PREDICTIVE CHARACTERISTICS OF POSITIVE MENTOR-MENTEE RELATIONSHIPS

by

Margaret Ann Lyons, M.A., L.P.C.

This dissertation is submitted in partial fulfillment of the
requirements for the degree of

Doctor of Education

Ferris State University

April 2018

PREDICTIVE CHARACTERISTICS OF POSITIVE MENTOR-MENTEE RELATIONSHIPS

by

Margaret Ann Lyons, M.A., L.P.C.

Has been approved

April 2018

APPROVED:

John R. Cowles, Ph.D.
Committee Chair

Lori Gonko, Ed.D.
Committee Member

Julie Haun-Frank, Ph.D.
Committee Member

Dissertation Committee

ACCEPTED:

Roberta C. Teahen, Ph.D., Director
Community College Leadership Program

ABSTRACT

This quantitative study focused on predictive characteristics of positive mentor-mentee relationships at Ferris State University College of Pharmacy. Due to the number of withdrawals and dismissals of first-year pharmacy students, a pharmacy peer mentor program (PPMP) was created to strengthen support of incoming students. Survey feedback from students indicated a majority of students were highly satisfied with their mentoring experience; however, a minority of students also indicated dissatisfaction with their mentor.

The purpose of this study was to explore characteristics of positive mentoring relationships in an effort to improve mentee satisfaction rates. With a better understanding of what made some mentoring relationships succeed more than others, the researcher believed that improvements could be made to mentor and mentee training and PPMP programming, ultimately improving overall satisfaction rates.

Results of the study indicated that mentees who met more often and for longer periods of time with their mentors, were more satisfied with their mentoring relationship. In addition, when mentors rated themselves high in goal striving, mentees were highly satisfied with the relationship. In contrast, when mentors rated themselves high in study skills, their mentees were less satisfied with the relationship. In addition, the most common topics discussed during mentoring sessions included test preparation, study skills, and concerns about academic success. However, when regressed with mentee satisfaction, topics identified as most important to mentees included encouragement, study skills, and experiential information.

These results indicate a need for better training for mentors and mentees that include communication skills, study skills, the importance of encouragement, and providing sufficient information about experientials. Improving mentor and mentee training and PPMP planning to address the gaps found in this study should improve mentee satisfaction levels.

KEY WORDS: Mentee, Mentor, Peer Mentoring, Predictive Characteristics

DEDICATION

I dedicate this project to my sons and their amazing spouses. Without their constant encouragement, love, and support, I would not have completed this journey.

To our first grandbaby, who was born the same month as my dissertation defense. May you always be curious and develop a deep love of learning. Mimi loves you!

To my parents, who taught their children and grandchildren to never give up.

Finally, to my husband, who continues to teach me the meaning of unconditional love.

ACKNOWLEDGMENTS

I want to acknowledge my committee members Drs. John Cowles, Lori Gonko, and Julie Haun-Frank. Each of you were instrumental in my success. I will always appreciate your encouragement and advice. Thank you to Dr. Greg Wellman who analyzed and explained the findings; I am grateful for your time and expertise. Thank you to Ali Konieczny for help with many literature search and APA questions. Thank you to my FSU College of Pharmacy co-workers who always had an encouraging word. You understood what this meant to me. Thank you to all the pharmacy students who continue to participate in the PPMP. You inspire me every day by your selfless support of one another.

Finally, and most importantly, to my amazing friends and family who provided meals, nights out, encouraging phone calls, long walks, and constant support. I could not have done any of this without every one of you. I am truly blessed to have you in my life.

TABLE OF CONTENTS

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER ONE: INTRODUCTION

Introduction

Mentoring is a concept that dates back to Greek mythology. In his poem, *The Odyssey*, Homer describes how Odysseus entrusted his friend, Mentor, to be a surrogate father to his son, Telemachus (Zachary, 2012). Since then, the practice of mentoring has been utilized to support individuals in many settings, including health sciences and education. According to Kowtko and Watts (2008), "in recent years, mentoring has become a popular practice in health sciences education because of the challenges facing the profession in regard to student recruitment and retention" (p. 69). Medical students, for example, experience distress and burnout due to common stressors such as examinations, finances, and relationships (Bughi, Lie, Zia, & Rosenthal, 2017). Similar to medical students, pharmacy students experience increased stress levels due to high demands of the Doctor of Pharmacy (Pharm.D.) program. Pharmacy students have shown significantly lower mental health-related quality of life ratings and ineffective coping skills when compared to students with similar demographics (Garber, 2017).

The use of mentors provides individuals at all stages of life an opportunity for guidance and support as they work toward personal and professional goals. In higher education, mentor programs are utilized to support both faculty and students. Junior faculty receive advice from more experienced peers who can help with decisions related to their academic responsibilities. Benefits of mentoring occur for both faculty mentors and junior faculty mentees. According to Lumpkin (2011), "Mentoring contributes to a more collegial culture in the academy through interpersonal relationships based on trust and respect and to the professional growth and career

development of both protégés and mentors" (p. 18). Students also benefit in numerous ways from mentoring relationships. According to Coles (2011), "Mentoring is a valuable strategy to provide students with the emotional and instrumental support students need to achieve the goal of a college degree" (p. 1). In addition, Coles (2011) states, "mentoring for students in college helps students to feel more connected and engaged on campus, which can ultimately improve student outcomes" (p. 1).). To combat stress and burnout, many medical schools offer programs to improve student well-being, including social support through mentoring programs. Mentoring helps mentees feel more positive about career-related decisions and career effectiveness (Loue, 2011).

Another tool utilized to help students be successful is the American College Testing (ACT) Engage survey for college students (ACT Engage®). The ACT Engage® measures ten scales outside academic performance to assist in identifying at-risk students. The ten scales include academic discipline, general determination, goal striving, commitment to college, communication skills, study skills, social activity, social connection, academic self-confidence, and steadiness (Appendix A). According to ACT, Inc. (2017), the ACT Engage® survey for college-level students can predict, "with a remarkable degree of accuracy – which students are more likely to struggle with academic achievement, timely graduation, and college admission" (para 2). The ACT Engage® survey has been successfully utilized at numerous colleges and universities, including the University of Minnesota Rochester and the University of North Texas. Both universities report success in identifying at-risk students, while offering valuable services based on individual student needs (ACT Engage® Case Studies, 2016). In this study, the ACT Engage® will be used to identify mentor characteristics, and then compare mentee satisfaction

levels to learn whether there is a correlation between individual characteristics and mentee satisfaction.

FSU Mentoring Program

Ferris State University (FSU) is a medium-sized institution with over 14,000 enrolled students system-wide, including 10,000 students on the main campus in Big Rapids, Michigan. FSU offers programs tailored with specific occupations in mind, including the Pharm.D. program (About Ferris State University, n.d.). Obtaining a Pharm.D. degree at FSU consists of successful completion of pre-pharmacy requirements and four years of professional coursework, including 138 course credit hours and approximately 1,700 hours of field experience in the practice of pharmacy (FSU College of Pharmacy Facts and Information, n.d.).

Despite students entering the Pharm.D. program with strong GPAs and high test scores on the Pharmacy College Admission Test, students experience a significant amount of stress given the rigorous nature of the program. In 2009, there was a noticeable increase in student withdrawals and dismissals from the program leading to the need to develop a mentoring program for first-year (P1) students. Therefore, FSU's College of Pharmacy decided to implement a peer mentor program. To gain student perspective about starting the program, the researcher surveyed current P1 and second-year (P2) students during the 2011 Spring semester. Students were asked if they would have preferred having a peer mentor and, specifically, how a mentor would have helped them during the P1 year. The response was overwhelmingly positive and students indicated that a mentor could have helped with study skills, exam preparation, and overall encouragement. Given this feedback, the college piloted a peer mentor program in the 2011 Fall semester in which upper class students were enlisted as mentors to support new students through the transition from the pre-pharmacy curriculum throughout the P1 year. During

the first year of the program, 88 of 140 P1 students signed up for the voluntary program. Interested students were asked to complete surveys that gathered information for the match process. Survey data collected included student organization membership, professional interests, where pre-pharmacy coursework was completed, whether they considered themselves non-traditional students, and an open-ended question about mentor preferences (e.g. male/female, etc.). Given the success of the pilot program, the PPMP became a permanent program within the college.

Significance of Study

Since 2011, aggregate data collected on the PPMP indicated highly satisfied mentors and mentees. Biannual survey feedback included the following responses from mentees:

> I have gained great advice on classes and studying for certain professors. Most importantly I have gained a friend. (Lyons, 27 April 2016)
>
> It was very beneficial for me to have been able to receive so much insight from my mentor as to what to expect for the P1 year since they have gone through it before. She was able to tell me what to expect per class and it helped with many of the first exams. (Lyons, 28 April 2016)

In addition, mentors also shared how they benefitted from participating in the PPMP:

> I have gained the experience to teach & offer my knowledge to fellow pharmacy students as well as gaining a friendship with my mentee" (Lyons, 28 April 2017).
> "Better communication skills and a better understanding about what is going on with the P1s during the year including their stresses and successes. (Lyons, 12 December 2016)

While the majority of student feedback was positive, a small number of mentors or mentees were less than satisfied by their experience. For example, some mentors or mentees reported not receiving replies to contacts made to their mentee or mentor, mentors did not provide needed guidance or encouragement, or the PPMP did not meet expectations of participants. Since the survey data had been collected anonymously, there was no data regarding

specific mentor-mentee pairs, which leads to the need to understand why some pairs thrive while others falter. According to Karcher, Nakkula, and Harris (2005), "understanding how mentors' initial perceptions of the quality of their relationships are affected by unique mentee and mentor characteristics is critical to sustaining effective mentoring relationships" (p. 94).

Purpose of Study

The purpose of this study is to identify characteristics that are predictive of positive functioning mentor-mentee relationships in an existing college peer mentor program. If we have an understanding about what contributes to strong mentoring relationships, this information can then help the college identify changes to programming to potentially improve the match process and mentor-mentee training.

Statement of the Problem

In an effort to understand why some mentor-mentee relationships succeed while others do not, this study will identify individual characteristics of mentors and compare mentee satisfaction to determine if there is a correlation between mentor characteristics and mentee satisfaction levels. The study will also include questions pertaining to mentoring sessions such as the number and length of contacts and content of meetings.

Research Questions

The primary questions addressed by this study include:

1. Six months after being matched with a mentor, what overall level of satisfaction would P1 mentees report regarding their mentoring relationship?
2. Do individual mentor characteristics, self-reported using the ACT Engage® survey, correlate to mentee satisfaction?
3. Do GPA scores for mentees correlate with mentee satisfaction?

The secondary research questions addressed by this study include:

1. Does mentee satisfaction with the mentoring relationship correlate to the average number of contacts between mentor and mentee?
2. Does mentee satisfaction with the mentor-mentee relationship correlate to the average length of sessions?
3. Does mentee satisfaction with mentor-mentee relationship correlate to mentoring content?

Research Design

The design of this study is a quantitative examination of individual characteristics related to student success and mentee perception of satisfaction with the mentor-mentee relationship. The ACT Engage® was given to all mentors and mentees during the 2017 Spring and Summer semesters. P1 mentees completed the Mentoring Functions Questionnaire (MFQ-9) during the Spring 2018 semester to measure satisfaction with mentors. Data sources included the ACT Engage®, the MFQ-9, and mentee GPAs. Predicted outcomes of the study included a correlation between highly satisfied mentees and course grade information compared with individual ACT Engage® results. Analysis was completed using simple statistics (e.g. mean, median, mode), multiple linear regression, and Spearman rank order correlation analysis measuring strength and direction between mentee satisfaction and multiple variables related to individual mentors and mentoring sessions.

Assumptions

Evidence indicates that students who are engaged in the classroom and on campus have higher success rates, including higher GPAs and graduation rates (Tinto, 2012). Since mentoring encourages engagement, this researcher assumes that mentees who indicate high satisfaction rates with mentors will also have high GPAs after Fall Semester 2017.

Definition of Terms

Engagement – Amount of time students spend on studies and other activities that lead to student success (Wolf-Wendel, Ward, & Kinzie, 2009).

Involvement – Being involved or participating in something; amount of time and energy students put into academic and co-curricular activities (Wolf-Wendel, Ward, & Kinzie, 2009).

Mentee - A person who has a mentor; the person guided or tutored by a mentor. (Oxford English Dictionary, 2018).

Mentor – A person who acts as guide and adviser to another person, especially one who is younger or less experienced. (Oxford English Dictionary, 2018).

Protégé – A person who is guided and supported by someone with greater experience or influence. (Oxford English Dictionary, 2018).

Summary

Chapter One described the benefits of mentoring programs and the need to introduce mentoring at the FSU College of Pharmacy to support incoming students. Next, a description of the college's mentoring program and the purpose and significance of the study were given in an effort to improve mentoring for all students at the college. Chapter Two will provide literature regarding factors of student success including mentoring.

CHAPTER TWO: STUDENT SUCCESS FACTORS

Introduction

The importance of admitting, supporting, and graduating college students is more essential than ever. While in office, President Obama stressed the importance of a college education, believing it was crucial for individuals and essential for the U.S. economy and well-being of society. While there continues to be increased scrutiny and reduced funding by state and federal government in higher education, institutions must continue to provide pathways and support for all students. Educating individuals lowers the cost of incarceration and poverty, while strengthening the economy, thereby making the country more competitive in a global marketplace (Tinto, 2012).

Providing support is necessary for students to graduate and become contributing members of society. Student support and development have been the focus of many theorists, with initiatives implemented by numerous higher education institutions. Historically, grade point average (GPA), American College Testing (ACT), and Scholastic Academic Testing (SAT) determined college admissions eligibility and predicted student success. Today, institutions must look at more than entrance scores and GPAs for predictors of student success. According to Sparkman, Maulding, and Roberts (2012), GPA and ACT/SAT scores have only been shown to have a modest effect on measuring student performance. Given this information, institutions of higher education must take more responsibility in helping students succeed by providing support services that help students become engaged and feel supported. In addition to the changes in how to predict if students will be successful, the state and federal

governments have shifted from focusing on the number of college admits to focusing on completion rates. Tinto (2012), states, "First, we must recognize that a college or university, once having admitted a student, has an obligation to do what it can to help the student stay and graduate" (p. 6). Student support services play a large part in seeing students from admission to completion. Many student development and retention theories help institutions with identifying practical ways to support students.

