THE RELATIONSHIP BETWEEN UNDERGRADUATE STUDENTS' ACADEMIC MOTIVATION AND COCURRICULAR INVOLVEMENT AT A MIDWEST CHRISTIAN UNIVERSITY

by

Rebecca Wakeman Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

Higher education administrators, faculty, and other stakeholders desire positive student outcomes, such as persistence and academic achievement, from their student populations. Undergraduate students' cocurricular involvement and academic motivation have previously been shown to separately have a positive correlation with such outcomes. This correlational study aimed to investigate the relationship directly between undergraduate students' academic motivation and cocurricular involvement. Students' academic motivation was measured using the Academic Motivation Scale College Version (AMS-C 28) and their cocurricular involvement was measured using involvement subscales from the College Student Experiences Questionnaire (CSEQ). These instruments were administered through an online survey platform to a convenience sample of full-time traditional undergraduate students enrolled at a Midwest Christian liberal arts college in the spring of 2020. Analyses were performed using the Pearson product moment coefficient to test for correlations between variables. The effect size was reported using Pearson's r for each of the four null hypotheses. Results of this study indicate students' academic motivation has a significant and positive relationship with their cocurricular involvement in the areas of clubs and organization involvement, course learning engagement, campus faculty experiences, and campus facility use. Recommendations for future research include repeating a similar study during a standard academic semester and using other measurements of cocurricular involvement focusing on students' interactions with their peers, faculty, and environment for investigation.

Keywords: student cocurricular involvement, academic motivation, clubs and organizations involvement, course learning engagement, campus faculty experience, campus facility use.

Dedication

I dedicate this dissertation to my loving and supportive husband, Kaleb. This has been a long and winding journey, but you have allowed me to pursue career advancements, degrees, and growing our family simultaneously, and for that I am forever grateful. It took nearly the first decade of our marriage, but now we can finally sign our Christmas cards "Rev. and Dr. Wakeman."

To our children, may you recognize your God-given gifts and abilities and use them to your fullest for His glory. You can do hard things.

To my students – past, present, and future – may I never stop striving to enrich and improve your academic and cocurricular experiences.

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List of Abbreviations

Academic Motivation Scale College Version (AMS-C 28) American College Personnel Association (ACPA) College Student Experiences Questionnaire (CSEQ) Cooperative Institutional Research Program (CIRP) Council of Student Personnel Associations (CSPA) Grade Point Average (GPA) Graduate Records Exam (GRE) National Survey of Student Engagement (NSSE) Self-Determination Theory (SDT)

CHAPTER ONE: INTRODUCTION

Overview

In an increasingly tense landscape of higher education, stakeholders are increasingly interested in achieving positive student outcomes such as persistence and graduation. Even though much research has focused on academic and classroom behaviors that support these positive student outcomes, there are other student behaviors and affective traits that also influence these outcomes, which have yet to be assessed together. This chapter examines the background of student cocurricular involvement and academic motivation as they relate to undergraduate student involvement and students' academic motivation. Chapter 1 discusses the background related to academic motivation and cocurricular involvement. The problem statement, purpose, and significance of the current study are discussed and the research questions definitions pertaining to this study are introduced.

Background

Educators often focus on academic outcomes measured strictly within the classroom, yet there are several cocurricular and relational factors that occur outside the classroom affecting students' academic performance. According to Astin (1999b), student involvement considers students' engagement in both academic and relational endeavors. Increased levels of involvement produce positive outcomes similar to those documented in students with higher academic motivation. Thus, there is a need to understand the relationship between student involvement and academic motivation and how they affect the undergraduate student experience.

Astin (1999b) set the foundation for understanding undergraduate student involvement as it relates to their persistence, satisfaction, and achievement. According to Astin, involvement includes the physical and psychological energy students expend on activities related to their educational experiences. As such, involvement can be considered how students spend their time on college activities in addition to their engagement in the classroom and academic-specific behaviors. Involvement continues to be of interest to educators as it correlates to student achievement (Hu & McCormick, 2012; Kilgo, Mollet, & Pascarella, 2016).

