academic and social integration: Application of Tinto's model at the University of Papua New Guinea. *Higher Education*, *53*(2), 147–165. https://doi.org/10.1007/s10734-005-2496-y

Manyanga, F., Sithole, A., & Hanson, S. M. (2017). Comparison of student retention models in undergraduate education from the past eight decades. *Journal of Applied Learning in Higher Education*, *7*, 30–42. https://files.eric.ed.gov/fulltext/EJ1188373.pdf

Marshall, C. & Rossman, G. (2016). *Designing qualitative research* (6th ed.). Sage.

Martuza, V.R. (1977). *Applying norm-referenced and criterion-referenced measurement in education*. Allyn & Bacon

Mayhew, M., Rockenbach, A., Bowman, N., Seifert, T., Wolniak, G., Pascarella, E., & Terenzini, P. (2016). *How college affects students: 21st century evidence that higher education works. Volume 3*. Jossey-Bass Publishers

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

Mintz, B. (2021). Neoliberalism and the crisis in higher education: The cost of ideology. *American Journal of Economics and Sociology*, *80*(1), 79–112. https://doi.org/10.111/ajes.12370

Mohr K., Mohr E. (2017). Understanding Generation Z students to promote a contemporary learning environment. *Journal on Empowering Teaching Excellence, 1*(1), 84–94.

Moody, J. (2019, May 19). A college guide for the nontraditional student. *US News*. https://www.usnews.com/education/best-colleges/articles/2019-05-30/a-college-guide-for-nontraditional-students

Morreale, S., Staley, C., Stavrositu, C., Krakowiak, M., Morreale, S., Staley, C., & Stavrositu, C. (2015). First-year college students' attitudes toward communication technologies and their perceptions of communication competence in the 21st century. *Communication Education*, *64*(1), 107–131. https://doi.org/10.1080/03634523.2014.978799

Moustakas, C. (1994). *Phenomenological research methods*. Sage.

Muller, K., Feuer, E., Nyman, M., Sokolowski, K., & Rotella, L. (2017). Examining predictors of first year college student retention. *The New York Journal of Student Affairs*, *17*(1), 2. https://commons.library.stonybrook.edu/cgi/viewcontent.cgi?article=1017&context=nyjsa

National Center for Education Statistics. (2018, January). *Digest of Education Statistics* (Table 330.10). https://nces.ed.gov/programs/digest/d17/tables/dt17_330.10.asp

National Center for Education Statistics (2021). *College Navigator*. Retrieved from https://nces.ed.gov/collegenavigator/

National Student Clearinghouse Research Center. (2021a, July 21). *Persistence and Retention*. https://files.eric.ed.gov/fulltext/ED609888.pdf

National Student Clearinghouse Research Center (2021b, November 18). *Stay Informed.* https://nscresearchcenter.org/stay-informed/

Nicoletti, M. D. C. (2019). Revisiting the Tinto's theoretical dropout model. *Higher Education Studies*, *9*(3), 52–64. https://doi.org/10.5539/hes.v9n3p52

Noel, L., & Levitz, R., & Saluri, D. (Eds.) (1985). *Increasing student retention: New challenges and potential.* Jossey-Bass.

Nunnally, J. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.

Oreopolous, P. & Petronijevic, U. (2019). The remarkable unresponsiveness of college students to nudging and what we can learn from it. *National Bureau of Economic Research.* https://doi.org/10.2139/ssrn.3427597

Pallant, J. (2001). *SPSS survival manual*. Open University Press

Pascarella, E. & Terenzini, P. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *Journal of Higher Education*, *51*(2), 60–75. https://doi.org/10.2307/1981125

Pascarella, E. T., & Terenzini, P. T. (1983). Predicting voluntary freshman year persistence/withdrawal behavior in a residential university: A path analytic validation of Tinto's model. *Journal of Educational Psychology*, *75*(2), 215. https://doi.org/10.1037/0022-0663.75.2.215

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

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research. Volume 2*. Jossey-Bass Publishers.

Pavlov, O. V., & Katsamakas, E. (2020). Will colleges survive the storm of declining enrollments? A computational model. *PLoS One, 15*(8) https://doi.org/10.1371/journal.pone.0236872

Pawelek, K., & Cantu, A. (2014). Advising plus texting equals success. *Academic Advising Today*, *37*(3). https://nacada.ksu.edu/Resources/Academic-Advising-Today/View-Articles/Advising-plus-Texting-equals-Success.aspx

Petrilli, M. J. (2019). The baby bust goes to school. *Education Next, 19*(3). https://search-proquest-com.nnu.idm.oclc.org/docview/2248265687?accountid=36492

Pew Research Center. (2017). *Demographics of mobile device use*. http://www.pewinternet.org/fact-sheet/mobile/

Pew Research Center. (2021, April 7). *Mobile Fact Sheet*. https://www.pewresearch.org/internet/fact-

sheet/mobile/#:~:text=%20Mobile%20Fact%20Sheet%20%201%20Mobile%20phone,range%20of%20other%20information%20devices.%20Nearly...%20More%20

Polit, D.F., & Beck, C.T. (2004). *Nursing research: Principles and methods* (7th ed.) Lippincott, Williams, & Wilkins.