Student Development Theories

Pascarella and Terenzini (2005) reviewed the most prominent theories regarding student development in higher education. They grouped student development theories and models into several categories: psychosocial, cognitive-structural, typological, and person-environment interaction. According to Pascarella and Terenzini (2005), "developmental theories or models, addresses the nature, structure, and processes of individual human growth" (p. 18). Understanding student developmental stages can help higher education institutions identify and address the needs of students at differing stages of development.

An example of developmental theory includes Arthur Chickering's Seven Vectors of Student Development Theory (Chickering & Reisser, 1993). Chickering proposed a multi-dimensional approach to student development that included seven vectors, contributing to the formation of identity. The seven vectors include developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, developing purpose, and developing integrity (Evans, Forney, Guido, Patton, & Renn, 2010). Since students hail from different backgrounds with varying experiences, Chickering's model allows for movement along vectors simultaneously, including backward movement. To account for changing student demographics from his original model in

1969 to 1993, Chickering revised his model to include gender-free language, language appropriate for students from diverse backgrounds, and students of all ages.

Chickering's psychosocial model has inspired much research and institutional programming; however, the original model was based on a white, dominant culture. For this reason, other models deserve consideration. Several developmental theories take into account gender, racial and ethnic, and gay, lesbian, and bisexual identity, providing institutions with ways to support all students, regardless of background (Pascarella & Terenzini, 2005).

Cognitive-structural theories examine intellectual development of college students. These theories are complimentary to psychosocial theories (Pascarella & Terenzini, 2005). Specifically, these theories focus on how people reason and develop meaning about their own experiences (Kuh, Kinzie, Schuh, Whitt, & Associates, 2010). Cognitive-structural theories can help student affairs professionals understand student feedback about curricula, co-curricular activities, and other experiences (Kuh et al., 2010). Understanding cognitive development of students, institutions can tailor experiences to address unique student needs through various programs such as advising and social interaction. Similarly, Kuh et al., (2010) states, "typology theories are helpful in providing guidance for classes, workshops, training sessions, and other structured educational experiences" (p. 33). Through identifying different personality types, typology theories help institutions to customize programming to support unique student personalities.

The last student development theory category identified by Pascarella and Terenzini (2005) is the person-environment theory. Person-environment theories focus on how the environment influences behavior of individuals (Pascarella & Terenzini, 2005). Various person-environment theories or models focus on physical environments, environmental influence on individual students, organizational environment, and constructed environments. These theories

vary in scope, from individual students to the institutional environment, having a positive impact on student development, retention, and student success.

Understanding student development is fundamental to the design of academic and nonacademic policies, programs, and practices for retention and student success. Programming that supports student involvement has shown to increase student success and retention. Astin's (1999), Student Involvement Theory suggests, "Learning will be greatest when the learning environment is structured to encourage active participation by the student" (p. 522). Astin (1999) found that students who were involved in extra-curricular activities were more likely to persist in college. Having a part-time job, involvement in honors programs, sports, research participation, Greek organizations, and student government enhanced involvement and provided a sense of belonging. Astin (1999) states, "According to theory, the greater the student's involvement in college, the greater will be the amount of student learning and personal development" (p. 529).

Tinto (2012) identifies multiple factors for student success that also reflect the importance of engagement. Students are more likely to succeed in situations that have clear and elevated expectations that provide educational and personal support, that assess performance and provide feedback, while actively involving them in the classroom and on campus (Tinto, 2012). High expectations by faculty and the institution can have a powerful effect on student performance. Tinto (2012) states, "Student retention and graduation is shaped by the availability of clear and consistent expectations about what is required to be successful in college" (p. 10). Another factor that influences student success includes academic support. Academic support comes in many forms that can include tutoring, study groups, supplemental instruction, and remedial coursework. Without this support, many students fail to progress

toward graduation. Academic support does not only benefit students who are underprepared for the rigors of college work. A good number of students with relatively strong academic skills take remedial courses, freshman seminars, or study-skills courses to help them succeed in their first-year of college (Tinto, 2012). A third factor that supports student success is assessment and feedback. Tinto (2012) states, "Students are more likely to succeed in settings that enable all parties – students, faculty, and staff – to adjust their behaviors to promote student success" (p. 54). Providing opportunities for student feedback can help strengthen institutional programming. The fourth factor for student success and retention highlighted by Tinto (2012) is student involvement. Tinto states that of all student success factors, "perhaps the most important, is involvement" (p. 64). The more students are engaged in the classroom, the more time and effort students put into learning, increases academic performance and retention (Tinto, 2012).

Engagement

The terms *involvement*, *engagement*, and *integration* are often used interchangeably to describe student interaction in academics and co-curricular activities. For the purpose of this study, the terms *engagement* and *involvement* will be used interchangeably to describe student participation and the amount of time a student devotes to the learning experience.

According to Pascarella and Terenzini, (2005), "One of the most unequivocal conclusions drawn from both our previous synthesis and the research during the 1990s is that the impact of college is largely determined by individual effort and involvement in the academic, interpersonal, and extracurricular offerings on a campus" (p. 602). Tinto (2012) and Kuh et al. (2010) also believed that student engagement is key to student success. The more students are educationally and socially engaged on campus, especially with faculty and other students, the

more likely they will continue and graduate from college (Tinto, 2012). Research has shown that student engagement is positively related to graduation, critical thinking, college satisfaction, and grades (Zilvinskis, Masseria, & Pike, 2017).

The National Survey of Student Engagement (NSSE) survey is a popular tool used by four-year colleges and universities to assess the amount of time students devote to educationally purposeful activities (Carini, Kuh, & Klein, 2006). NSSE data have been used by institutions to improve student engagement and learning outcomes (Zilvinskis et al., 2017). Carini et al., (2006) found "that student engagement is linked positively to desirable learning outcomes such as critical thinking and grades" (p. 23). The literature supports the fact that students who are engaged in and outside of the classroom are more likely to stay in college and graduate. As local, state, and federal government increasingly scrutinizes institutions, helping students stay enrolled will benefit not only students, but colleges and universities as well.

Engagement Initiatives

Kuh, et al. (2010), described multiple initiatives of two and four-year institutions that enhanced student success efforts. Initiatives include transition programs, advising networks, peer support, multiple safety nets, special support programs, and residential environments. Some examples include seminars and comprehensive programs that provide mentoring and advising to first-year students, advising networks that encourage students to utilize campus resources throughout their entire educational career, and peer support that encourages students to connect with peers in meaningful ways.

In addition, Kuh et al. (2010) describes institutions that have developed student safety nets and diverse student support initiatives that include early warning systems, specialized advising, faculty mentoring, and specialized programming for commuter, transfer,

underserved, and international students. Faculty, staff, students, and alumni are centrally involved in all of these efforts to provide a supportive campus environment. According to Kuh et al. (2010), "Student affairs staff, campus librarians, support staff, and faculty work together to make sure no student falls through the cracks" (p. 251). Kuh et al. (2010) describe multiple examples of student support initiatives. For example, at Gonzaga University, 250 upper-class students welcome new students to campus. At Wheaton College, faculty, administrators, a librarian, and junior and senior-level students staff first-year seminars. Moreover, at the University of Maine at Farmington, the university president, often in her jogging suit, helps families move new students into residence halls. At Fayetteville State's University College, comprehensive student support programs provide mentoring and advising for all first and second-year students. Fayetteville's University College also coordinates student support programs including reading, writing, mathematics, science, and critical-thinking tutoring. Each of these institutions reflect a caring culture that improves retention rates (Kuh et al., 2010). In other words, engagement within a college community can lead to important relationships with faculty, staff, administrators, and mentors that result in student success.

Relationships and Mentor Programs

Strong relationships may develop between students when less experienced individuals (mentees) are given guidance by more experienced individuals (mentors), resulting in increased engagement and student success. Mentors and mentees may be matched based on interests or may develop organically, providing benefits to both participants. A successful mentoring relationship is a win-win situation where both mentors and mentees benefit (Gisbert, 2017). According to Gisbert (2017), "Many mentors subscribe to the well-known aphorism that reads: 'I have learned much from my teachers, more from my colleagues, and the most from

my students' (Hindu proverb). In fact, mentees are often the best teachers" (p. 49). Reciprocity is an important aspect of any relationship. Social Exchange Theory recognizes that mentors and mentees can learn and benefit from one another (Ensher, et al., 2001).

According to Emerson and Homans (as cited in Ensher et al., 2001) "Social Exchange Theory assumes that individuals form, maintain, or terminate relationships with each other on the basis of the perceived ratio of benefits to costs in the relationship" (p. 419). Mentors report benefits that include giving back to others and gaining leadership skills, while mentees report increased networking opportunities and career guidance. The social exchange between mentors and mentees is enhanced by cultural and relational interactions of the participants (Majiros, 2013). According to Liden and Graen (as cited in Ensher, et al., 2001), Social Exchange Theory "has been the foundation for much of the research on leadership dyads" (p. 421). In order for mentoring relationships to succeed, the Social Exchange Theory assumes that both mentor and mentee must gain something from the mentoring connection to succeed. Therefore, regardless of how the match developed, the relationship may end due to a lack of tangible or intangible benefits (Ensher et al., 2001). Literature on mentoring confirms the importance of establishing strong relationships and a student's success.

Mentor programs help encourage relationship building. According to Busteed (2014), a strong link exists between student experiences in college and long-term outcomes. The Gallup-Purdue Index found that what mattered most was having at least one professor who makes a student excited about learning, faculty who care about them, and having a mentor who encourages one's goals and dreams (Busteed, 2014). Of these three components, survey results found that having a mentor was the most relevant to graduates' long-term success in life and work (Busteed, 2014).

Mentor programs often include two broad functions: psychosocial and career development. Allen, Russell and Maetzke (1997), studied the effectiveness of a formal peer mentor program for graduate students. In this study, vocational and psychosocial support by mentors were found to be related to mentee satisfaction with mentors. According to Kram (as cited by Knippelmeyer and Torraco, 2007), "Psychosocial functions are defined as 'those aspects of the relationship that primarily enhance a sense of competence, clarity of identity, and effectiveness in the managerial role', such as role modeling, acceptance-and-confirmation, counseling, and friendship" (para 11). In addition, Kram (1983) defines career development functions as "those aspects of the relationship that primarily enhance career development, such as a sponsorship, exposure-and visibility, coaching, protection, and challenging assignments" (para 11).

Mentoring in Health-Related Settings

Mentor programs can be found across a wide range of professions such as health-related settings and general education. The literature describes many programs that have positively benefitted professionals such as nurses, teachers, and students. Health related organizations must adjust to many changes that impact their operations, such as new technologies, accountability to patients and insurance companies, and the need to lower costs, all while maintaining high standards (Tourigny & Pulich, 2005). Due to many challenges facing the healthcare industry, it is crucial to provide development and support for employees. Many health care organizations could benefit from formal mentoring programs (Tourigny & Pulich, 2005).

Mentorship plays an important role in the process of growing into an independent healthcare practitioner and advancing in academia (Peno, Mangiante, & Kenahan, 2016). Medical schools are recognizing the importance of mentorship to support junior faculty job

satisfaction and retention. Faculty are in need of mentoring to succeed in research, teaching, and clinical practice (Peno, et al., 2016). According to Gisbert (2017), "medical students who have had good mentors are more likely to be satisfied when they become clinicians, and clinicians who have benefited from this relationship felt more confident in their abilities than those who have not had mentors" (p. 54). Mentoring faculty, as well as students, results in benefits for participants, regardless of their role.

In another health related setting, nursing students experience anxiety and diminished self-confidence when first learning to perfect medical techniques or interacting with patients (Rapaport, 2014). At Helen College's nursing department, a peer mentor program was developed to support new students. Providing nursing students with mentors helped new students perfect their nursing skills and improved their self-confidence (Rapaport, 2014).

K-12 Education

Historically, K-12 education mentor programs for new teachers have come in many forms, including individual professional development, professional development with peers, and supervision with assessment of a new teacher's performance (Peno, et al., 2016). Because novice teachers have difficulty identifying individual student needs compared with experienced teachers, some districts provide coaches to guide and mentor new teachers.

The function of a mentor can include a wide variety of roles that include teacher, collaborator, assessor, advocate, and coach (Peno, et al., 2016). To assume these roles, professional development can be offered to include instructional mentoring, observing and conferencing, using data to inform instruction, and designing effective instruction (Peno, et al., 2016). Results from the use of mentor programs for novice teachers shows to have positive effects on new teacher's commitment and retention, student achievement, and classroom

instructional practices. Mentors also gain benefits from mentoring new teachers. Mentor benefits include learning fresh ideas and new perspectives, help shape the next generation of teachers, and provide new enthusiasm for teaching (Cavanagh & Prescott, 2011). Many mentoring programs are also found in college settings, providing benefits to mentor and mentees.

Higher Education

Mentoring in higher education can include faculty-student, faculty-faculty, and student-student mentor pairs. Regardless of the individual participants, mentees have shown to experience benefits that include increased connection to the institution, decreased stress, increased persistence, higher GPAs compared to students without mentors, and increased self-confidence (Coles, 2011; Knippelmeyer & Torraco, 2007). Mentoring in higher education can also increase career related opportunities like networking, career development, and professional development (Knippelmeyer & Torraco, 2007). According to Coles (2011), "Mentoring is a valuable strategy to provide students with the emotional and instrumental support students need to achieve the goal of a college degree" (p. 1). Evidence regarding the impact of mentoring on college students includes mentee persistence and positive academic achievement (Coles, 2011); improved self-confidence, personal support, professional development, networking, and access to a confidant (Knippelmeyer & Torraco, 2007).

Pharmacy students in particular have benefitted from mentoring in various ways. They have an opportunity to learn about different professional practices, prepare for postgraduate opportunities, and glean advice about succeeding in pharmacy courses (Sin, Pathickal, & Li, 2015). Benefits for mentors can include improved self-esteem, increased interest in pharmacy, and forming interpersonal relationships (Sin et al., 2015).