In addition to affecting achievement, involvement is positively correlated with student development in their first year—their community values, persistence, and satisfaction (Foreman & Retallick, 2016; Hu & McCormick, 2012; Kilgo et al., 2016; Kuh, 2016). Although involvement impacts persistence, it is not the only predictor. Academic motivation is a measure of students' rationale for pursuing and obtaining a college education (Clark & Schroth, 2010) and should, therefore, also be of concern and interest to educational professionals.

Historical Context

Student characteristics and involvement have been under scrutiny since the 1950s, when Pace (1984) developed the College Characteristics Index and the College and University Environment Scales. These instruments became precursors to the College Student Experiences Questionnaire (CSEQ) (Gonyea, Kish, Kuh, Muthiah, & Thomas, 2003). Although this instrument, which measures student experiences and involvement, was developed in the mid-20th century, Astin did not develop the student involvement theory until 1984. Since the emergence of student involvement theory, the CSEQ has become the prominent survey for administrators in higher education to understand students' undergraduate experiences. Kuh assumed responsibility of this survey's administration in 1994 and maintained it for two decades, until 2014, when the operation was closed in favor of administering the National Survey of Student Engagement (NSSE) (Gonyea et al., 2003), which is now the most current and widely used survey for student engagement (Kuh, 2009, 2016). During the same period Astin published his student involvement theory, Ryan and Deci developed their self-determination theory (Ryan & Deci, 2000a). Ryan and Deci published their theory in 1985 to distinguish between types of motivation based on the reasons and goals that prompt an individual to action (Ryan & Deci, 2000a). Previous research has considered the relationship between academic motivation and other variables such as personality (Clark & Schroth, 2010), but has not considered the potential link between academic motivation and student involvement, even though involvement has been proven to affect student outcomes in the way academic motivation does (Clark & Schroth, 2010; Hu & McCormick, 2012).

Social Context

Compared to their counterparts, residential liberal arts colleges and universities have a distinct pattern of success in meeting student needs and creating positive student outcomes. Astin (1999a) divided these outcomes into three categories: educational, existential, and fringe. These categories classify and measure long-lasting changes a student experiences—the quality, challenges, and meaning of the educational experiences, and the practical value of the degree as measured by educational, social, and career advantages, respectively. The environments of liberal arts colleges naturally enhance student involvement, thereby creating an increase in positive student outcomes. The liberal arts college also produces students more satisfied with faculty, teaching quality, and the general education program (Astin, 1999a; Pascarella, Wang, Trolian, & Blaich, 2013). For this reason, they are of particular interest in research concerning student involvement.

Theoretical Context

Two theories framed this study. Astin's (1999) student involvement theory provided the main framework for understanding the multifaceted aspects of the undergraduate student

experience. Ryan and Deci's (2000b) self-determination theory provided the framework for understanding students' academic motivation.

Student involvement theory. Student involvement theory is grounded in Astin's (1999) student involvement theory and continues to be the foundational theory for measures of student involvement, including the CSEQ and NSSE. This theory describes the positive relationship between the physical and psychological energy students exert on their educational experiences and learning outcomes. Students involved in extracurricular clubs and organizations exhibit higher leadership outcomes (Foreman & Retallick, 2013) and community values (Foreman & Retallick, 2016). Additionally, higher levels of involvement are related to higher GPA, satisfaction with the college experience, graduation rates, and degree persistence (Walker, Martin, & Hussey, 2015; Webber, Krylow, & Zhang, 2013)—educational experiences that expand beyond classroom and academic engagement to include interactions with faculty and peers (Astin, 1996). Astin used the term involvement believing students' actions are results of underlying motivation.

Student involvement theory includes five distinct postulates outlining involvement: (a) includes the investment of physical and psychological energy, (b) occurs along a continuum, (c) is measured quantitatively and qualitatively, and (d) is proportional to learning and development. In addition, (e) educational policy is only effective if it is able to increase student involvement (Astin, 1999b). With so many opportunities for students to connect to and become involved in their college environment, academic involvement, involvement with faculty, and involvement with peer groups are the most powerful forms (Astin, 1999b). Of these three highly powerful forms of involvement, involvement with peers is the most influential (Astin, 1996).