Polit, D.F. and Beck, C.T. (2006). The content validity index: Are you sure you know what's being reported? Critique and recommendations. *Research in Nursing & Health*. *29*, 489–497. https://doi.org/10.1002/nur.20147

Qayyum, A. (2018). Student help-seeking attitudes and behaviors in a digital era. *Revista de Universidad y Sociedad Del Conocimiento*, *15*(1), 1–16. https://doi.org/10.1186/s41239-018-0100-7

Rew, C., & Hosterman, A. R. (2018). Understanding texting etiquette: What factors determine when a person should respond to a text message? *Florida Communication Journal*, *46*(2), 1–13.

Rideout, V. (2016). Measuring time spent with media: The common-sense consensus of media use by US 8- to 18-year-olds. *Journal of Children and Media*, *10*(1), 138–144. https://doi.org/10.1080/17482798.2016.1129808

Robinson, S., & Stubberud, H. A. (2012). Communication preferences among university students. *Academy of Educational Leadership Journal, 16*(2), 105–113.

Romsa, K., Bremer, K. L., Lewis, J., & Romsa, B. (2017). The evolution of student-faculty interactions: What matters to millennial college students? *College Student Affairs Journal*, *35*(2), 85–99. https://doi.org/10.1353/csj.2017.0015

Russett, J., & Waldron, L. (2017). It's not real until it's on Facebook: A qualitative analysis of social media and digital communication among emerging adults in college. *Social Sciences, 6*(3), 74–91. https://doi.org/10.3390/socsci6030074

Sanders, M. & Killion, J. (2017). Advising in higher education. *Radiologic Science and Education: The Journal of the Association of Educators in Radiological Sciences, Inc.*, *22*(1), 15–21.

Schwieger, D., & Ladwig, C. (2018). Reaching and retaining the next generation: Adapting to the expectations of Gen Z in the classroom. *Information Systems Education Journal*, *16*(3), 45.

Seemiller, C. (2017). Motivation, learning, and communication preferences of Generation Z students. *EHearsay: Electronic Journal of the Ohio Speech-Language Hearing Association*, *7*(2), 4–9. https://www.ohioslha.org/wp-content/uploads/2017/12/Fall17Issue.pdf

Siegel, D., Acharya, P., & Sivo, S. (2017). Extending the technology acceptance model to improve usage & decrease resistance toward a new technology by faculty in higher education. *Journal of Technology Studies*, *43*(2), 58–69. https://doi.org/10.21061/jots.v43i2.a.1

Siegel, M. J. (2011). Reimagining the retention problem: Moving our thinking from end-product to by-product. *About Campus, 15*(6), 8–18. https://doi.org/10.1002/abc.20043

Simpson, R. (2018). Changing how we think about advising online students: One-stop student service advising model. *College and University, 93*(1), 2–9. https://search.proquest.com/eric/docview/203429212146CDCE766430BPQ/15

Smith, C. L., & Allen, J. M. (2014). Does contact with advisors predict judgments and attitudes consistent with student success? A multi-institutional study. *NACADA Journal, 34*(1), 50–63. https://doi.org/10.12930/NACADA-13-019

Steele, G. E. (2018). Student success: Academic advising, student learning data, and technology. *New Directions for Higher Education*, *2018*(184), 59–68. https://doi.org/10.1002/he.20303

Subedi, D. (2016). Explanatory sequential mixed method design as the third research community of knowledge claim. *American Journal of Educational Research. 4*. 570–577. https://doi.org/10.12691/education-4-7-10

Swanson, J. A., Renes, S. L., & Strange, A. T. (2018). The communication preferences of collegiate students. *International Association for Development of the Information Society*. https://doi.org/10.1007/978-3-030-48190-2_4

Taylor Z.W., & Serna, K. (2019a) “dont txt me l8r, text me now”: Exploring community college student preferences for receiving a text message from their institution. *Community College Journal of Research and Practice*. *44*(2) https://doi.org/10.1080/10668926.2018.1560374

Taylor, Z. W., & Serna, K. (2019b). 'U' won’t get a response: Community college student preferences for institutional text messages. *The Journal of Multidisciplinary Graduate Research*, *1*, 1–8. https://ssrn.com/abstract=3458597

Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Sage.

Terenzini, P. T., Lorang, W. G., & Pascarella, E. T. (1981). Predicting freshman persistence and voluntary dropout decisions: A replication. *Research in Higher Education*, *15*(2), 109–127. https://doi.org/10.1007/BF00979592

Theofanidis, D., & Fountouki, A. (2018). Limitations and delimitations in the research process. *Perioperative Nursing-Quarterly Scientific: Online Official Journal of GORNA*, *7*(3 September-December 2018), 155–163. https://doi.org/10.5281/zenodo.2552022

Thomas, C. L., & Allen, K. (2021). Investigating the influence of COVID-related worry on university enrollment intentions: An application of the reasoned action model. *Journal of College Student Retention: Research, Theory & Practice*. https://doi.org/10.1177/15210251211014812

Thomas, C., & McFarlane, B. (2018). Playing the long game: Surviving fads and creating lasting student success through academic advising. *New Directions for Higher Education*, *2018*(184), 97–106. https://doi.org/10.1002/he.20306

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89–125. https://doi.org/10.3102/00346543045001089

Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. University of Chicago Press.