Formal and Informal Programs

Depending on the organization or the individual, mentor programs can be formal or informal in nature. Distinctions between formal and informal programs include program objectives, match processes, program requirements, structure of relationship, and duration of relationship (Tourigny & Pulich, 2005; Chao, Walz, & Garner, 1992). Additional differences between these programs can be found in Table 1:

Table 1: Formal versus Informal Mentoring

FORMAL MENTORING	INFORMAL MENTORING
Connected to a strategic business objective of an organization	Business purpose not required
Established goals	Goals often unspecified or established ad hoc
Measurable outcomes	Unknown or intangible outcomes
Mentoring agreement in place	Open access without a formal mentoring agreement
Strategic pairing of mentors and mentees	Mentors and mentees are matched by serendipity or self-selection
Mentoring engagements are structured and last 9-12 months	Unstructured, often long-term
Involves expert training and support	No training required
Direct organizational benefits	Indirect organizational benefits; mentees are primary beneficiaries

Formal Mentoring

Words associated with formal mentoring include *organized*, *prescribed*, *structured*, *facilitated*, and *supported* (Zachary, 2012). The focus of a formal mentor program tends to be on specific organizational needs rather than benefits for individuals or a particular profession (Tourigny & Pulich, 2005). Programs are developed with organizational approval, involve establishing program objectives, selecting and matching mentors, developing goals and orientation programs, clarifying responsibilities for mentors and mentees, and establishing a timeframe for the program (Tourigny & Pulich, 2005). Mentees may be required to participate in

a mentor program as a condition for school or work. One example is a mentor program developed for pre-pharmacy students who were assigned mentors through a Freshman Health Sciences Seminar as part of an assignment (Brown & Hanson, 2003). Another example are youth mentor programs that help primary and secondary students achieve educational goals or job skills (de Graaf & van den Berg, (2017).

Advantages of formal programs include career planning and advancement, higher levels of job involvement, organizational commitment, and higher levels of job satisfaction (Tourigny & Pulich, 2005). In addition, mentors may receive credit or compensation for their participation in mentor programs. However, there are disadvantages found in formal mentor programs. According to Ragins and Cotton (1999), formal mentoring relationships are "less likely to be founded on mutual perceptions of competency and respect" (p. 531). Since program coordinators, not individual mentees, determine who will become a mentor, the relationships may not be as strong as informal relationships. Ragins and Cotton (1999) state, "It is reasonable to expect that the acceptance and confirmation (of) mentor functions, which are founded on respect and perceived competency, will be less in formal than informal mentoring relationships" (p. 531). One of the reasons that issues arise within formal mentorships may be due to forced pairing that defies the true spirit of mentoring. According to Kizilos (as cited by Armstrong, Allinson, and Hayes, 2002), "forced coupling can fuel discontent, anger, resentment and suspicion" (p. 1112). Coordinators of formal mentoring programs should create a culture of mutual interest and participation without intimidation or obligation (Chao, 1992). In formal mentor programs, the program can specify the location, frequency, and mode of contact. Some mentors may feel burdened with additional responsibility of having a mentee, and mentees may not trust or respect their mentors (Kram, 1985). Many formal mentoring programs do not

succeed due to mismatched mentors and mentees (Joshi & Sikdar, 2015). Research suggests that mentees who are able to choose their own mentor have a greater learning experience, and this can happen only through an informal mentor program (Joshi & Sikdar, 2015). In describing a mentor program for nurses, Tourigny (2005), states "Simply because a nurse possesses a high level of expertise does not necessarily mean that he or she will be an effective mentor" (p. 70).

Informal Mentoring

Informal mentoring can be described as unstructured, casual, need-based, and natural (Zachary, 2012). Individuals may spontaneously form a mentoring relationship due to mutual identification, established rapport, or fulfillment of career needs (Chao et al., 1992; Ragins & Cotton, 1999). According to Chao (1992), "informal mentorships grow out of informal relationships and interactions between senior and junior organizational members" (p. 621). Informal mentorships provide mentors and mentees an opportunity to work with someone they know and respect, and who has the desired expertise. For those who have an established relationship prior to mentoring, informal mentoring may last longer compared to individuals who participate in formal mentorships (Ragins & Cotton, 1999). Informal mentorships are not formally recognized or managed by the organization (Chao, 1992). Individuals who choose to participate in an informal mentor program benefit from working with someone who has similar goals and interests.

There is no formal match process involved in informal mentoring; rather, individuals may build on an established relationship that organically evolves into mentor and mentee roles. Mentees may identify an individual as their mentor, but never formally communicate this to the individual. Since many informal mentoring relationships develop naturally, a mentor or mentee

may assume that a mentoring relationship has developed while the other participant does not recognize this role (Welsch, Bhave, & Kim, 2012).

Advantages of an informal mentor program include the option to self-select based on expertise, knowledge, experience, credibility, and integrity (Tourigny & Pulich, 2005). Because participants initiate the mentor-mentee relationship, there is a climate of respect, trust, mutual interest, and willing participation (Chao, Walz, & Gardner, 1992; Tourigny & Pulich, 2005). Mentees in informal mentoring relationships report that mentors were more helpful than those who worked with formal mentors. In addition, informal program participants report receiving better compensation and positive career outcomes (Peno et al., 2016). There can be disadvantages to informal mentoring as well. These include perceptions of favoritism or role conflict in the workplace, fear of lack of confidentiality, lack of recognition of mentors, and time constraints. In addition, potential conflicts of interest, lack of assessment regarding mentoring relationships, and overlooked qualified participants due to a lack of a formal program (Tourigny & Pulich, 2005; Peno et al., 2016). Benefits and drawbacks can exist in any mentoring program.

Pros and Cons of Mentor Programs

Studies show that mentor programs can be beneficial for all participants. According to Tonidandel, Avery and Phillips (2006), former mentees "tend to be paid more, promoted more often, and are more positive about their careers than those who have never been mentored" (p. 89). Studies of mentor programs for children, college students, and career professionals have shown to be beneficial to mentees. Youth mentor programs report positive impact on mentee success at school, home, and work. (Yelderman, 2017). In higher education, mentor programs benefit mentees by increasing a sense of belonging at the institution, enhanced self-esteem, decreased anxiety and stress, and is key to recruitment and retention (Kowkto & Watts, 2008;

Collings, Swanson, & Watkins, 2014). Moreover, in the business world, Scandura and Williams (2004) state, "Mentoring relationships provide access to career support that is more personalized and intense than traditional supervisory subordinate relationships" (Scandura & Williams, 2004). Many business organizations also believe that mentoring improves mentee attitudes and productivity (Scandura & Williams, 2004).

While mentor programs consistently show benefits for mentees, fewer studies highlight benefits to mentors. The majority of mentoring research has focused on mentee benefits, while less attention has been given to mentor benefits (Grima, Paille, Mejia, & Prud'homme, 2014). Of the studies done from the mentor's perspective, benefits identified include career and psychosocial development factors, such as career success, intrinsic satisfaction, respect from others, promotions, and increased self-confidence (Kowtko & Watts, 2008; Grima et al, 2014). Inter-generational mentoring can also benefit mentors. In one unique study, inter-generations were paired within a mentor program for college students (Gimmon, 2014). Elderly potential entrepreneurs (mentees) were matched with much younger business students (mentors) to assist mentees with business planning. Through this program, mentors reported learning practical skills from their more experienced mentees that they would otherwise not have learned in the classroom. Regardless of program characteristics, benefits can be found for both mentors and mentees.

Literature also notes negative mentoring experiences reported by mentees (Simon & Eby, 2003). Given that mentoring involves interpersonal relationships, there may be disappointments, frustration, and dysfunctional patterns on the part of the mentor and/or mentee. Simon and Eby (2003) identified five broad categories of mentor behavior that can negatively affect the mentoring relationship. These categories include manipulative behavior, distancing behavior,

lack of expertise, match within the dyad, and general dysfunctionality. According to Simon and Eby (2003), "Scandura defines dysfunctional mentoring relationships as occurring when 'one or both of the parties' needs are not being met in the relationship or one or both of the parties is suffering distress as a result of being in the relationship" (p. 1087).

Positive and negative factors can be found among peer mentor programs in nursing, pharmacy, occupational therapy, and medicine (Kowtko & Watts, 2008). The authors reported positive aspects that included career and psychosocial development, an increase in self-esteem and self-confidence, as well as collegiality, leadership, and collaboration in the workplace. Negative aspects included lack of communication between mentor pairs due to busy schedules and time constraints. In addition, the authors reported that some students may have felt left out because they did not have a particular mentor. This last comment was due to the fact that some mentors could handpick students if they saw particular traits in them that they wanted to foster (Kowtko & Watts, 2008). Even with negative aspects of mentoring described in literature, it was found that mentoring can have dramatic influences on the success and retention of students in several health science education programs.

In a study by Brown and Hanson (2003) regarding a mentor program for pre-pharmacy students, the authors found positive and negative factors. Mentee comments included concerns about male-female matching where at least one student may have been uncomfortable having a mentor of the opposite sex. In addition, hectic, busy schedules were a cause of frustration for mentors and mentees as they were unable to arrange meeting times. Other comments indicated uncertainty on the part of mentors and their abilities to mentor. Based on feedback, the program coordinators shared a list of future plans to address various issues such as more training for mentors and addressing the match process to best serve students.

In another study of a mentor program by Grant-Vallone and Ensher (2000), first-year graduate students were matched with more advanced students. Findings indicated that mentoring provided students with both increased psychosocial and instrumental support and showed that mentees who received high levels of mentor support were more satisfied with the mentoring relationship (Grant-Vallone & Ensher, 2000). Students who met more often with their mentors reported higher levels of emotional and practical support. However, the study also showed that even with increased support, it did not relate to lower stress levels. Two possible reasons were identified to explain this finding: (a) students who were more stressed asked for more support from their peer mentor and (b) peer mentors actually may have increased stress levels in students by providing too much information too quickly (Grant-Vallone & Ensher, 2000). Additional research regarding peer mentoring indicate overall positive outcomes for mentees.

Peer Mentoring

Studies regarding peer mentor programs have consistently shown to be beneficial to mentees while increasing institutional retention and graduation rates. In a review of literature regarding peer mentoring in various health education programs, Kowtko and Watts (2008) found a marked decrease in student attrition, stress, and anxiety in students with peer mentors. According to Chickering and Reisser (as cited by Evans et al., 2010), "a student's most important teacher is often another student" (p. 70). Kuh et al., 2010) states, "the role of peers in creating vibrant learning environments cannot be overestimated" (p. 195). The value of intentionally bringing students together to support one another has shown to have significant benefits for students. Peer groups can provide many advantages to students, including offering emotional support, interaction with individuals who are different from themselves, encouragement to stay

in college, and providing social and personal ties that could assist in their chosen career paths (Newcomb & Wilson as cited in Evans et al., 2010).

Many students attribute their ability to overcome personal and academic obstacles to having a peer mentor. According to Zevallos and Washburn (2014), "mentoring has a powerful positive impact by (1) enhancing students' social relationships and emotional well-being, (2) improving their skills through instruction and conversations, and (3) promoting positive identity development through serving as role models" (p. 25). In addition, Collings et al., (2014) conclude that peer mentor programs can be used effectively for retention and support of first-year college students. Making the transition from high school to college, or undergraduate to graduate programs can involve heightened levels of stress and anxiety. Having a peer mentor who provides guidance and support throughout a transition period can alleviate stress for many students.

Student Transitions

The transition from a pre-professional program to graduate level work can be overwhelming for many students. Although they have post-secondary coursework experience, students must adapt to graduate-level expectations that require different skills, presenting challenges not previously experienced. These challenges can lead to student withdrawals or delayed graduation, obstructing prospects for constructive learning experiences and successful careers (Mears, Scaggs, Ladny, Lindsey, & Ranson, 2015). Pre-pharmacy students at Butler University's College of Pharmacy had an opportunity to be matched with a mentor who was a current pharmacy student. According to Brown and Hanson (2003), faculty members observed that many pre-pharmacy students "appeared overwhelmed by their initial college experiences and ill-informed about the current expectations of their chosen profession" (p. 2).

Similarly, a nursing program at Helena College also provided upper class students with mentors. Practical nursing (PN1) students were randomly matched with registered nursing (RN) students. Mentors were registered in a leadership skills class which included requirements to mentor PN1 students. Mentors and mentees experienced enhanced self-esteem and promoted an inclusive environment for all participants (Rapaport, 2014). Difficulties with the Helena program were similar to the other mentor programs in healthcare fields where participants cited a lack of time due to rigorous schedules. Mentors from the Helena College program suggested a less structured approach where RN students could provide guidance to any PN1 student, rather than trying to match schedules with individual students.

Creating social networks is important in student transitions (Heirdsfield, Walker, Walsh, & Wilss, 2007). Peer mentor programs provide an opportunity for more experienced mentors to support and make social connections for new students. Having a mentor to guide and support students toward their educational goals can have positive effects on new students. However, individual characteristics of mentors may influence the quality of the mentor-mentee relationship.

Characteristics of Mentor Program Participants

A review of empirical studies on graduate student mentoring programs and mentoring programs abroad found there is a need for increased understanding of mentor programs, particularly the characteristics of participants (Gershenfeld, 2014). In describing youth mentoring, de Graaf and van den Berg (2017) state,

> I would love to see research at the individual level aiming to understand what makes some people a really good mentor. A challenge in our field is that we want to believe that every adult can be a mentor to a child, but I don't think that is true. It is important to find out what makes a mentor a great mentor. (p. 2)

Regardless of the program's focus and goals, the quality of mentor-mentee relationships can have a direct link to the success of the mentor program. According to Karcher et al. (2005), "understanding how mentors' initial perceptions of the quality of their relationships are affected by unique mentee and mentor characteristics is critical to sustaining effective mentoring relationships" (p. 94).

Mentor characteristics that result in effective mentoring relationships are dependent on many internal and external factors. Internal factors like personality traits and individual levels of motivation can affect the mentor-mentee relationship. Researchers have identified numerous personal characteristics that can have a positive effect on the mentor-mentee relationship. In a nursing education mentor program, for example, positive mentor characteristics included enthusiasm, a positive attitude, experience, and a willingness to spend time with mentees (Huybrecht, Loeckx, Quaeyhaegens, DeTobel, & Mistiaen, 2011). Similarly, in an athletic training program where novice faculty were matched with seasoned faculty for mentorship, attributes included active engagement from mentors and mentees, strong communication, and similar interests between mentors and mentees (Barrett, Mazerolle, & Nottingham, 2017). Within the field of business, Joshi and Sikdar (2015) identified mentor characteristics from an informal managerial mentor program that included sincerity, commitments, skill and knowledge, and organizational ascendency. In K-12 mentor programs, Dubois, Holloway, Valentine, and Cooper (2002), state "features of relationships, such as frequency of contact, emotional closeness, and longevity, each may make important and distinctive contributions to positive youth outcomes" (p. 188). On the other hand, mentors for youth who do not feel a strong, positive relationship initially with their mentees are less likely to persist in the mentor-mentee relationship (Karcher et al., 2005).