Self-determination theory. Self-determination theory suggests human motivation, development, and wellness focusing specifically on types, rather than amounts, of motivation (Deci & Ryan, 2008). Deci and Ryan also claimed the degree to which psychological needs are met through one's actions affects motivation. Academic motivation is a construct of selfdetermination theory that evaluates the three basic human needs—competence, relatedness, and autonomy—that foster self-motivation and personality integration (Ryan & Deci, 2000b). Understanding human needs is an important part of this theory, as those needs impact motivation as it relates to individuals' energy, direction, and persistence toward different goals. Selfdetermination theory analyzes motivation along a continuum from amotivation (a complete lack of motivation) to complete intrinsic motivation (Ryan & Deci, 2000b). Assessing students' academic motivation, rather than a general sense of motivation, may inform their level and type of involvement in their collegiate experience.

Problem Statement

Webber et al. (2013) found students exhibiting high levels of engagement were more likely to have higher achievement and satisfaction ratings related to their collegiate experience. Highly engaged students also were also likely to be more highly motivated academically (Reeve & Lee, 2014). Past studies, however, have not determined if academic motivation plays a role in the positive relationship between student involvement and academic achievement or if there is a relationship between students' academic motivation and involvement (Almarghani & Mijatovic, 2017; Burch, Heller, Burch, Freed, & Steed, 2015; Webber et al., 2013).

This study may add to the body of knowledge on undergraduate student motivation and involvement with academics, faculty, facility use, and peers. In addition, this study builds on findings of Almarghani and Mijatovic (2017), Burch et al. (2015), and Webber et al. (2013) by

investigating the relationships among these variables. The problem is more research is needed to investigate the relationship between academic motivation and student cocurricular involvement.

Purpose Statement

The purpose of this correlational study is to investigate the relationship between undergraduate students' academic motivation and cocurricular involvement. The predictor variable was academic motivation. Clark and Schroth (2010) defined academic motivation as the factors that influence an individual to attend school and earn a degree. The criterion variable was student cocurricular involvement. Astin (1999b) defined student involvement as the physical and psychological energy students invest in the curricular and cocurricular activities that comprise their educational experience. Undergraduate students were surveyed using the Academic Motivation Scale College Version (AMS-C 28) to determine students' level of academic motivation and four subscales from the CSEQ were administered to determine students' levels of involvement (Gonyea et al., 2003; Vallerand et al., 1992).

Significance of the Study

Results of this study will assist higher education administrators and faculty in understanding the potential relationship between students' academic motivation and their cocurricular involvement. Both motivation and involvement impact student achievement and, therefore, are noteworthy subjects for higher education research (Kuh, 2016; Webber et al., 2013; Zumbrunn, McKim, Buhs, & Hawley, 2014). The majority of studies have focused on classroom and academic engagement without considering the role cocurricular involvement plays in the lives of undergraduate students. Furthermore, as involvement impacts student learning and achievement (Astin, 1996), higher education personnel must understand the relationship between students' drive to pursue higher education and their choices with regard to curricular and cocurricular participation.

This study has the potential to influence decisions and experiences of multiple undergraduate stakeholders. First, this study is valuable to undergraduate administrators as they consider how to best allocate resources and design programs to assist students. The study may influence messaging campaigns for cocurricular activities, academic and advising programming, and availability of campus facilities. Second, this study is valuable to undergraduate faculty and advisors, as they have the ability to impact students' academic motivation and involvement in academic relationships with faculty. Finally, this study is valuable to undergraduate students, as it ultimately seeks to better understand and improve their undergraduate experience. Any decisions made by administrators, faculty, or advisors to alter intervention methods or change programming will have a direct impact on students. This study addresses the gap identified by Almarghani and Mijatovic (2017), Burch et al. (2015), Gillet et al. (2019), Litalien, Gillet, Gagné, Ratelle, and Morin (2019), and Webber et al. (2013) by exploring a potential relationship between an affective dimension of learning, such as academic motivation, and the nonacademic lives of students as understood through student cocurricular involvement.