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

Tinto, V. (2006). Research and Practice of Student Retention: What Next? *Journal of College Student Retention: Research, Theory & Practice, 8*(1), 1–19. https://doi.org/10.2190/4YNU-4TMB-22DJ-AN4W

Tinto, V. (2007). *Taking student retention seriously*. Syracuse, NY: Syracuse University.

Tinto, V. (2017). Reflections on student persistence. *Student Success*, *8*(2), 1–8. https://doi.org/10.5204/ssj.v8i2.376z

Tippetts, M. M., Brandley, A.T., Metro, J., King, M., Ogren, C., & Zick, C.D. (2020). Promoting persistence: The role of academic advisors. *Journal of College Student Retention: Research, Theory and Practice, Preprints.* https://doi.org/10.1177/1521025120924804

Tippetts, M. M., Davis, B., Nalbone, S., & Zick, C. D. (2022). Thx 4 the msg: Assessing the impact of texting on student engagement and persistence. *Research in higher education*, 1–21.

Tippetts, M., Davis, B., & Zick, C. D. (2021). Texting as an advising communication tool: A case study of receptivity and resistance. *Journal of College Student Retention: Research, Theory & Practice*. https://doi.org/15210251211033549

Tucker, J. E. (2000). Tinto's model and successful college transitions. *Journal of College Student Retention*, *1*(2), 163–175. https://doi.org/10.2190/809W-DRWN-1L42-H3QH

Uddin, M.M. (2020). Best practices in advising engineering technology students for retention and persistence to graduation. *The Journal of Technology, Management, and Applied Engineering*, *36*(1), 1–14.

Van, N. T., Said, H., Nor, F. M., Rameli, M. R. M., & Alhassora, N. S. A. (2020). Remote online academic advising during the COVID-19 pandemic: A Malaysian public university experience. *PalArch's Journal of Archaeology of Egypt/Egyptology*, *17*(7), 4622–4634.

Vermeulen, A., Vandebosch, H., & Heirman, W. (2018a). Shall I call, text, post it online or just tell face-to-face? How and why Flemish adolescents choose to share their emotions on-or offline. *Journal of Children and Media, 12*(1), 81–97. https://doi.org/10.1080/17482798.2017.1386580

Vermeulen, A., Vandebosch, H., & Heirman, W. (2018). # Smiling,# venting, or both? Adolescents' social sharing of emotions on social media. *Computers in Human Behavior*, *84*, 211–219. https://doi.org/10.1016/j.chb.2018.02.022

Walker, R. V., Zelin, A. I., Behrman, C., & Strnad, R. (2017). Qualitative analysis of student perceptions: "Some advisors care. Some don't." *NACADA Journal*, *37*(2), 44–54. https://doi.org/10.12930/NACADA-15-027

Walters, L., & Seyedian, M. (2016). Improving academic advising using quality function deployment: A case study. *College Student Journal*, *50*(2), 253–267.

Yeung, R., & Nguyen-Hoang, P. (2020). Using texting to nudge urban public school students to and through college. *Journal of Research on Technology in Education*, *52*(1), 113–127. https://doi.org/10.1080/15391523.2019.1683105

Yuen, V. (2020). Mounting peril for public higher education during the coronavirus pandemic. *Center for American Progress*. https://files.eric.ed.gov/fulltext/ED606582.pdf

Yunusova, V. (2021). Transition into higher education: The structure and practice of academic advising. *International E-Journal of Advances in Education*, *6*(18), 326–340. https://doi.org/10.18768/ijaedu.835612

Zhang, X., Gossett, C., Simpson, J., & Davis, R. (2019). Advising students for success in higher education: An all-out effort. *Journal of College Student Retention: Research, Theory and Practice*, *21*(1), 53–77. https://doi.org/10.1177/1521025116689097

Appendix A

Ethics and Human Subject Training Certification

ACRP

FOR LEARNING FOR LISTENING FOR LIFE

Certificate of Completion

Association of Clinical Research Professionals certifies that

Andrew Otto

has successfully completed

Ethics and Human Subject Protection: A Comprehensive Introduction

Version: Jan 2020

Date of completion: Feb 4, 2021

Jim Kremidas — Executive Director

ACRP

Appendix B

Northwest Nazarene IRB Approval

Andrew Otto <andrewotto@nnu.edu>

IRB approval.

Northwest Nazarene University <reply-to+8c6267d0-2efe-4d63-b467-a0e0c2e30279@email.submittable.com>

Mon, May 24, 2021 at 11:19 AM

To: andrewotto@nnu.edu

Submittable

Dear Andrew,

The IRB has reviewed your protocol: 0283: TEXTING AND INTEGRATION: A MIXED METHODS STUDY OF THE USE OF TEXTING IN THE ACADEMIC ADVISING FUNCTION. You received "Full Approval". Congratulations, you may begin your research. If you have any questions, let me know.