To establish a strong, positive relationship, a level of trust between mentors and mentees is paramount to a successful mentoring relationship. Internal characteristics that promote trust include many of the characteristics identified above, including strong communication skills, a positive attitude, enthusiasm, and a genuine interest in helping others. Zachary (2012) states, "When trust is high, mentoring partners can more honestly engage with one another. They can discuss issues, solve problems, and carry on genuine dialogue. This is where the significant learning action takes place" (p.118). In one study of a faculty-faculty mentorship program in the academic health sciences at the University of California San Francisco (UCSF), five themes emerged regarding characteristics of outstanding mentors based on letters submitted by mentees recommending their mentors for a Lifetime Achievement in Mentorship Award at UCSF. The five themes included 1) admirable characteristics, 2) how mentors act as career guides, 3) strength of mentor's time commitment, 4) support of personal/professional balance, and 5) leaving a legacy of mentoring (Cho et al., 2011). Table 2 identifies the most common words to describe "outstanding mentors" (Cho et al., 2011).

Table 2: Words Describing Outstanding Mentors

PERSONAL CHARACTERISTICS	PROFESSIONAL CHARACTERISTICS
Compassionate	Collaborative
Enthusiastic	Intellectual
Generous	Skilled clinician
Honest	Teacher
Insightful	
Selfless	
Wise	

According to Cho et al. (2011), "Although there has been burgeoning interest in mentorship in the health sciences over the past few years, little progress has been made in identifying the key characteristics of outstanding mentors, and there is a gap in translating this

knowledge into mentor training programs (p. 457). In addition, Crisp and Cruz (as cited by Gershenfeld, 2014), state that there is a "need for a better understanding of mentoring programs, including the characteristics of the participants" (p. 366).

External characteristics can also affect mentor-mentee rapport. These include the type of mentor program, training and orientation of mentors and mentees, and the duration of the relationship. Understanding the factors that contribute to quality mentoring relationships is essential to creating and maintaining effective mentoring programs (Karcher et al., 2005). According Cho, Ramanan, and Feldman (2011), "despite the growth of mentoring programs nationally and the increased emphasis on mentor training, there is little empirical research on the correlates of effective mentoring relationships or the characteristics of outstanding mentors" (p. 453).

Because of proven benefits to mentees, mentor programs would benefit by identifying what makes a good mentor. Identifying students with individual characteristics such as being socially connected, having strong study skills, and being academically motivated may help strengthen mentor programs and, ultimately, retain more students. The gap between identifying key mentor characteristics and improving mentor programs is what this study intends to analyze. Through surveying mentors about their individual characteristics and mentees about satisfaction levels with mentors, the researcher hopes to improve mentor and mentee training, the mentor-mentee match process, and further program assessment.

Summary

Student success factors include engagement and involvement. Those who are actively engaged on campus and in the classroom are more likely to succeed in college (Tinto, 2012). Mentoring is a form of engagement where trusting relationships are built to support individuals

who are less experienced and can be found in healthcare settings, K-12 education, and higher education. Mentoring programs are considered formal or informal, depending on the organization or individual and have benefits to both mentors and mentees. While evidence regarding mentoring generally has positive results, some negative aspects have been identified in various programs. Identifying individual characteristics and measuring mentee satisfaction levels may indicate a need for improving mentor and mentee training, the mentor-mentee match process, and program assessment. Chapter Three describes methods and procedures of the study.

CHAPTER THREE: METHOD AND PROCEDURE

Introduction

Literature regarding mentor programs indicate that peer mentoring can have a positive impact on student outcomes such as retention and graduation rates. With limited data existing regarding the connection between individual characteristics and mentoring success, further study was needed. Identifying mentor characteristics and measuring mentee satisfaction can help identify successful traits of mentoring relationships to improve programming and outcomes.

The purpose of this study was to test the theory that mentee satisfaction correlates to individual mentor characteristics for PPMP participants at FSU's College of Pharmacy. The independent variables are defined as mentor characteristics identified by the ACT Engage® survey. Dependent variables are defined as mentee satisfaction measured by the MFQ-9 survey and mentee F17 cumulative GPAs. Intervening variables include the number of mentoring contacts, length of mentoring sessions, and session content. It was predicted that mentees who report high satisfaction levels met more often with their mentors and discussed topics beneficial to their success.

The primary questions addressed by this study are:

1. Six months after being matched with a mentor, what overall level of satisfaction would P1 mentees report regarding their mentoring relationship?
2. Do individual mentor characteristics, self-reported using the ACT Engage® survey, correlate to mentee satisfaction?
3. Do GPA scores for mentees correlate with mentee satisfaction?

The secondary research questions addressed by this study are:

1. Does mentee satisfaction with the mentoring relationship correlate to the average number of contacts between mentor and mentee?
2. Does mentee satisfaction with the mentor-mentee relationship correlate to the average length of mentoring sessions?
3. Does mentee satisfaction with mentor-mentee relationship correlate to mentoring content?

Methodology

Since there was no intervention or treatment involved in the study, a descriptive quantitative design method was utilized (Baker, n.d.).

Context and Participants

During the 2010-11 academic year, the college of pharmacy experienced an increase in dismissals and withdrawal rates (see Figure 1). As Director of Student Services, this researcher recognized the need for additional student support through peer mentoring. P1 students were surveyed during Spring Semester 2011 and asked whether a mentor would have helped in their transition to the Pharm.D. program, specifically, how a mentor would have helped with their transition from pre-pharmacy to the Pharm.D. program. The majority of students expressed strong interest in having a peer mentor program to help with study skills and test preparation, as well as provide general encouragement. In the Fall Semester of 2011, this researcher piloted the PPMP with 88 P1 students signing up for the voluntary program.

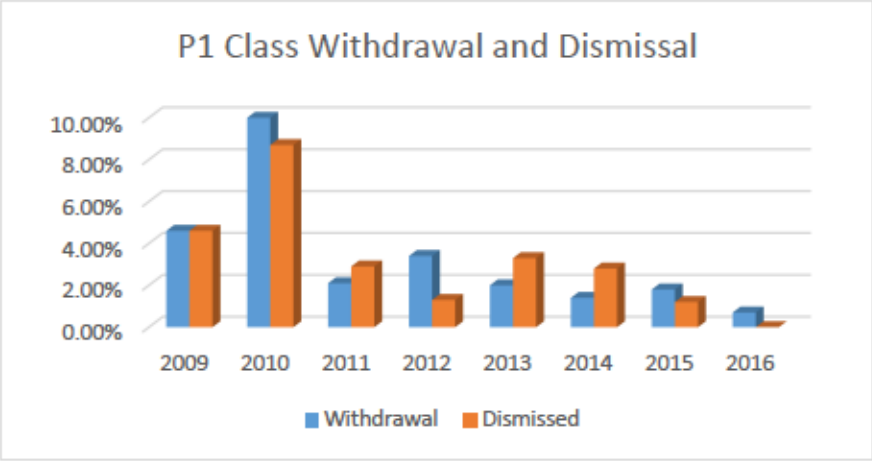


Figure 1: FSU College of Pharmacy P1 Class Withdrawal and Dismissal Rates

Note: Additional college initiatives, including implementation of a new remediation program for failing students began in the Fall 2011 semester, so improvements to withdrawal and dismissal rates cannot be attributed strictly to the PPMP.
Source: FSU College of Pharmacy SP18 Progressions List Master (password protected).

Beginning in 2012, the pilot program became a permanent voluntary peer mentoring program at the college. A majority of students from each incoming class signed up to participate in the voluntary PPMP. Figure 2 shows total number of participants since 2011. Biannual surveys indicate both mentors and mentees report benefitting from the program.

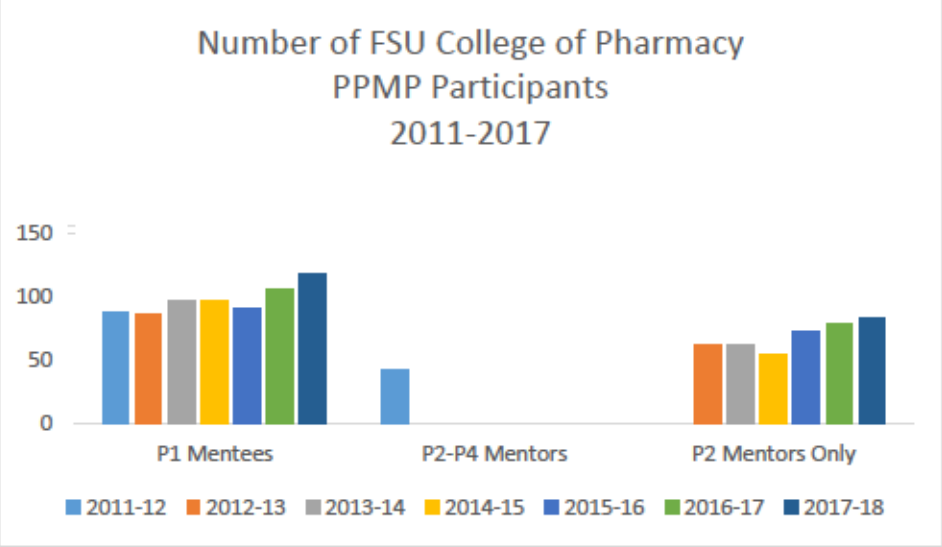


Figure 2. FSU College of Pharmacy 2011-17 PPMP Participants

Participants in this study include 2017-18 P1 pharmacy student mentees and P2 pharmacy student mentors. A total of 102 mentee-mentor pairs were studied. Peer mentor pairs are the unit of analysis and all pairs were eligible for the study.

Prior to survey administration, the Institutional Review Board determined the study to be a quality improvement project, so informed consent was not required (Appendix B).

Procedures

Data collected for this study included a PPMP application survey for mentors to apply and an application survey for mentees to sign up. Potential mentors complete a mentor application that includes questions about their educational background and professional interests (Appendix C). Mentors are selected based on overall GPA and/or faculty recommendation and informed of their acceptance by May. Incoming students are emailed a link to a survey and encouraged to sign up for a mentor (Appendix D). Any P1 student interested in participating is matched with a P2 mentor. The surveys ask similar questions so appropriate mentor-mentee matches can be made. Students are matched by June 30th in order to have two months of contact with their mentor before the start of classes in the fall. Data collection also included the ACT Engage® results for P2 mentors (Appendix E). Metrics from ACT Engage® identify individual characteristics based on ten subscales that include academic discipline, general determination, goal striving, commitment to college, communication skills, study skills, social activity, social connection, academic self-confidence, and steadiness. Data from the MFQ-9 measures mentee levels of satisfaction with mentors and includes questions about number, length, and content of mentoring sessions (Appendix F).

Spearman rank-order correlation analysis measured the strength and direction of the relationship between mentee satisfaction and multiple variables including mentor characteristics and number, length, and content of mentoring sessions. Multi-linear regression was used to measure the relationship between dependent and independent variables.

Sampling

Students voluntarily chose to participate as mentors and mentees. Only mentor-mentee pairs who completed the ACT Engage® and MFQ-9 were included in the study.

Validity

The MFQ-9 and ACT Engage® surveys have been validated to use with college students. The MFQ-9 was developed and validated by Scandura and Ragins (2004). For this study, Dr. Scandura was contacted to request permission to use the MFQ-9 with edits to reflect an academic setting. Dr. Scandura replied that the MFQ-9 was available for research, including dissertations, and suggested a pre-test to validate any edits (Appendix G). During Spring and Summer 2017, a pre-test was conducted on MFQ-9 questions. Three individual pairs of third-year and fourth-year students participated in the pretest. Each student had previously participated as a mentee in the PPMP. Students were asked to answer the following questions regarding MFQ-9 questions: What does the question mean? What is your answer to the question regarding your own mentor? If the student thought the question meant something different, then the student was asked how they would suggest changing to clarify the question. Minor edits were made to accurately reflect student feedback and to clarify the intention of the survey.

According to ACT, Inc. (2016), the ACT Engage College survey enhances the prediction of college GPA, college retention, and college completion. Used in combination with traditional

predictors of student success (e.g. GPA or ACT scores), identification of high-risk students is maximized regarding academic difficulty and withdrawals.

Generalizability

Results from the study can be generalized to college of pharmacy students who have completed the first year of a Pharm.D. program (mentors) and students transitioning from pre-pharmacy to the Pharm.D. program (mentees). Students entering other graduate or professional programs may also benefit from study results. Using data from this study, colleges interested in peer mentoring will want to evaluate match processes and training for mentors and mentees. Identified factors may prove to be essential ingredients for successful mentorship among graduate or professional students and, in turn, support retention efforts.

Limitations

This study is not without limitations. The student participants are limited to a mid-size, upper Midwest college of pharmacy that includes a majority Caucasian, traditional-age student population. Due to a lack of diversity, study results may be skewed to a white majority of students. In addition, since students were not randomly assigned mentors, the ability to make causal inferences is limited. The study also considered only students who chose to participate in the PPMP, rather than all students to compare students with and without mentors.

Summary

In this chapter, the researcher explained the methodology and procedures that guided this study. Generalizability and limitations of the study were also discussed. The findings of the study will be discussed in Chapter Four.

CHAPTER FOUR: FINDINGS

Introduction

This study examined whether individual mentor characteristics correlated to mentee satisfaction with the mentoring relationship. Identifying individual mentor characteristics using ACT Engage® and comparing mentee satisfaction levels, the college has an opportunity to improve programming to cultivate successful mentoring relationships.

Research Questions

Primary Question 1: Level of Satisfaction of Mentoring Relationship

After being matched with mentors for six months, P1 mentees indicated positive overall satisfaction with mentors. Table 3 shows the mean of MFQ-9 satisfaction responses at 44.81 and median at 44.00 out of 63.00 possible points. Without considering specific mentor characteristics, mentees reported a 70% level of satisfaction with respect to their assigned mentors.