Research Questions

The following research questions guided this study:

RQ1: Is there a relationship between undergraduate students' academic motivation and cocurricular clubs and organizations involvement?

RQ2: Is there a relationship between undergraduate students' academic motivation and cocurricular course learning engagement?

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RQ3: Is there a relationship between undergraduate students' academic motivation and cocurricular campus faculty experiences?

RQ4: Is there a relationship between undergraduate students' academic motivation and cocurricular campus facilities use?

Definitions

- 1. *Academic Motivation* Academic motivation refers to factors that influence an individual to attend school and earn a degree (Clark & Schroth, 2010).
- Academic Motivation Scale (AMS-C 28) –The Academic Motivation Scale is a survey used to measure undergraduate students' academic motivation based on selfdetermination theory (Hanousek, Hegarty, & John, 2015; Vallerand et al., 1992).
- Involvement Involvement is the physical and psychological energy students invest in the curricular and cocurricular activities that comprise their educational experience (Astin, 1999b).
- Engagement Engagement is the energy students devote specifically to the academic experience, focusing primarily on curricular activities rather than cocurricular activities (Kuh, 2009).
- Student outcomes Student outcomes refers to a wide range measures regarding a student's college experience including, but not limited to, persistence, retention, graduation, satisfaction, academic achievement and performance, academic motivation, and academic engagement (Astin, 1996; 1999a).

CHAPTER TWO: LITERATURE REVIEW

Overview

Student involvement literature has acknowledged the importance of engaging students in campus relationships and activities and the related positive outcomes including persistence and academic performance. Students' motivation, specifically their academic motivation to pursue a college degree, has not been examined in relationship to their cocurricular involvement. Using Astin's (1999b) student involvement theory and Ryan and Deci's (2000a, 2000b) self-determination theory, this study aims to provide an understanding of the benefits of and factors influencing student involvement, types of academic motivation, and foundational aspects of student development.

Theoretical Framework

This study is framed by two theories, student involvement theory and self-determination theory. Student involvement theory organizes the understanding of students' interaction with their college environment. Self-determination theory assists in the understanding students' motivation for attending college. These theories are explained in the subsequent sections.

Student Involvement Theory

Developed in 1984 by Astin, student involvement theory posits students' involvement in various aspects of their college environment plays a significant role in their overall development, learning, and academic experience (Astin, 1999b; Evans, Forney, Guido, Patton, & Renn, 2010). Astin's (1975) longitudinal study of college dropouts provided the groundwork for this theory as he conducted research on factors affecting college students' persistence. His findings showed factors with a positive correlation to persistence related to students' involvement (Astin, 1999b). Noting the importance of student involvement, Astin's theory was the foundation for the

Cooperative Institutional Research Project (CIRP) and the current NSSE, and provided supporting literature to NSSE's precursor, the CSEQ.

Student involvement is students' physical and psychological energy committed to the academic experience (Astin, 1999b). In this sense, the academic experience encompasses more than classroom lectures, homework, and studying. Rather, student involvement also includes the energy students commit to spending time on campus and engaging with campus organizations, peers, and faculty members (Astin, 1999b). Because involvement is measured by energy expended on academic activities, it occurs along a continuum. Involvement contains quantitative components, such as how often students attend events, as well as qualitative components, such as how often students (Astin, 1999b; Long, 2012; Webber, et al., 2013). According to student involvement theory, students' time is the most valuable resource (Astin, 1999b; Webber et al., 2013).

Self-Determination Theory

Self-determination theory was founded on the belief all individuals have a natural tendency to: (a) learn and develop, (b) engage in challenging and interesting behaviors, and (c) internalize and assimilate social practices and ethics. With such natural tendencies, therein lie basic psychological needs to support these tendencies and allow for healthy development and psychological wellness (Deci & Ryan, 2000a; Ryan & Deci, 2016). Due to its focus on self-motivation and growth, self-determination theory has strong implications for educational practices (Ryan & Brown, 2005). Self-determination theory considers individuals' motivation emphasizing the sources and types of motivation behind individuals' actions. The theory suggests humans have three basic needs: (a) competence, (b) autonomy, and (c) relatedness; all of which are required for healthy development and psychological wellness (Ryan & Deci, 2016).