Northwest Nazarene University

[redacted]

IRB Member

623 S University Blvd

Nampa, ID 83686

REPLY VIEW SUBMISSION

Sent by **Submittable**.

111 Higgins Ave #300, Missoula, MT 59802

Help Center | **Terms and Conditions** | **Contact Us**

Appendix C

Site Permission Letters

College 1

Notification of Approval

Approval date July 1, 2021
IRB project # 21-13

Dear Andrew Otto,
Principal Investigator

The [redacted] Institutional Review Board (IRB) has reviewed your research application

Texting and Integration: A Mixed Methods Study of the Use of Texting in Academic Advising
Project Title

and found that it complies with policies established by the College for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

1. You must provide the IRB with an annual status report to maintain approval.
2. Any significant change in the experimental procedure as described must be reviewed by the IRB prior to altering the research.
3. Notify the IRB about any new investigators not named in the original application.
4. Any injury to a subject because of the research procedure must be reported to the IRB immediately.
5. When signed consent documents are required, the Principal Investigator must retain the signed consent documents for at least three years past completion of the research activity. If you use a signed Informed Consent form, provide a copy to subjects at the time of consent.
6. IRB approval and expiration dates must be included on all Informed Consent forms.
7. If this is funded research, keep a copy of this approval letter with your proposal/grant file.

Please inform the IRB when this project is terminated. Unless renewed, approval lapses one year after the approval date. If you have any questions, please contact me.

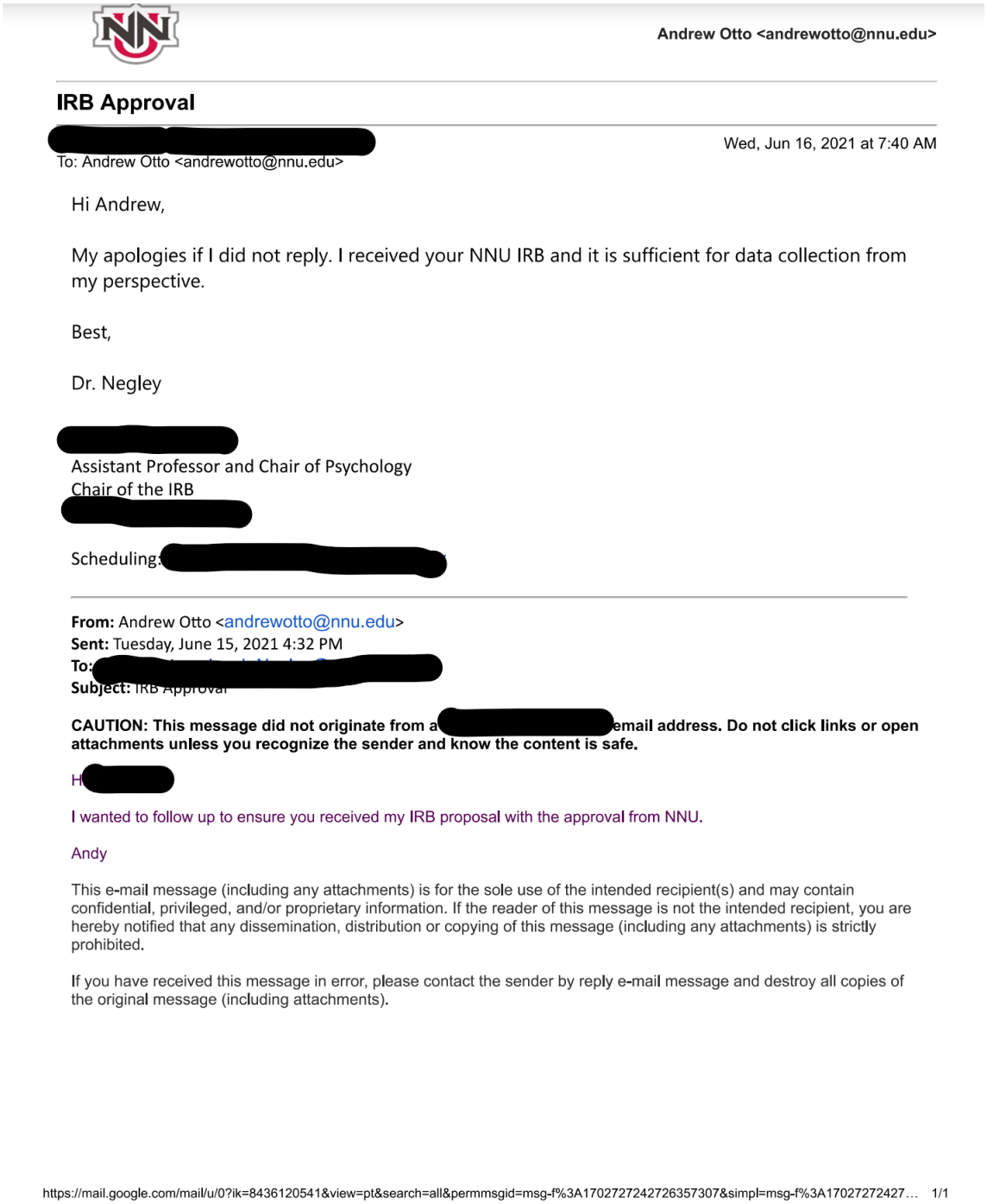
Sincerely,

[redacted]

Chair, [redacted] IRB

[redacted]

College 2



Andrew Otto <andrewotto@nnu.edu>

IRB Approval

[redacted] Wed, Jun 16, 2021 at 7:40 AM
To: Andrew Otto <andrewotto@nnu.edu>

Hi Andrew,

My apologies if I did not reply. I received your NNU IRB and it is sufficient for data collection from my perspective.