Table 3. Overall Satisfaction of Mentors as Reported by Mentees. Spring Semester 2018 MFQ-9 Survey Results

VARIABLE	N	MEAN	SD	MIN.	.25	MDN.	.75	MAX
Personal Interest	102	5.56	1.47	1.00	5.00	6.00	7.00	7.00
Educational Goals	102	5.44	1.43	1.00	4.00	6.00	7.00	7.00
Academic Success	102	5.17	1.57	1.00	4.00	5.00	7.00	7.00
Share Problems	102	4.20	1.92	1.00	3.00	4.00	6.00	7.00
Exchange Confidences	102	4.43	1.86	1.00	3.00	4.00	6.00	7.00
Considered Friend	102	4.93	1.58	1.00	4.00	5.00	6.00	7.00
Role Model	101	4.72	1.70	1.00	4.00	5.00	6.00	7.00
Admire	102	5.05	1.58	1.00	4.00	5.00	6.00	7.00

VARIABLE	N	MEAN	SD	MIN.	.25	MDN.	.75	MAX
Respect	102	5.36	1.49	1.00	4.00	6.00	7.00	7.00
Overall Satisfaction	100	44.81	12.49	9.00	37.00	44.00	55.00	63.00

Primary Question 2: Correlation of ACT Engage® to Mentee Satisfaction

Table 4 shows when regressed, variables that predicted overall satisfaction for mentees included mentor characteristics of study skills and goal striving, as well as the average number of mentoring sessions and average time per session. Each of these variables positively correlated to mentee satisfaction with the exception of study skills, which was negatively correlated ($p<0.001$). An adjusted r-square of 0.319, indicates that 32% of the variation in overall satisfaction is explained by (in order of importance as indicated by standardized coefficients) number of contacts, mentor study skills, average length of mentoring sessions, and mentor goal striving. Variables that were not found to be strong predictors of mentee satisfaction included mentor GPA, mentor gender, mentee gender, and ACT Engage® variables including social activity, social connection, academic self-confidence, commitment to college, steadiness, general determination, academic discipline and communication skills.

Table 4. Variables Predicting Mentee Satisfaction

OVERALL SATISFACTION	COEF.	STD. ERR.	t	P>|t|	[95% CONF. INTERVAL]	
Number of Contacts	7.174	1.471	4.88	0.001	4.252	10.096
Session Time	3.384	1.076	3.14	0.002	1.246	5.523
Study Skills	-0.154	0.055	-2.77	0.007	-0.264	-0.044
Goal Striving	0.121	0.054	2.21	0.029	0.012	0.229

Primary Question 3: Relationship between GPA scores and Mentee Satisfaction

Table 5 shows no correlation between mentee GPA and mentee satisfaction, even when adjusted for average length of sessions and average number of sessions ($p=0.862$).

Table 5. Mentee GPA Scores Predictive of Mentee Satisfaction Levels

OVERALL SATISFACTION	COEF.	STD. ERR.	t	P>|t|	[95% CONF. INTERVAL]	
Number of Contacts	7.270	1.540	4.72	0.001	4.212	10.327
Session Time	3.437	1.138	3.02	0.003	1.177	5.698
Mentee F17 GPA	-.475	2.724	-0.17	0.862	-5.885	4.934

Analysis also included prediction of mentor GPA and mentee GPA. Findings indicated there was no correlation between mentor and mentee GPA (p=0.376).

Secondary Question 1: Correlation between Mentee Satisfaction and Number of Meetings

To address secondary study questions 1 and 2, overall satisfaction was regressed on the number of mentor-mentee contacts and session time. Table 6 shows the overall regression model was significant (p<0.001) with an adjusted R-square of 27.6%. The number of meeting times between mentors and mentees positively correlated with mentee satisfaction.

Table 6. Mentor-Mentee F17 Contacts Predictive of Mentee Satisfaction Levels

OVERALL SATISFACTION	COEF.	STD. ERR.	t	P>|t|	[95% CONF. INTERVAL]	
F17 Contacts	7.230	1.515	4.77	0.001	4.222	10.239

Further analysis indicated the more often mentees met with their mentors, the more satisfied mentees were with the mentoring relationship (Table 7).

Table 7. Mentee Satisfaction When Compared to Specific Units of Contact with Mentor

	F17 CONTACTS	OVERALL SATISFACTION
F17 Contacts	1.000	
Overall Satisfaction	0.433*	1.000

Note: *p<0.001

Secondary Question 2: Correlation between Mentee Satisfaction and Average Length of Meetings

Mentee satisfaction positively correlates with the average length of meetings between mentors and mentees (Table 8).

Table 8. Length of Mentoring Session and Mentee Satisfaction

OVERALL SATISFACTION	COEF.	STD. ERR.	t	P>|t|	[95% CONF. INTERVAL]	
Session Time	3.479	1.107	3.14	0.002	1.280	5.678

Further analysis indicated, on average, the longer mentors met with mentees the more satisfied mentees reported of their mentoring relationship (Table 9).

Table 9. Mentee Satisfaction When Compared to Specific Length of mentoring Sessions

	F17 CONTACTS	OVERALL SATISFACTION
Session Time	1.000	
Overall Satisfaction	0.356*	1.000

Note: *p=0.001

Secondary Question 3: Correlation between Mentee Satisfaction and Meeting Content

Mentees identified content discussed during mentoring sessions. As indicated in Table 10, mentees reported test preparation (n = 75) as the most frequent topic discussed with their mentor. Other frequently discussed topics included study skills (n = 71) and concerns about academic success (n = 65). Stress management (n = 33) and time management (n = 28) were the least frequent topics discussed with mentors.

Table 10. Mentoring Session Topics Discussed During Mentoring Sessions as Reported by Mentees

VARIABLE	N	MEAN	SD	MIN.	MAX
Test preparation	75	2.293	1.333	1	8
Study skills	71	2.408	1.294	1	7
Concerns about academic success	65	2.708	1.497	1	6

VARIABLE	N	MEAN	SD	MIN.	MAX
Experiential	39	2.795	1.963	1	8
Familiar with FSU	34	3.382	2.270	1	8
Encouragement	52	3.462	1.765	1	8
Time management	28	3.821	1.722	1	7
Stress management	33	3.909	1.444	1	6

In contrast, when overall mentee satisfaction was regressed on meeting content, a different array of importance emerged from the content variables that loaded. The content topics of study skills, experiential information, and encouragement loaded significantly to predict overall satisfaction with mentors ($p<0.001$; adjusted R-squared 27.4%). Based on the standardized coefficients shown in Table 11, encouragement was ranked as most important, followed by study skills and experiential information. The other content variables did not load in the regression.

Table 11. Standardized Coefficients for Meeting Content Variables Regressed on Overall Mentor Satisfaction

MEETING CONTENT	b	t	P>|t|	STANDARDIZED COEFFICIENT
Encouragement	8.789	3.833	0.000	0.3452
Study skills	7.320	2.923	0.004	0.2636
Experiential Info	6.079	2.659	0.009	0.2319

Summary

Data analysis of ACT Engage and MFQ-9 indicated a 70% level of mentee satisfaction, without consideration of specific mentor characteristics. Regression analysis of ACT Engage® and MFQ-9 provided details regarding variables that predicted overall satisfaction including the average number of mentoring contacts, average time per session, and mentor's self-reported study skills and goal striving. Each of these variables positively correlated to mentee satisfaction

with the exception of study skills, which was negatively correlated. Analysis of the average number and length of mentoring sessions was shown to be positively correlated with mentee satisfaction. In addition, when mentees were asked to identify meeting topics, they listed test preparation, study skills, and concerns about academic success as the top three topics discussed. However, when mentoring topics were regressed as related to mentee satisfaction, the most important topics were encouragement, study skills, and experiential information from most important to least important. Conclusions regarding findings and recommendations will be discussed in Chapter Five.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

Chapter Five provides conclusions and recommendations based on findings of the six research questions. The recommendations are derived from analysis of data collected from the ACT Engage® and MFQ-9 surveys. Following is a discussion of the conclusions of each research question based on the study findings and literature found in Chapter Two.

Primary Research Question 1

The first research question examined overall level of satisfaction with mentoring relationships as reported by mentees. Mentees reported a 70% satisfaction rate with mentors. Given that PPMP annual surveys indicated strong, positive responses from PPMP participants since 2011, a satisfaction rate of 70% was lower than expected by the researcher.

Literature points to a wide range of reasons mentees may be dissatisfied with mentors, including busy schedules, lack of expertise, personal problems, or lack of interpersonal skills (Brown & Hanson, 2003; Simon & Eby, 2003). However, this study specifically focused on individual mentor characteristics and the number, length, and content of mentoring sessions that may attribute to a 70% satisfaction rate by mentees. Additional research questions explore more details regarding correlations between mentee satisfaction and the mentoring relationship.

Primary Research Question 2

When regressed, four variables that predicted overall satisfaction included the average number of mentoring contacts, average time per session, and mentor's study skills and goal

striving, as reported by ACT Engage®. The number and length of mentoring sessions were statistically significant to mentee satisfaction levels ($p>0.001$). Literature supports a positive correlation between mentors who spend quality time with mentees and the mentee's success (Huybrecht et al, 2010; Cho et al., 2011). In addition, Chickering's seven vectors of student development emphasizes the importance of developing mature interpersonal relationships, while Kuh, et al. (2010) stresses the value of providing a supportive campus environment through mentoring and advising. The study results indicate that PPMP mentees value mentors who meet often and spend quality time addressing their needs.

Additional variables included the ACT Engage® subscales of study skills and goal striving, as reported by mentors. ACT defines study skills and goal striving as (ACT Engage® Information, 2017):

> Study skills – The extent to which students believe they know how to assess an academic problem, organize a solution, and successfully complete academic assignments.
>
> Goal striving – The strength of one's effort to achieve objectives and end goals.

According to ACT's definition, mentors who rate themselves high in study skills believe they know how to assess a problem, organize a solution, and successfully complete assignments. However, when mentees rated satisfaction with mentors who indicated strong study skills, mentees' level of satisfaction was inversely related with a negative correlation ($p<0.001$). An explanation for this inverse relationship may be attributed to the mentor's lack of understanding mentee needs. Mentors may clearly understand how to succeed in each class and are willing to share their techniques with mentees, however, the techniques or skills may not work for the mentee. Mutual respect and understanding are important for successful mentoring relationships

(Lumpkin, 2017). Mentors must take the time to get to know their mentees and build a trusting relationship. When trust is high, mentors and mentees can more honestly engage with each other (Zachary, 2012). Through a trusting relationship, mentors and mentees build a strong relationship to include honest communication regarding needs and expectations.

In addition, mentors who highly rated goal striving indicated they have a strong tendency toward achieving objectives and goals. Mentees who were matched with mentors with high goal striving were highly satisfied. Mentees indicated they appreciated mentors who set goals and do their best to achieve it. Pharmacy students, in general, are high achieving individuals who have succeeded academically in high school and pre-pharmacy. Goal striving comes natural to many professional and graduate students. The correlation between mentee satisfaction and mentors with high goal striving tendencies was not surprising, given the level of academic achievement shown by pharmacy students. As with study skills, a trusting relationship will help mentees share with mentors their objectives and goals to help them succeed.

Primary Research Question 3

A regression analysis of mentee satisfaction and mentee GPA scores indicated no correlation, even when adjusted for length and average number of mentoring sessions ($p=.862$). Since there are numerous variables involved in predicting GPA, it is not surprising that a correlation was not determined when the only independent variable involved participation in the PPMP. Additional research questions regarding the mentor-mentee relationship included the number, length, and content of meetings.

Secondary Research Question 1

When analysis was completed on the number of times met, results indicated when students met more often, mentees indicated higher levels of satisfaction. In addition, as the

number of meeting times increased, so did mentee satisfaction levels. This result indicates that mentors who took sufficient time to meet with mentees received higher satisfaction ratings. Students who meet more often with their mentors, report higher levels of emotional and practical support (Grant-Vallone & Ensure, 2000). The results indicate the opposite also to be true; mentees who met less often were less satisfied.

During initial meetings with mentors and mentees, the PPMP coordinator explains that the mentoring relationship is a two-way street, with expectations outlined for both mentors and mentees. Mentees are encouraged to ask questions, talk with mentors about their goals, and be a proactive participant. Mentors have similar expectations; however, mentors are also encouraged to take cues from their mentees regarding the level of mentoring needed. This way, regardless of number of mentoring sessions, individual mentee needs are addressed. Not all mentees will need to meet on a regular basis. However, the literature supports the fact that effective mentors communicate more frequently with their mentees, establishing a trusting relationship (Fagenson-Eland, Marks, & Amendola, 1997). As the mentoring relationship continues to build, mentors and mentees discover the real value of relating to each other (Kram, 1983). Many formal mentor programs stipulate number and length of mentoring sessions. Although the PPMP has formal qualities such as established goals and a strategic match process, mentors and mentees determine how often and how long they meet, reflecting characteristics of an informal mentoring program. Studies show that meeting more often can improve mentoring relationships. However, the PPMP is a voluntary program that focuses on meeting individual student needs, regardless of the number of times mentors and mentees meet.

Secondary Research Question 2

The average length of mentoring sessions also positively correlated with mentee satisfaction. Similar to the correlation of number of meetings, findings show that as the average length of meetings increased, the level of mentee satisfaction increased. Mentors who communicate well and spend time with mentees can help students succeed. Unfortunately, time is at a premium for students in demanding professional or graduate programs, particularly the Pharm.D. program. Finding the time to develop strong mentoring relationships can be a barrier to mentoring success. To address this issue, the PPMP schedules events twice a semester for all mentors and mentees to come together as a group for informal gatherings. By having scheduled events, students who do not or cannot meet otherwise, have a reason to meet face-to-face with their mentor or mentee.

Secondary Research Question 3

In addition to number and length of meetings, mentees were asked to identify topics discussed during mentoring sessions and rank the importance of topics from most important to least important. Findings indicated that mentees reported test preparation as the most frequent topic discussed with their mentor, followed by study skills, and concerns about academic success. Mentees ranked time management and stress management as least important topics. When comparing overall mentee satisfaction with topic rankings, however, study skills, experiential information, and encouragement ranked as most important to the mentees. The other content variables did not indicate any significance.