The fundamental psychological need for competence and autonomy has informed classifications of motivation relating to rewards systems for task performance (de Charms, 1968; White, 1959). When individuals experience competence satisfaction within a situation, they tend to become more intrinsically motivated. When rewards are offered to prompt that same behavior; however, the individual moves away from intrinsic motivation, even if the reward is desirable and enjoyable, thus losing autonomy (de Charms, 1968; Deci & Ryan, 1985). The absence of rewards or other external pressures allows individuals to consider their behavior occurring by choice, thereby resulting in more internalized motivation. Similar to rewards, feedback also affects motivation. Negative feedback and attempts to control students' performance or efforts undermine an individual's sense of competence and thus intrinsic motivation (Deci & Ryan, 1985; Grolnick & Ryan, 1987; Ryan, 1982; Ryan & Deci, 2000b), which can lead to declining effort and persistence at the task (Nicholls, 1984). Positive feedback enhances an individual's sense of competence, thereby supporting intrinsic motivation. Providing opportunities for meaningful choice and taking students' perspectives and interests into account also support the need for autonomy and sense of competence, and enhances intrinsic motivation (Patall, Cooper, & Robinson, 2008; Patall, Dent, Oyer, & Wynn, 2013; Reeve, Nix, & Hamm, 2003). Individuals continue to be motivated to learn, but social contexts have influence over natural inclination (Ryan & Deci, 2016).

This study used self-determination theory to understand undergraduate students' academic motivation for attending college as a need-supporting behavior and relate that motivation to the student's involvement in their college environment. If a correlation between academic motivation and involvement exists, further research will be necessary to determine if academic motivation influences students' involvement, or, conversely, if academic motivation affects students' choice to become involved in the college environment.

Related Literature

Although Student involvement theory and self-determination theory provide the framework for this study, there are multiple other theories that aid in the understanding of this study. The following section discusses aspects and benefits of student involvement, factors influencing involvement, the types and effects of motivation, and influencing motivation. This section then concludes with a discussion of additional supporting theories of student development.

Student Involvement

Student involvement refers to students' interactions with their academic environment, including relationships with peers and faculty, and engagement with clubs and organizations. As such, student involvement varies along a continuum in the quantitative and qualitative spectrums. Student outcomes are affected by their involvement frequency, duration, and quality.

Aspects of involvement. According to Astin (1996), involvement encompasses a threedimensional approach to engagement. Students must have quality and regular interactions with their peers, professors, and environment, including academically meaningful activities. Of these three dimensions, peer groups provide the strongest influence on student outcomes, as peers are involved in a more comprehensive fashion in the educational environment (Astin, 1996). Because peer interaction is so valuable, learning communities, though they may not enhance learning, provide other positive student outcomes by increasing students' interactions with their peers (Kuh, 2009). Kuh recommends use of additional high-impact practices, including firstyear seminars, service learning, and student–faculty research, which direct student attention and energy toward academically meaningful behaviors. These types of activities are important because the energy students invest in such endeavors plays a large factor in determining their educational and college outcomes (Astin, 1993; Hu & Kuh, 2003; Pascarella & Terenzini, 2005).

Astin (1999b) determined several other factors positively impact students' persistence. Students who lived on campus, joined a fraternity or sorority, participated in extracurricular activities or university athletics, or held a part-time, on-campus job had higher persistence rates than their peers who were not involved in these areas (Astin, 1999b; Kuh, 2009). Additionally, students attending religious institutions were more likely to persist if their religious background was similar to that of the institution because it was easier for students to become involved when they could identify with their college environment (Astin, 1999b).

Although Astin claimed three dimensions of involvement, Burch et al. (2015) identified four categories of engagement: (a) emotional, (b) physical, (c) cognitive in class, and (d) cognitive out of class. Astin identified where and with whom students engage, yet Burch et al. focused on how students were engaging with their college environment. Students did indeed engage in emotional, physical, and cognitive capacities, but Astin assessed such engagement in interactions with different activities.