Best,

Dr. Negley

[redacted]
Assistant Professor and Chair of Psychology
Chair of the IRB
[redacted]

Scheduling: [redacted]

From: Andrew Otto <andrewotto@nnu.edu>
Sent: Tuesday, June 15, 2021 4:32 PM
To: [redacted]
Subject: IRB Approval

CAUTION: This message did not originate from a[redacted]email address. Do not click links or open attachments unless you recognize the sender and know the content is safe.

H[redacted]

I wanted to follow up to ensure you received my IRB proposal with the approval from NNU.

Andy

This e-mail message (including any attachments) is for the sole use of the intended recipient(s) and may contain confidential, privileged, and/or proprietary information. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this message (including any attachments) is strictly prohibited.

If you have received this message in error, please contact the sender by reply e-mail message and destroy all copies of the original message (including attachments).

College 3

Notice of Approval
IRB #21-A05

June 14, 2021

To: Andy Otto, Director of Enrollment

Dear Andy,

Thank you for submitting your application for approval of the "Texting and Integration: A Mixed Methods Study of the Use of Texting in The Academic Advising Function" through Ottawa University's Institutional Review Board (IRB) process.

On review of your research proposal, we have determined that your survey is exempt from IRB review, given that:

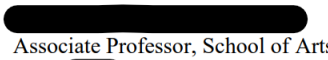
a. The proposed research qualifies for exemption from IRB review based on the Federal Register Title 45 § 46.101. More specifically, your investigation will involve:

   - Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as surveys in which no personal information is collected.

b. Participation is entirely voluntary with no incentives attached.
c. Consent is granted by opening the link to the survey.

Your project has been approved by your doctoral institution and we have a copy of that approval. It is being approved by the other schools at which research is being conducted. We would like to get a copy of those approvals for our records when you receive them.

Thank you, and best wishes with your investigation!



Associate Professor, School of Arts and Sciences
Chair[redacted] Institutional Research Board

Appendix D

Permission to Use Instrument

Andrew Otto <andrewotto@nnu.edu>

FW: [External] Request for Instrument Use

Otto, Andy <andy.otto@ottawa.edu> Thu, May 13, 2021 at 6:34 PM
To: "andrewotto@nnu.edu" <andrewotto@nnu.edu>

Sent from my iPhone

Begin forwarded message:

From: "Pascarella, Ernest T" <ernest-pascarella@uiowa.edu>
Date: March 18, 2021 at 10:50:12AM CDT
Subject: RE: [External] Request for Instrument Use

Thanks Andy: Certainly — feel free to use the scales in your research. Just cite appropriate sorces to give us credit for their development. Best of luck with your research. ernie

---

From: Otto, Andy <andy.otto@ottawa.edu>
Sent: Thursday, March 18, 2021 9:01 AM
To: Pascarella, Ernest T <ernest-pascarella@uiowa.edu> Subject: [External] Request for Instrument Use

Hi Dr. Pascarella,

I hope this email finds you well! My name is Andy Otto and I'm a doctoral student at Northwest Nazarene University. I'm looking to conduct a study examining the impact texting between a student and academic advisor has on a student's intention to persist. I've identified your Institutional Integration

Scale as an instrument that may aid me in my study, particularly the student-faculty interaction and institutional commitment subscales. With your permission, I would like to use these scales, slightly modifying the student-faculty subscale to include interactions via text, when conducting my study. Please let me know if I might be able to utilize your instrument.

Thank you very much!
Andy Otto

Andy Otto
Director of Enrollment Management
Ottawa University – The College
andy.otto@ottawa.edu
(785)-248-2379

Appendix E

Recruitment Email

Hi!

My name is Andy Otto and I am a Doctoral student with Northwest Nazarene University. I am currently studying communication between undergraduate students and their primary academic advisor and the impact texting has on the advising function.

You are being asked to take a brief survey about your communication experiences with your academic advisor. Please complete the brief survey using the link below. This survey is optional, and you may exit the survey at any point.

{Insert Survey Link}

By completing the survey, you will be entered into a drawing for a $100 Amazon gift card which will be conducted following the conclusion of the survey collection window.

Furthermore, I would like to conduct follow-up interviews to discuss your communication experiences with advisors further. These interviews will take place in person or via a video-technology software. If you are willing to participate in this portion of the study, please select that option within the survey link and include your email and phone number so that I might follow up. Thank you for your willingness to take part in this study. If you have any questions or concerns, please email Andy Otto using the email andrewotto@nnu.edu.