Results from Secondary Research Question 3 indicate a disconnect between mentor perceptions and mentee expectations. The difference between Table 10 and Table 11 is a matter of perception and understanding between mentors and mentees. Table 10 highlights the number

of times topics were discussed during mentoring sessions; while Table 11 ranks the topics in order of importance to mentees. The study results indicate that mentees need information pertaining to study skills and experientials, as well as overall encouragement. However, when mentors met with mentees, discussion included test preparation, study skills, and academic concerns. Understanding this disconnect is worth further discussion.

It is not surprising that study skills are ranked as important in both tables. Pharmacy students often admit that they received excellent grades while in high school and pre-pharmacy courses without developing specific study habits. However, when many students begin the Pharm.D. program they admit that study skills that worked for them in prior years no longer work for them in the professional curriculum. The rigor of the Pharm.D. program demands a higher level of analytical and study skills. P2 mentors who successfully completed the P1 year understand the need to adjust their study habits in order to succeed and are willing to share this information with mentees. The results from this study indicate that mentors are meeting mentee needs by spending time discussing study skills during mentoring sessions.

Test preparation was rated as the most frequent topic discussed between mentors and mentees. Again, because of their recent experience in the P1 year, mentors have a clear understanding of test expectations and can provide mentees valuable preparation tips. Mentoring topics including academic concerns and encouragement could be considered related to one another. Mentees report that academic concerns are discussed frequently, while ranking encouragement as an important topic. Due to their recent completion of the P1 year, mentors are uniquely qualified to provide encouragement to mentees who have concerns about P1 year coursework. The study also indicates that mentees value encouragement from their mentors who can provide reassurance regarding the P1 year.

The last topic rated as important to mentees was experiential information. P1 experientials at the College of Pharmacy refers to a three-week Introductory Pharmacy Practice Experience (IPPE) in a community pharmacy setting. Students must successfully complete all first-year coursework in order to register for an IPPE following the P1 year. Since IPPEs are a new experience for P1 students, the findings indicate that they may have a high level of uncertainty about the IPPE process or experience. Due to this uncertainty, mentees rated experiential information as an important topic to discuss with mentors.

Implications for Practice

The findings and conclusions of this study suggest a number of recommendations to improve the PPMP and mentee satisfaction. In addition, this study opens the possibility of future research to improve student success through peer mentor programs.

Since 2011, the PPMP has included an annual mentor orientation and annual feedback from mentors and mentees. Information developed for mentor orientations was primarily based on annual, aggregate mentor and mentee data. Without feedback from individual mentoring pairs, data for program improvement was limited. Findings from this study show the need for a more robust orientation program for mentors. Orientation topics currently include how the PPMP aligns with the college's mission, goals of the PPMP, expectations of mentors and mentees, and tips for successful mentoring relationships. However, this study identified gaps in information shared with mentors that could improve overall mentee satisfaction. Topics for additional training are described below.

Communication Skills

Findings from the study show the list of topics discussed during mentoring sessions are misaligned with topics of importance identified by mentees, with the exception of study skills.

Topics of test preparation, study skills, and academic concerns are what mentors and mentees currently discuss. However, study skills, experiential information, and encouragement are what mentees find most important to them. It is recommended that a more in-depth discussion about communication be added to mentor orientation and include topics regarding empathy skills, asking clarifying questions, open-mindedness, respect, and non-verbal communication. Improving communication awareness will help build a trusting relationship where mentees feel comfortable sharing their goals and expectations.

The PPMP also schedules an annual welcome event for all mentors and mentees at the beginning of each fall semester. The researcher recommends that information about communication skills be included during the welcome event so all participants are aware of the importance of communication and building a strong relationship.

Encouragement

Once a relationship is established, it is important for mentors to provide ongoing encouragement to mentees. Mentees ranked mentor encouragement as important to their overall satisfaction. Providing encouragement to mentees most likely comes natural to most mentors, however, explicitly stating the importance of providing encouragement during mentor orientation may improve mentee satisfaction levels. Mentors who can say the right thing at the right time, can make a significant difference to a mentee (Zachary, 2012).

Study Skills

Historically, study skills have not been formally addressed during mentor orientation. Due to their own experience in the P1 year, there is an assumption that mentors are intrinsically qualified to provide advice regarding study skills. The study results also indicated that mentors self-reported strong study skills. Findings from the study show that mentors address this topic

regularly during mentoring sessions, while mentees ranked this topic as number one in importance. However, there is a negative correlation between the mentor's self-reported study skills and mentee's level of satisfaction. In other words, what works for the mentor may not work for the mentee. To address this gap, it is recommended that, in conjunction with communication skills, mentor orientation include a discussion about study skills and unique learning styles. In order for mentors to meet the needs of their mentees, mentors must first understand their mentee and what they need for success. The use of clarifying questions, reflecting statements, and having an open-mind are techniques that can help mentors improve communication to understand and support mentees.

Goal Striving

Because mentor goal striving was positively correlated to mentee overall satisfaction, it is recommended that mentors encourage mentees to discuss their goals. Currently, all pharmacy students are required to establish SMART goals for an individual continuous professional development (CPD) plan. The CPD plan is currently utilized for student meetings with faculty advisors, however, these goals may overlap with mentoring efforts. If additional goals pertaining to mentoring are necessary, recommendations will include that mentors and mentees work together to establish clear and concise goals for effective mentoring. Mentee goals can serve as an accountability tool to measure progress.

Experiential Information

Since mentees rated experiential information as an important topic as related to their overall satisfaction, the researcher recommends that more information about IPPEs be provided to both mentors and mentees. IPPEs are a new experience for both P1s (community pharmacy

setting) and P2s (institutional pharmacy setting), so providing an opportunity for students to ask questions and learn about these unique experiences may alleviate uncertainty for many students.

Summary of Recommendations

Recommendations for further study include qualitative research to learn more about the disconnect between the mentoring session topics and topics important to mentees. Interviewing participants can shed light on the discrepancy and may provide further direction to reduce this gap between mentee expectations and mentor perceptions. In addition, since this study looked at mentor characteristics only, utilizing ACT Engage® to collect mentee characteristic information may provide additional insight into this disconnect. Collecting characteristics data from both mentors and mentees may also help improve the match process and, ultimately, mentee satisfaction rates. Another recommendation is to survey mentors regarding their level of satisfaction and compare that data to mentees. Data collected about satisfaction for both mentors and mentees may yield valuable information for further program improvement. Lastly, a longitudinal study of mentoring pairs is recommended to learn whether participants continue the mentoring relationship, and why or why not. Data from a longitudinal study will be valuable for matching students and improving programming.

The study sought to identify correlations between mentee satisfaction and individual mentor characteristics. Variables that predicted overall mentee satisfaction included number and length of mentoring sessions and mentor's self-reported study skills and goal striving. Results highlighted a disconnect between what mentors and mentees discussed most often during mentoring sessions and those topics rated as most important to mentees. Several implications for practice were identified; specifically, improvements to mentor training. Increased

communication with mentees about study skills, providing encouragement, goal striving, and experientials were highlighted as important to improving mentee overall satisfaction.

REFERENCES

ACT Engage® Case Studies. (2016). *See ACT Engage® in Action. University of Minnesota Rochester. A success story from ACT*. Retrieved from http://www.act.org/content/dam/act/unsecured/documents/ACT-Engage-Case-Study-UofM-Roch.pdf

ACT Engage® Case Studies. (2012). *See ACT Engage® in Action. University of North Texas. University implements ENGAGE to increase success of first-semester college student*. Retrieved from http://www.act.org/content/dam/act/unsecured/documents/ENGAGE_Case_Study_U_North_Texas.pdf

ACT Engage®. *College domains and scales overview*. (2017). Retrieved from https://www.act.org/content/dam/act/unsecured/documents/EngageCollegeHandout.pdf

ACT Engage® (2016). *Development and validation of ACT Engage®. Technical manual*. Retrieved from https://www.act.org/content/dam/act/unsecured/documents/act-engage-technical-manual.pdf

ACT Engage® Information. (2017). *About ACT Engage*. Retrieved from http://www.act.org/content/act/en/products-and-services/act-engage/about-act-engage.html

Allen, T., Russell, J., & Maetzke, S. (1997). *Formal peer mentoring. Factors related to proteges' satisfaction and willingness. Group & Organization Studies*, 22(4). doi: 10.1177/1059601197224005

American College Testing (n.d.). *About ACT Engage*. Retrieved from http://www.act.org/content/act/en/products-and-services/act-engage/about-act-engage.html#College

Armstrong, S., Allinson, C., & Hayes, J. (2002). Formal mentoring systems: An examination of the effects of mentor/protégé cognitive styles on the mentoring process. *Journal of Management Studies*, 39(8), pp. 1111-1137. doi: 10.1111/1467-6486.00326

Astin, A. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development*, *40*(5), p.518 – 529.

Baker, C. (n.d.) Quantitative research designs: Experimental, quasi-experimental, and descriptive. Retrieved from http://samples.jbpub.com/9781284101539/9781284101539_CH06_Drummond.pdf

Barrett, J., Mazerolle, S., & Nottingham, S. (2017). Attributes of effective mentoring relationships for novice faculty members: Perspectives of mentors and mentees. *Athletic Training Education Journal*, 12(2), pp. 152-162. doi: 10.4085/1202152

Brown, B. & Hanson, S. (2003). Development of a student mentoring program. *American Journal of Pharmaceutical Education, 67*(4).

Bughi, S, Lie, D, Kia, S., & Rosenthal, J. (2017). Using a personality inventory to identify risk of distress and burnout among early stage medical students, 30(1), pp. 26-30. doi: 10.4103/1357-6283.210499

Busteed, B. (2014). College is worth it, but only if we make the most of it. Retrieved from http://www.gallup.com/opinion/gallup/176507/college-worth.aspx

Carini, R., Kuh, G., & Klein, S. (2006). Student engagement and student learning: Testing the linkages, *Research in Higher Education, 47*(1), pp. 1-32.

Cavanagh, M. & Prescott, A. (2011). 10 good reasons to mentor a student teacher: Advantages for supervising mathematics teachers and their classes. *Australian Mathematics Teacher, 67(*2), pp. 6-10. Retrieved from http://www.aamt.edu.au/Webshop/Entire-catalogue/Australian-Mathematics-Teacher

Chao, G., Walz, P., & Gardner, P. (1992). Formal and informal mentorships: A comparison on mentoring functions and contrast with nonmentored counterparts. *Personnel Psychology, 45*(3), pp. 619-636.

Chickering, A. & Reisser, L. (1993). *Education and identity*. San Francisco, CA: Jossey-Bass Publishers

Cho C., Ramanan, R. & Feldman, M. (2011). Defining the ideal qualities of mentorship: A qualitative analysis of the characteristics of outstanding mentors. *The American Journal of Medicine, 24*(5), pp. 453-458. doi: 10.1016/j.amjmed.2010.12.007

Coles, A. (2011). The role of mentoring in college access and success. *Institute for Higher Education Policy*. *Research to Practice Brief*. Retrieved from https://eric.ed.gov/?id=ED520415

Collings, R., Swanson, V., & Watkins, R. (2014). The impact of peer mentoring on levels of student wellbeing, integration and retention: A controlled comparative evaluation of residential students in UK higher education. *Higher Education; Dordrecht, 68*(6), pp. 927-942. doi: 10.1007/s10734-014-9752-y

de Graaf, J. & van den Berg, V. (2017 January 12). Profiles in mentoring: A conversation with MENTOR's Michael Garringer on his work translating research into practice. *The Chronicle of Evidence-Based Mentoring*. Retrieved from https://chronicle.umbmentoring.org/a-conversation-with-mentors-michael-garringer/

DuBois, D. L., Holloway, B. E., Valentine, J. C., & Cooper, H. (2002). Effectiveness of Mentoring Programs for Youth: A Meta-Analytic Review. *American Journal of Community Psychology, 30*(2), 157–197. doi: 10.1023/A:1014628810714.

Engagement (n.d.) In Oxford Dictionary. Retrieved from https://en.oxforddictionaries.com/definition/engagement

Ensher, E., Thomas, C., & Murphy, S. (2001). Comparison of traditional, step-ahead, and peer mentoring on protégés' support, satisfaction, and perceptions of career success: A social exchange perspective. *Journal of Business and Psychology, 15*(3), pp. 419-438.

Evans, N., Forney, D., Guido, F., Patton, L., & Renn, K. (2010). *Student development in college. Theory, research, and practice*. San Francisco, CA: Jossey-Bass.

Fagenson-Eland, E., Marks, M., & Amendola, K. (1997). Perceptions of mentoring relationships. *Journal of Vocational Behavior*, *51*(1), 29–42.

Ferris State University (n.d.) *About Ferris State University*. Retrieved from https://ferris.edu/HTMLS/ferris.htm

Ferris State University. College of Pharmacy. (n.d.) *Doctor of pharmacy facts and information* Retrieved from https://ferris.edu/HTMLS/colleges/pharmacy/DegreeDisclosure/index.htm

Ferris State University, Big Rapids, MI. (2010-16). *SP18 Progressions List MASTER [Password Protected]*.