Andy Otto

Northwest Nazarene University

andrewotto@nnu.edu

Appendix F

Follow Up Recruitment Emails

Email 1

Hi!

My name is Andy Otto and I am a Doctoral student with Northwest Nazarene University. I am reaching out once again to request your assistance regarding my study examining communication between undergraduate students and their primary academic advisor and the impact texting has on the advising function.

You are being asked to take a brief survey about your communication experiences with your academic advisor. Please complete the brief survey using the link below. This survey is optional, and you may exit the survey at any point.

{Insert Survey Link}

By completing the survey, you will be entered into a drawing for a $100 Amazon gift card which will be conducted following the conclusion of the survey collection window.

Furthermore, I would like to conduct follow-up interviews to discuss your communication experiences with advisors further. These interviews will take place in person or via a video-technology software. If you are willing to participate in this portion of the study, please select that option within the survey link and include your email and phone number so that I might

follow up. Thank you for your willingness to take part in this study. If you have any questions or concerns, please email Andy Otto using the email andrewotto@nnu.edu.

Andy Otto

Northwest Nazarene University

andrewotto@nnu.edu

Email 2

Hi!

My name is Andy Otto and I am a Doctoral student with Northwest Nazarene University. I am reaching out to request your assistance regarding my study examining communication between undergraduate students and their primary academic advisor and the impact texting has on the advising function one last time.

The survey you are being asked to complete is focused on your communication experiences with your academic advisor. Please complete the brief survey using the link below. This survey is optional, and you may exit the survey at any point.

{Insert Survey Link}

Upon completion of the survey, you will be entered into a drawing for a $100 Amazon gift card which will be conducted following the conclusion of the survey collection window.

Furthermore, I would like to conduct follow-up interviews to discuss your communication experiences with advisors further. These interviews will take place in person or via a video-

technology software. If you are willing to participate in this portion of the study, please select that option within the survey link and include your email and phone number so that I might follow up. Thank you for your willingness to take part in this study. If you have any questions or concerns, please email Andy Otto using the email andrewotto@nnu.edu.

Andy Otto

Northwest Nazarene University

andrewotto@nnu.edu

Email 3

Hi!

My name is Andy Otto and I am a Doctoral student with Northwest Nazarene University. This will be my ***last attempt*** to request your assistance regarding my study examining communication between undergraduate students and their primary academic advisor and the impact texting has on the advising function one last time.

The survey you are being asked to complete is focused on your communication experiences with your academic advisor. Please complete the brief survey using the link below. This survey is optional, and you may exit the survey at any point.

{Insert Survey Link}

Upon completion of the survey, you will be entered into a drawing for a $100 Amazon gift card which will be conducted following the conclusion of the survey collection window.

Furthermore, I would like to conduct follow-up interviews to discuss your communication experiences with advisors further. These interviews will take place in person or via a video-technology software. If you are willing to participate in this portion of the study, please select that option within the survey link and include your email and phone number so that I might follow up. Thank you for your willingness to take part in this study. If you have any questions or concerns, please email Andy Otto using the email andrewotto@nnu.edu.

Andy Otto

Northwest Nazarene University

andrewotto@nnu.edu

Appendix G

Quantitative Informed Consent for Dissertation Research Project Participation

Dear {Site} Student:

I am a doctoral student in the School of Education at Northwest Nazarene University. I would like to invite you to participate in a research project about mobile communication and its inclusion in the academic advising function. The purpose is to establish a relationship between how advisors communicate and its effect on students' intentions to persist.

Your participation will include the completion of a survey which you will receive via email. There are no alternatives to this study. The survey should take you 15 minutes to complete. ***At the completion of the survey, you will be entered into a drawing for a $100 gift card***.

You may feel participation in this study may have an adverse effect on your personal advising services and relationship with your advisor, however I will protect you from this possibility as much as possible by keeping the results of the study anonymous. The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report, we might publish, we will not include any information that will make it possible to identify you. Research records will be stored securely, and only the researcher team I will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential.

Your participation in this study is voluntary. You are free to participate in the study or withdraw your consent up to December 31, 2021. At this point, I will be in the final stages of the writing process and will not be able to make any adjustments. You will not lose any benefits if you decide not to participate or if you quit the study early.

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Andy Otto at andrewotto@nnu.edu. Additionally, If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact {SITE IRB CHAIR}, chair of the Institutional Review Board by phone at {CHAIR PHONE} or by email at {CHAIR EMAIL}.

By signing below, you are confirming you have read the information in this consent form and agree to participate in this study. You have had a chance to ask any questions you may have about this study, and they have been answered for you.

_____ _____

Signature of Participant (To be completed online) Date

_____

Printed Name of Participant

_____ _____

Signature of Person Obtaining Consent Date

Appendix H

Electronic Survey

For this survey 'advisor' represents both faculty advisor or academic advisor.

Section1: Demographics

1. **What is your current age?**
   ( ) 18
   ( ) 19
   ( ) 20
   ( ) 21
   ( ) 22
   ( ) 23
   ( ) 24

2. **What is your current academic classification?**
   ( ) First-year student (This is your first year attending a residential university)
   ( ) Sophomore
   ( ) Junior
   ( ) Senior

3. **What is your sex?**
   ( ) Male
   ( ) Female

4. **Which of the following best describes you?**
   ( ) American Indian or Alaska Native
   ( )Asian or Pacific Islander
   ( ) Black or African American
   ( ) Hispanic or Latino
   ( ) White or Caucasian
   ( ) Multiracial or Biracial
   ( ) A race/ethnicity not listed here

5. **Within the last year, how many times have you communicated with an advisor via text?**
   ( ) Zero
   ( ) 1-5
   ( ) 6-10
   ( ) 10+

Section 2: Student-Advisor Interaction and Institutional Commitment Scales

The following pages contain a number of statements with which some people agree and others disagree. Please rate how much you personally agree or disagree with these statements-how much they reflect how you feel or think personally.

1. **I am satisfied with the opportunities to speak to and interact with an advisor via text.**
   ( ) Strongly agree
   ( ) Agree
   ( ) Neither agree/disagree
   ( ) Disagree
   ( ) Strongly disagree

2. **My interactions with an advisor via text have had a positive influence on my career goals and aspirations.**
   ( ) Strongly agree
   ( ) Agree
   ( ) Neither agree/disagree
   ( ) Disagree
   ( ) Strongly disagree

3. **My interactions via text with an advisor have had a positive influence on my intellectual growth and interest in ideas**
   ( ) Strongly agree
   ( ) Agree
   ( ) Neither agree/disagree
   ( ) Disagree
   ( ) Strongly disagree

4. **Since coming to this college I have developed a good relationship with at least one advisor**
   ( ) Strongly agree
   ( ) Agree
   ( ) Neither agree/disagree
   ( ) Disagree
   ( ) Strongly disagree

5. **My interactions with an advisor via text have had a positive influence on my personal growth, values, and attitudes**
   ( ) Strongly agree
   ( ) Agree
   ( ) Neither agree/disagree
   ( ) Disagree
   ( ) Strongly disagree
6. **It is important for me to graduate from college**

( ) Strongly agree
( ) Agree
( ) Neither agree/disagree
( ) Disagree
( ) Strongly disagree

7. **I am confident that I made the right decision in choosing to attend this university**
   ( ) Strongly agree
   ( ) Agree
   ( ) Neither agree/disagree
   ( ) Disagree
   ( ) Strongly disagree

8. **It is likely that I will register at this university next fall**
   ( ) Strongly agree
   ( ) Agree
   ( ) Neither agree/disagree
   ( ) Disagree
   ( ) Strongly disagree

9. **It is important to me to graduate from this university**
   ( ) Strongly agree
   ( ) Agree
   ( ) Neither agree/disagree
   ( ) Disagree
   ( ) Strongly disagree

10. **I have an idea of what I want to major in**
    ( ) Strongly agree
    ( ) Agree
    ( ) Neither agree/disagree
    ( ) Disagree
    ( ) Strongly disagree

11. **Getting good results in assessments is important to me**
    ( ) Strongly agree
    ( ) Agree
    ( ) Neither agree/disagree
    ( ) Disagree
    ( ) Strongly disagree

Thank you for your participation in the survey. Would you also like to take part in the interview portion of the survey that follows? ***Participants selected for the interview portion will receive a $10 gift card to Amazon.*** The interview portion will be used to provide further depth

surrounding the student experience surrounding communication between an advisor and student. The interviews will take place either in-person or via Zoom. Scheduling will be flexible and catered towards the participant. All interviews will be audio recorded and transcribed. The interviews should last between 20-45 minutes. Please select if you would like to participate in the interview portion of the study:

( ) Yes

( ) No

If yes, please provide your contact information below:

Email:

Phone:

I will be in contact to discuss your inclusion in the interview portion of the study.

In completing the survey, you will be entered into a drawing for the $100 Amazon Gift Card. You will be notified by email and the gift card will be sent electronically to the email associated with your survey.

Appendix I

Semi-Structured Interview Recruitment Email

Hi!

My name is Andy Otto and I am a Doctoral student with Northwest Nazarene University. Thank you for participating in the first portion of my dissertation research. Based on your indication of interest in taking part in the interview portion of the study, I would like to formally invite you to take part in either an in-person or virtual interview. The purpose of the interview is to gather additional data for my dissertation research. If you volunteer for the interview and participate, you will be given a $10 Amazon gift card.

The interviews would take place between October 1st and December 31st and would last between 15-20 minutes.

Please contact me via email at andrewotto@nnu.edu or via telephone at 785.874-8304 if you would like to participate. The attached consent form will need to be signed and sent back prior to taking part in the interview and receiving the $10 Amazon gift card.

If you have any questions or concerns, please email Andy Otto using the email andrewotto@nnu.edu.

Andy Otto

Northwest Nazarene University

andrewotto@nnu.edu

Appendix J

Qualitative Consent Form

I am a doctoral student in the School of Education at Northwest Nazarene University. I am conducting research related to mobile communication and its inclusion in the academic advising function. The purpose is to establish a relationship between how advisors communicate and its effect on students' intentions to persist. I appreciate your involvement and the impact your experiences will have on the study and implications for further research in the area.