Garber, M. (2017). Exercise as a stress coping mechanism in a pharmacy student population. *American Journal of Pharmaceutical Education*, *81*(3), 50. doi: 10.5688/ajpe81350

Gershenfeld, S. (2014). A review of undergraduate mentoring programs. *Review of Educational Research*, *84*(3), 365–391. doi: 10.3102/0034654313520512

Gimmon, E. (2014). Mentoring as a practical training in higher education of entrepreneurship. *Education + Training, 56*(8/9), pp. 814-825. doi: 10.1108/ET-02-2014-0006

Gisbert, J. (2017 January). Mentor-mentee relationship in medicine. *Gastroenterologia y Hepatologia (English Edition), 40*(1), pp. 48-57. doi: 10.1016/j.gastrohep.2016.02.005

Grant-Vallone, E. & Ensher, E. (2000). Effects of peer mentoring on types of mentor support, program satisfaction and graduate student stress: A dyadic perspective. *Journal of College Student Development*, *41*(6), 637–642. Retrieved from https://www.researchgate.net/publication/234598009_Effects_of_Peer_Mentoring_on_Types_of_Mentor_Support_Program_Satisfaction_and_Graduate_Student_Stress_A_Dyadic_Perspective

Grima, F., Paillé, P., Mejia, J., & Prud'homme, L. (2014). Exploring the benefits of mentoring activities for the mentor. *Career Development International; Bradford*, *19*(4), 469–490. doi: 10.1108/CDI-05-2012-0056

Heirdsfield, A., Walker, S., Walsh, & Wilss. L. (2008) Peer mentoring for first-year teacher education students: the mentors' experience, Mentoring & Tutoring: Partnership in Learning, 16(2), pp.109-124. doi: 10.1080/13611260801916135

Huybrecht S., Loeckx, W., Quaeyhaegens, Y., De Tobel D., & Mistiaen, W. (2011). Mentoring in nursing education: Perceived characteristics of mentors and the consequences of mentorship. *Nurse Education Today, 31*, pp. 274-278. doi: 10.1016/j.nedt.2010.10.022

Joshi, G. & Sikdar, C. (2015). A study of the mentees perspective of the informal mentors characteristics essential for mentoring. *Global Business Review, 16*(6), pp. 963-980. doi: 10.1177/0972150915597598

Karcher, M., Nakkula, M., & Harris, J. (2005). Developmental mentoring match characteristics: Correspondence between mentors' and mentees' assessments of relationship quality. *Journal of Primary Prevention*. 26(2), pp. 93-110. doi: 10.1007/s10935-005-1847-x

Knippelmeyer, S. & Torraco, R. (2007). Mentoring as a developmental tool for higher education. University of Nebraska – Lincoln. Retrieved from http://research.utah.edu/_documents/mentoring/Knippelmeyer2007.pdf

Kowtko, C., & Watts, L. K. (2008). Mentoring in health sciences education: A review of the literature. *Journal of Medical Imaging and Radiation Sciences*, *39*(2), pp. 69–74. doi: 10.1016/j.jmir.2008.04.003

Kram, K. E. (1985). Improving the mentoring process. *Training and Development Journal*, *39*(4), pp. 40, 42-43. Retrieved from https://scholar.google.com/scholar?hl=en&as_sdt=0%2C23&q=Kram%2C+K.+E.+%281985%29.+Improving+the+mentoring+process.+&btnG=

Kram, K. E. (1983). Phases of the Mentor Relationship. *The Academy of Management Journal*, *26*(4), 608–625. Retrieved from https://doi.org/10.2307/255910.

Kuh, G., Kinzie, J., Schuh, J., Whitt, E. and Associates. (2010). *Student success in college*. San Francisco, CA: Jossey-Bass.

Loue, S. (2011*). Mentoring health science professionals*. New York, NY: Springer Publishing Company, LLC.

Lumpkin, A. (2011). A model for mentoring university faculty. *The Education Forum, 75*(4), p. 357-368. doi: 10.1080/00131725.2011.602466

Lyons, M. (2016). F16 Peer Mentor Program Survey (Mentors). Unpublished raw data.

Lyons, M. (2016). SP16 Peer Mentor Program Survey (Mentees). Unpublished raw data.

Lyons, M. (2016). SP16 Peer Mentor Program Survey (Mentors). Unpublished raw data.

Majiros, C. (2013). Beyond social exchange theory: A theoretical shift for mentoring relationships in the federal workplace. *Advances in Social Work, 14*(2), pp. 531-543. Retrieved from http://journals.iupui.edu/index.php/advancesinsocialwork/article/view/1941/16390

Mears, D., Scaggs, S., Ladny, R., Lindsey, A., & Ranson, J. (2015). Successful transitions to graduate school: Using orientations to improve student experiences in criminology and criminal justice programs. *Journal of Criminal Justice Education*, 26(3), pp. 283-306. doi: 10.1080/10511253.2015.1018914

Mentee. OED Online. Oxford University Press, March 2018. Web. 27 February 2018. In Oxford Dictionary. Retrieved from https://en.oxforddictionaries.com/definition/mentee

Mentor. OED Online. Oxford University Press, March 2018. Web. 27 February 2018. In Oxford Dictionary. Retrieved from https://en.oxforddictionaries.com/definition/mentor

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

Peno, K., Mangiante, E., & Kenahan, R. (2016). *Mentoring in formal and informal contexts*. Charlotte, NC: Information Age Publishing.

Protégé. (n.d.). In Oxford Dictionary. Retrieved from https://en.oxforddictionaries.com/definition/protege

Ragins, B. & Cotton, J. (1999). Mentor functions and outcomes: A comparison of men and women in formal and informal mentoring relationships. *Journal of Applied Psychology, 84*(4), pp. 529-550. Retrieved from https://www.bu.edu/sph/files/2012/01/Ragins_Mentor-functions-and-outcomes.pdf

Rapaport, D. (2014). Peer mentoring in a community college nursing program. *Montana Nurses Association Pulse, 51*(3), p. 10. Retrieved from https://www.nursingald.com/uploads/publication/pdf/1069/Montana_Pulse_8_14.pdf

Scandura, T. A., & Williams, E. A. (2004). Mentoring and transformational leadership: The role of supervisory career mentoring. *Journal of Vocational Behavior*, *65*(3), 448–468. doi: 10.1016/j.jvb.2003.10.003

Simon, S. & Eby, L. (2003). A typology of negative mentoring experiences: a multidimensional scaling study. *Human Relations, 56*(9), pp. 1083-1106. doi: 10.1177/0018726703569003

Sin J., Pathickal, S., & Li, M. (2015). Establishment of a peer-mentoring program for student pharmacists. Pharmacy Student Forum. *American Journal of Health-System Pharmacists, 72*. doi: 10.2146/ajhp140544

Sparkman, L., Maulding, W., & Roberts, J. (2012). Non-Cognitive Predictors of Student Success in College. *College Student Journal*, *46*(3), 642–652. Retrieved from http://www.ingentaconnect.com/content/prin/csj/2012/00000046/00000003/art00018

Tinto, V. (2012). *Completing college: Rethinking institutional action*. Chicago, IL: University of Chicago Press.

Tonidandel, S., Avery, D., & Phillips, M. (2007). Maximizing returns on mentoring: Factors affecting subsequent protégé performance. *Journal of Organizational Behavior, 28* (1), pp. 89-110.

Tourigny, L. & Pulich, M. (2005). A critical examination of formal and informal mentoring among nurses. *The Health Care Manager, 24*(1), pp. 68-76.

Webber, K., Krylow, R., & Zhang, Q. (2013). Does involvement really matter? Indicators of college student success and satisfaction. *Journal of College Student Development, (54)*6. doi: 10.1353/csd.2013.0090

Welsch, E., Bhave, D., & Kim, K. (2012). Are you my mentor? Informal mentoring mutual identification. *Career Development International, 17*(2), pp. 137-148.

Wolf-Wendel, L., Ward, K., Kinzie, J. (2009). A tangled web of terms: The overlap and unique contribution of involvement, engagement, and integration to understanding college student success. *Journal of College Student Development, 50*(4), pp. 407-428.

Yelderman, L. (2017). Mentoring programs in juvenile treatment drug courts: Understanding the difficulties of applying best practices. *Journal of Applied Juvenile Justice Services*, pp. 28-49. Retrieved from http://npjs.org/jajjs/wp-content/uploads/2017/03/Yelderman-Mentoring-Programs-FINAL_KD.pdf

Zachary, L. (2012). *The mentor's guide. Facilitating effective learning relationships*. San Francisco, CA: Jossey-Bass.

Zevallos, A. L., & Washburn, M. (2014). Creating a culture of student success: The seek scholars peer mentoring program. *About Campus*, *18*(6), pp. 25–29. doi: 10.1002/abc.21141.

Zilvinskis, J., Masseria, A. & Pike, G. (2017). Student engagement and student learning: examining the convergent and discriminant validity of the revised national survey of student engagement. *Research in Higher Education, 58*(8), pp. 880-903. doi: 10.1007/s11162-017-9450-6

APPENDIX A: ACT ENGAGE® DOMAINS AND OVERVIEW

ACT Engage College

ACT Engage® College Domains and Scales Overview

Scale	Scale Definition	Sample Items	Students Who Score High	Students Who Score Low	Possible Interventions
Motivation (Getting Work Done)					
Academic Discipline	Amount of effort a student puts into schoolwork and the degree to which a student sees himself/herself as hardworking and conscientious.	• If I don't feel like going, I skip classes. (reverse-scored) • People describe me as a hard worker.	Place great value on schoolwork and make academic tasks and assignments a high priority.	May avoid schoolwork, cut classes, and view other areas of their lives as more important than the completion of school-related tasks.	• Provide students access to assistance from professors or an advisor with setting goals, prioritizing, time management, and organizing tasks.
General Determination	The extent to which one strives to follow through on commitments and obligations.	• I give my undivided attention to something important. • I am serious about fulfilling my obligations.	Have a strong sense of responsibility, are often perceived as trustworthy, and are likely to fulfill their commitments.	Are generally less committed and responsible.	• Help students recognize the value of meeting their commitments. • Introduce students to trust-building skills.
Goal Striving	The strength of one's effort to achieve objectives and end goals.	• I bounce back after facing disappointment or failure. • Once I set a goal, I do my best to achieve it.	Know how to set important goals and how to achieve these goals. They are confident in their ability to succeed.	Generally don't set goals, don't work as hard to achieve any set goals, and are less confident in their ability to achieve them.	• Promote goal setting in individual classes. • Encourage students to engage in career/major identification and planning.
Commitment to College	One's commitment to stay in college and get a degree.	• A college education will help me achieve my goals. • I am committed to attending and finishing college regardless of obstacles.	Feel determined to complete college regardless of obstacles and appreciate the value of education.	May have difficulty identifying how college will benefit them and may feel ambivalent about completing a degree.	• Help students identify a career of interest that requires postsecondary education. • Provide assistance with financial planning. • Help students draw clear connections between college majors and careers. • Have students explore professional life values.
Communication Skills	Attentiveness to others' feelings and flexibility in resolving conflicts with others.	• I'm sensitive to others' feelings. • I'm willing to compromise when resolving a conflict.	Know how to handle interpersonal problems effectively and can work cooperatively with others in group/team settings.	May have difficulty working in teams and may exhibit some rigidity in decision making.	• Promote conflict resolution and sensitivity training. • Help students practice good listening skills.

For additional resources (user's guide, case studies), visit our website at **www.act.org/engage**.

Scale	Scale Definition	Sample Items	Students Who Score High	Students Who Score Low	Possible Interventions
Study Skills	The extent to which students believe they know how to assess an academic problem, organize a solution, and successfully complete academic assignments.	• I summarize important information in diagrams, tables, or lists. • I organize my thoughts before I prepare an assignment.	Generally complete more assignments and thus perform better academically.	Generally struggle with completing their work and subsequently perform less well academically.	• Develop techniques to help students improve note-taking, outlining, problem-solving, and reading skills.
			Social Engagement (Getting Along)		
Social Activity	One's comfort in meeting and interacting with other people.	• I avoid activities that require meeting new people. (reverse-scored) • I make friends easily.	May have trouble keeping up with schoolwork because they focus more on social activities than on their education, especially students who score very high.	Feel shy and nervous when speaking with others, avoid social activities, and feel isolated, especially students who score very low.	• Introduce students who score low to activities that increase assertiveness and reduce social anxiety. • Introduce students who score very high to exercises in prioritization and handling social pressures.
Social Connection	One's feelings of connection and involvement with the school community.	• I have a sense of belonging when I am on campus. • I develop close friendships wherever I go.	Students who feel connected to the college community may be more likely to stay at that school and to earn a degree.	Feel less connected, which might result in a student leaving the school and/or not earning a degree.	• Encourage increased involvement in extracurricular activities and organized school-sponsored events.
			Self-Regulation (Keeping Your Cool)		
Academic Self-Confidence	The belief in one's ability to perform well in school.	• I am a fast learner. • I am less talented than other students. (reverse-scored)	Possess confidence in their ability to do well in school, which may help them persist in challenging tasks.	Are less confident and can be more easily frustrated by challenging tasks.	• Develop and share exercises to reduce pessimism and negative self-talk. • Develop and share exercises to reduce test anxiety.
Steadiness	One's responses to and management of strong feelings.	• I get easily irritated. (reverse-scored) • I stay calm in difficult situations.	Very high-scoring students might be overcontrolled and lack outlets for stress.	May be easily frustrated and overwhelmed.	• Help students find positive outlets for frustration. • Help students learn relaxation techniques.

For additional resources (user's guide, case studies), visit our website at **www.act.org/engage**.

APPENDIX B: IRB APPROVAL LETTER

FERRIS STATE UNIVERSITY

Institutional Review Board for Human Subjects in Research

Office of Research & Sponsored Programs, 1010 Campus Drive, FLITE 410G · Big Rapids, MI 49307

Date: March 30, 2017

To: Dr. Sandra Balkema and Margaret Lyons
From: Dr. Joshua Lotoczky, Acting IRB Chair
Re: IRB Application for Review

The Ferris State University Institutional Review Board (IRB) has reviewed your application for using human subjects in the study, "*Predictive characteristics of positive mentor-mentee relationships*" and determined that it does not meet the Federal Definition of research on human subjects, as defined by the Department of Health and Human Services or the Food and Drug Administration. This project does not meet the federal definition of research on human subjects because it is a Quality Improvement Project, designed with the goal of improving the performance of institutional practice in relationship to an established standard. As such, approval by the Ferris IRB is not required for the proposed project.

This determination applies only to the activities described in the submission; it does not apply should changes be made. If changes are made and there are questions about whether these activities are research involving human subjects, submit a new request to the IRB for determination. This letter only applies to Ferris IRB Review; it is your responsibility to ensure all necessary institutional permissions are obtained and policies are met prior to beginning the project, such as documentation of institutional or department support. Note that quality improvement project findings may be published, but any findings presented or published should be clearly identified as part of a quality improvement initiative and not as research.

Your project will remain on file with the Ferris IRB for purposes of tracking research efforts at Ferris. Should you have any questions regarding the determination of this letter, please contact the IRB.