You are being asked to participate in this study because you fit the criteria for the study. You are over the age of 18 and under the age of 25.

Procedures

By agreeing to be in the study, the following will take place:

1. You will be asked to sign an Informed Consent Form below, volunteering your participation in the study.
2. An interview will take place during the Fall 2021 semester. The interviews will occur either in person or via Zoom, and will be audio recorded if in person or recorded if via Zoom. The interview will take between 20-45 minutes.
3. After the interviews have been reviewed, transcribed and coded, you will be asked to review the summation to make sure the information you gave is correct.
4. At the completion of the interview you will be given a $10 Amazon gift card.

Risks/Discomforts

You may feel participation in this study may have an adverse effect on your personal advising services and relationship with your advisor, however I will protect you from this possibility as much as possible by keeping the results of the study anonymous. The records of this study will

be kept private. In any sort of report, we might publish, we will not include any information that will make it possible to identify you. Research records will be stored securely, and only the researcher team I will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential.

Some questions throughout the interview may make you uncomfortable. If this is the case, you are free to decline to answer any questions or stop participation at any time.

Benefits

You will be given a $10 Amazon gift card at the completion of the interview. If you choose to not participate or if you quit the study early, you will not be eligible for the gift card.

Questions

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Andy Otto at andrewotto@nnu.edu. Additionally, you may also contact his Faculty Chair, Dr. Kenneth Tidwell via email at Kenneth.tidwell@nnu.edu.

Consent

You will be given a copy of this consent form to keep.

Participation in research is voluntary. You are free to decline to be in this study, or to withdraw from it at any point. This research study has been approved by the Northwest Nazarene University IRB Committee in May 24, 2021, approval 0283.

By clicking the button below, you acknowledge:

- Your participation in the study is voluntary.
- You are 18 years of age.
- You are aware that you may choose to terminate your participation at any time for any reason.
- Your participation in the interview will be audio taped.
- The researcher will use direct quotes to be used in the study.
- No personal identifying information will be used in the report from this study.

__ I consent, begin the study
__ I do not consent, I do not wish to participate

Appendix K

Semi-Structured Interview Guide

What have you experienced in terms of texting with your advisor?

a) Elaborate on if texting is an acceptable form of communication with an academic advisor?
b) Describe how texting has contributed to interactions between you and your advisor?
c) Explain how texting has affected your relationship with your academic advisor.

What situations have typically influenced your experience to text your advisor?

a) Describe how texting has impacted the advising function (i.e. selection of classes, academic and career planning) and the pursuit of your academic goals?
b) Could you give me an example of how texting has impacted your enrollment in subsequent terms?
    a. If it hasn't – Could you describe how texting could influence the advising function and your enrollment in subsequent terms?

What do you like most about texting with your advisor?

What do you dislike most about texting with your advisor?

Appendix L

Debrief Statement

Thank you for participating in this study.

I will be analyzing the data from the interview portion of this study over the next several weeks. After organizing and reviewing data, I will contact you and ask for your feedback concerning my findings. The intent of the follow up is to ensure the findings accurately represent the interview, particularly your thoughts and experiences. The study will conclude by December 31, 2021.

In the meantime, if you have any questions, please contact Andy Otto at andrewotto@nnu.edu.

Thank you again for taking part in the survey and interview portions of the study!

Andy Otto

Doctoral Student

Northwest Nazarene University

Appendix M

Member Checking Email

This email serves as a follow up to the interview I conducted with you in October/November. Thank you for participating in my study. The intent of this email is to share some of the themes which arose as a result of the various interviews I conducted. Please look over the statements and confirm if the statements accurately portray your thoughts and feelings. If you feel any modifications need to be made, or seek clarification, please let me know by December 1, 2021.

The purpose of the study was to examine student preference regarding communication with an advisor and the impact communicating via text has on the advising function and students' intentions to persist.

The research questions were:

1. Does interaction between a traditional undergraduate student and advisor via text impact a student's intention to persist?
2. Does the perceived amount of texting that occurs between a student and their academic advisor influence their intent to persist?
3. How do students perceive texting with an advisor and its impact on their intention to persist?

There were numerous themes evident as a result of the interviews. After reading, transcribing, and coding the transcripts, results indicate the following themes:

Student Motives for Texting
- Easier
- Convenience
- Timely
- Efficiency
- Facilitating Further Communication
- Type of Information Communicated

Texting and the Student Advisor Relationship

- More Comfortable
- More Personal/Understanding
- Texting Depends on Prior Relationship
- Takes Away from Relationship
- Less Formal/Less Professional

Texting's Impact on Student Persistence

- Quick to Connect Regarding Enrollment
- Accountability
- Advisor Invested in Relationship

If these statements to not accurately reflect your memory of the interview or experiences, please respond to this email or contact me at 785-874-8304.

Again, thank you for your participation and support with this study.

Andy Otto

Doctoral Student

Northwest Nazarene University