Regards,

Ferris State University Institutional Review Board
Office of Research and Sponsored Programs

APPENDIX C: QUESTIONPRO MENTOR APPLICATION SURVEY

2017-18 Peer Mentor Application

Hello Fl 7 P2 Students,

We would like to invite you to apply to be a peer mentor for the FI 7 Pl class. This will be our seventh year offering a peer mentor program and each year it improves due to the involvement of upperclass students like you! We would not have a mentor program without the positive effort and dedication from our students. If interested in applying to the program as a mentor, please complete the questions below.

If you have any questions about the survey or the program, please contact Margaret Lyons at MargaretLyons@ferris.edu or call 616.643.1122.

Thank you for your interest and your willingness to support the next class of pharmacists! I look forward to working with you next year!

Mrs. Lyons

1. Contact Information
    a. First Name
    b. Last Name
    c. FSU Email Address

2. Student email addresses are protected under FERPA at FSU. Do you give the College permission to share your FSU email address for program-related correspondence (i.e. group emails, etc.)?
    a. Yes
    b. No
    c. Comments/Questions

3. Please provide a short description (one paragraph) as to your motivation for participating in the peer mentor program.

4. What area(s) of pharmacy are you interested in pursuing? Choose as many as apply.
    a. Hospital/Institutional
    b. Retail/Community
    c. Industry
    d. Undecided
    e. Other (Please Explain)

5. Please list organizations/activities which you are participating or plan to participate. Choose as many as apply.
    a. American Pharmacists Association (APhA ASP)
    b. American Society for Health-system Pharmacists (ASHP)

c. Arab American Pharmacists Association (AAPA)
d. Christian Pharmacists Fellowship (CPF)
e. Diversity in Pharmacy (DIP)
f. FSU Athlete
g. FSU Pep Band
h. Honors Pre-Pharmacy
i. Kappa Psi
j. Lambda Kappa Sigma (LKS)
k. Michigan Pharmacists Association (MPA)
l. National Community Pharmacists Association (NCPA)
m. Phi Lambda Sigma (PLS)
n. Pre-Pharm D Club
o. I do not belong to any organizations
p. Other Organizations (Pharmacy or Non-Pharmacy Related)

6. Where did you complete your pre-pharmacy coursework?

7. Please indicate your level of education.
   a. Pre-Pharmacy Requirements
   b. Associates Degree
   c. Bachelors Degree
   d. Masters Degree
   e. Terminal Degree (PhD, EdD, etc.)
   f. Other

8. Do you consider yourself a non-traditional student (i.e. prior career, family responsibilities, etc.)?
   a. Yes
   b. No
   c. Comments

9. If you would like to mentor a specific P1 student, please provide their name(s) here:

10. How many P2 students are you willing to mentor?
    a. 1
    b. 2
    c. 3

11. Any other comments/suggestions/questions?

APPENDIX D: QUESTIONPRO MENTEE SIGN-UP SURVEY

Ferris State University College of Pharmacy

2017-18 Peer Mentor Program Sign Up

1. Contact Information
    a. First Name
    b. Last Name
    c. FSU Email Address

2. Student email addresses are protected under FERPA at FSU. Do you give the College permission to share your FSU email address for program-related correspondence (i.e. group emails, etc.)?
    a. Yes
    b. No
    c. Comments/Questions

3. What area(s) of pharmacy are you interested in pursuing? Choose as many as apply.
    a. Hospital/Institutional
    b. Retail/Community
    c. Industry
    d. Undecided
    e. Other (Please Explain)

4. Please list organizations/activities which you are participating or plan to participate. Choose as many as apply.
    a. American Pharmacists Association (APhA ASP)
    b. American Society for Health-system Pharmacists (ASHP)
    c. Arab American Pharmacists Association (AAPA)
    d. Christian Pharmacists Fellowship (CPF)
    e. Diversity in Pharmacy (DIP)
    f. FSU Athlete
    g. FSU Pep Band
    h. Honors Pre-Pharmacy
    i. Kappa Psi
    j. Lambda Kappa Sigma (LKS)
    k. Michigan Pharmacists Association (MPA)
    l. National Community Pharmacists Association (NCPA)
    m. Phi Lambda Sigma (PLS)
    n. Pre-Pharm D Club
    o. I do not belong to any organizations
    p. Other Organizations (Pharmacy or Non-Pharmacy Related)
5. If you would like to be matched with a specific P2 student, please provide their name(s) here:

6. If you provided a P2 name above, do you plan to contact this student regarding your request to mentor?

7. Where did you complete your pre-pharmacy coursework?

8. Please indicate your level of education.
    a. Pre-Pharmacy Requirements
    b. Associates Degree
    c. Bachelors Degree
    d. Masters Degree
    e. Terminal Degree (PhD, EdD, etc.)
    f. Other

9. Do you consider yourself a non-traditional student (i.e. prior career, family responsibilities, etc.)?
    a. Yes
    b. No
    c. Comments

10. Please include any additional information that you would like us to consider in matching you with a P2 mentor (e.g. preferred gender of mentor, a non-traditional mentor, a mentor of a specific race and/or culture; completed pre-pharmacy at FSU or out-of-state, specific interests, etc.)

APPENDIX E: ACT ENGAGE® SURVEY REGARDING MENTOR CHARACTERISTICS, STUDENT SAMPLE

Sample Student

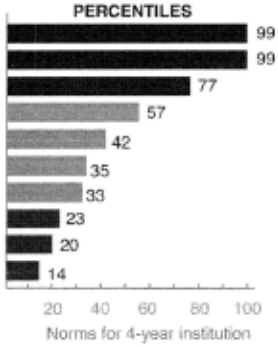
Tested on MM/DD/YY
1st year of college · ID 926096433

ACT® Engage® College

SAMPLE COLLEGE Class/section: ENG 101

ACT Engage measures personal, behavioral and academic skills critical to college achievement. Low scores on ACT Engage represent areas that, when improved, may increase your GPA and make it easier to focus on completing college. This report is designed to help you identify your strengths and needs in order to ensure that you are successful in your college career.

SCALE	SCORE
Academic self-confidence	58
Commitment to college	56
Goal striving	49
Social activity	49
Steadiness	37
Social connection	27
Communication skills	21
Academic discipline	19
General determination	18
Study skills	12



UNDERSTANDING YOUR SCORES

Your scores are reported in terms of percentiles. Your percentiles tell you the approximate percentages of students in schools like yours who took ACT Engage and scored at or below your score.

Scales highlighted in red are areas that you may want to focus on developing as you continue your education.

Capitalize on your strengths

99 Academic self-confidence

The belief in one's ability to perform well in school — Your score on this scale suggests you feel highly confident in your ability to succeed academically. Confidence in your abilities is critical to your academic success.

99 Commitment to college

One's commitment to staying in college and getting a degree — Your response suggests that you feel confident in your reasons for continuing your education. You see yourself as determined to invest the necessary time and effort required to attain a high school diploma and college degree.

77 Goal striving

The strength of one's efforts to achieve objectives and end goals — Your response indicates that you see yourself as goal driven. You generally set appropriate goals and you feel confident in your ability to achieve these goals. Establishing and accomplishing goals is an important life skill that is essential for success in high school and beyond and will help you to maintain your motivation, energy, and focus.

Continue to develop your skills

57 Social activity

One's comfort in meeting and interacting with other people — Your response suggests you feel relatively comfortable interacting with people you do not know and making new friends. Your social skills may benefit you in courses that emphasize team projects and other collaborative assignments.

ACT®

42 Steadiness

One's responses to and management of strong feelings — Your response indicates that you see yourself as capable of effectively controlling your emotions. You feel as though you do not often lose your temper and you manage frustration well. You are fairly effective in keeping emotions from affecting your academic performance and other important activities in your life.

35 Social connection

One's feelings of connection and involvement with the college community — Your response suggests you see yourself as connected with your school and its student body. Your involvement in school activities will provide a valuable source of stress relief and social interaction that will serve to enhance feelings of connection.

33 Communication skills

Attentiveness to others' feelings and flexibility in resolving conflicts with others — Your score on this scale suggests that you tend to see yourself as fairly comfortable when communicating with others, handling interpersonal conflicts, and working collaboratively with others. These skills will help you in learning and work environments as you effectively exchange information, cooperate with others, and work as a team member.

Make plans for improvement

23 Academic discipline

The amount of effort a student puts into schoolwork and the degree to which a student is hardworking and conscientious — Your response suggests you frequently approach academic related tasks with less enthusiasm and effort than other students. You may frequently rush through your homework without giving much attention to detail, turn in poor or incomplete work, or give up on difficult tasks or problems.

20 General determination

The extent to which one strives to follow through on commitments and obligations — Your score on this scale suggests that you see yourself as someone who often has difficulty fulfilling your assigned responsibilities or duties. If something more interesting presents itself, you may pursue that interest rather than uphold your prior obligations and/or tend to your commitments. Other people may not be able to depend on you to fulfill your promises.

14 Study skills

The extent to which students believe they know how to assess an academic problem, organize a solution, and successfully complete academic assignments — Your response indicates that you feel you lack good study skills, problem-solving skills, and learning strategies. Like academic abilities, these skills are important in predicting your success in high school and beyond.

Recommended plan of action

Overall, your ACT Engage scores suggest that you are likely to benefit from campus resources for promoting academic success and attaining a college degree. Consult with a counselor or academic advisor who can assist you to develop a plan of action for improving your skills. Further, consult the student tool shop for helpful information and sample strategies.

There are services available at your institution that may be helpful to you:

- Develop strategies for improvement. Take advantage of campus resources recommended to you. By using campus resources, you can enrich your college experience and improve your chances for success. Your advisor can help you customize a plan of action.
- Capitalize on your strengths. Talk to your academic advisor about ways to take advantage of your strengths.
- Find out more about campus services and get a list of helpful workshops and events at your institution's website or advisory office.
- Visit the student tool shop for information and exercises to aid you in constructing your improvement plan.

ACT

APPENDIX F: MENTOR FUNCTIONS QUESTIONAIRE (MFQ-9) REGARDING MENTEE SATISFACTION

Instructions to P1 Students regarding MFQ-9 Survey (January 5, 2018)

- The Office of Student Services continues to work on finding ways to support students and would like feedback from P1 mentees about the Pharmacy Peer Mentor Program (PPMP).
- For anyone who signed up to participate in the PPMP, even if you never met with your mentor, please take a few minutes to complete the survey.
- The information you share will help us improve the PPMP as we plan for next year's incoming class.

Survey Introduction:

Hello F17 P1 Students:

The College of Pharmacy Office of Student Services would like to request feedback regarding level of satisfaction with your 2017-18 peer mentor. Your feedback will help us as we improve the Pharmacy Peer Mentor Program (PPMP).

If you have any questions, please contact Mrs. Lyons at MargaretLyons@ferris.edu.

Thanks for your input!

Mrs. Lyons and the Office of Student Services

Mentor Functions Questionnaire (MFQ-9) regarding Mentee Satisfaction

1. Indicate the number of times you had contact with your mentor each semester.

Summer 2017	0 times	1-4 times	5-8 times	9+ times
Fall 2017	0 times	1-4 times	5-8 times	9+ times

2. Please provide reason(s) for not meeting with your mentor regarding any of the semesters (select all that apply).
    a. I contacted my mentor but did not hear back from him/her
    b. I had other support that I relied on for mentoring.
    c. The pharmacy peer mentor program (PPMP) was not what I was expecting.
    d. Too busy to participate.
    e. Other

3. Did you mentor contact you?
    a. Yes
    b. No

4. How would you rate each of the following statements for the semesters you met with your mentor? Strongly Disagree (1) – Strongly Agree (7)

a. My mentor takes a personal interest in my academic success.
b. My mentor helps me work toward my educational and/or professional goals.
c. My mentor has devoted special time and consideration to my academic success.
d. I share personal and/or academic problems with my mentor (ex: financial aid, housing, family issues, etc.).
e. I exchange confidences with my mentor.
f. I consider my mentor to be a friend.
g. I try to model my behavior after my mentor.
h. I admire my mentor's ability to motivate me/others.
i. I respect my mentor's ability to teach me/others.

5. What method(s) did you utilize to contact your mentor (select all that apply)?
    a. Phone
    b. In-Person
    c. Email
    d. Social Media
    e. Text
    f. I had no contact with my mentor.

6. On average, how much time was spent per mentoring session?
    a. A few minutes (e.g. texts)
    b. 15 minutes
    c. 30 minutes
    d. 45+ minutes
    e. I had no contact with my mentor.

7. What was the nature of the mentoring sessions? Select all that apply.
    a. Becoming familiar with FSU
    b. Concerns about academic success
    c. Encouragement
    d. Experiential information
    e. Stress management
    f. Study skills
    g. Test preparation
    h. Time management
    i. Other

8. Rank order your selected mentoring topics (highest = most important; lowest = least important) by dragging into the box at right.

9. Please provide your FSU email address. Your email address is being collected for the purpose of cross-referencing mentee and mentor names only. No student-specific identifiers will be carried forward for analysis of data. All information shared will be kept confidential.

APPENDIX G: EMAIL COMMUNICATION REGARDING USING MFQ-9 SURVEY

Margaret A Lyons

From: Scandura, Terri <tscandur@bus.miami.edu>
Sent: Wednesday, February 8, 2017 8:52 PM
To: Margaret A Lyons
Subject: RE: Mentoring Functions Questionnaire-9

Dear Margaret,

The MFQ-9 is available for research including dissertations. I cannot say whether changing the wording will change the meaning of the items. I suggest that you conduct a small pretest.

Best regards,

Dr. Scandura

From: Margaret A Lyons [mailto:MargaretLyons@ferris.edu]
Sent: Wednesday, February 8, 2017 7:39 PM
To: Scandura, Teresa <scandura@miami.edu>
Subject: Mentoring Functions Questionnaire-9

Dear Dr. Scandura:
I am writing to request permission to edit the Mentoring Functions Questionnaire (MFQ-9) for a dissertation project that I am completing on a pharmacy student peer mentor program. Since the MFQ-9 includes a "career support" section, I would like to edit this to state "academic support", in addition to other minor changes. Please see attached re: additional edits to assist with collecting data for the pharmacy peer mentor program.

Thank you in advance for your consideration.

Sincerely,
Margaret

Margaret A. Lyons, M.A., L.P.C.
Director of Student Services
College of Pharmacy
Ferris State University
25 Michigan Street NE | Suite 7000
Grand Rapids, MI 49503
phone/fax: 616-643-1122
mobile: 269-301-0521
email: margaretlyons@ferris.edu