Though seemingly focused on student behaviors, involvement is bidirectional, as institutions also have a responsibility to create and foster conditions for student involvement (Kuh, 2009). Institutions bear a responsibility to provide avenues for quality involvement as students' access to thought-stimulating, high-quality programs and services increase their likelihood of engagement (Long, 2012). Such programs and services must be convenient to students and relate to their lives. By making such opportunities relevant to students, universities assist students with goal realization—a student's ability to not only determine what they desire to

obtain from their college experience but also how that desire connects to present opportunities outside of the classroom (Kuh, 2016). When students find their studies personally meaningful, comprehend the relevance of what they are learning, and are able to apply at least some of what they are learning to some aspects of their lives they consider important, they are more likely to persist and be satisfied with their college experience (Kuh, 2016).

In addition to available programming, institutional policies have the potential to impact students' development. Student learning can be shaped by policies that encourage engagement in educationally purposeful activities both in and outside of the classroom (Kuh, Kinzie, Schuh, & Whitt, 2005; Pascarella & Terenzini, 2005). Such student-based policies are important to students, staff, and faculty, as people are at the heart of what occurs on campus (Kuh, 2009).

When considering student involvement in educationally purposeful activities, students fall into distinct groups that correlate with learning and development during their first year of college. Grade point average varies little between these groups, with the exception of students considered to be disengaged from the educational process (Hu & McCormick, 2012).

Benefits of involvement. Students gain more from their college experience when they are involved in a comprehensive fashion and realize positive effects on satisfaction, grades, and persistence—specifically between their first 2 years—and personal development outcomes (Kuh, 2009; Kuh, 2016; Webber et al., 2013). Standardized test scores such as the ACT and SAT are strong predictors of first-year behaviors impacting grades and persistence. Once students have become involved in the campus environment, standardized test scores do not adequately predict grades and persistence (Kuh, 2009). Involvement; however, creates positive effects on grades and persistence for students from Year 1 to Year 2 (Webber et al., 2013). The curricular and cocurricular components of involvement not only encourage students to engage in academic

activities, but also help them develop friendships with their peers, connect with faculty, and familiarize themselves with the campus overall (Webber et al., 2013). Astin (1999b) proposed students become more proficient overall in both academics and social life as they increase their involvement in the academic and social aspects of college, including: (a) involvement in organizations and clubs, (b) interactions with faculty outside of class, (c) spending time on campus, and (d) devoting considerable time to studying (Long, 2012).

Involvement not only assists underprepared students in achieving higher academic grades and persisting in college, but also produces positive effects for students without regard to their racial or ethnic background, family educational history, or level of preparedness (Kuh, 2009). Although these characteristics do not correlate with differences in educational outcomes based on involvement, certain students will experience greater benefits from involvement than their peers. Specifically, low-ability students and students of color generally experience greater benefits in first-year grades and persistence after exposure to effective educational practices in comparison with their peers (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008).

Krumrei-Mancuso, Newton, Kim, and Wilcox (2013) conducted a study investigating the role of psychosocial factors in college student success at a major public research institution in the midwestern United States. The study revealed a correlation between students' psychosocial variables, including involvement with college activities and class communication, and outcome measures of student success. Additionally, involvement with college activity had a positive correlation with life satisfaction. These findings aligned with previous literature marking the relationship between students' social interactions and persistence in college (Braxton, Brier, & Steele, 2007). When students have poor social connections and exhibit low emotional satisfaction, it may be an indication of a lack of goodness of fit between the student and the

institution (Tinto, 1988). In such cases, Krumrei-Mancuso et al. recommended helping the student find their niche in the institution to increase the goodness of fit. Poor psychosocial fit is one reason students may fail to persist at an institution, and thus these interventions can be worthwhile to both institution and student (Kuh et al., 2008).

Kuh et al. (2008) conducted a study on first-year student engagement with 18 colleges and universities that administered the NSSE. The researchers considered student success relating to engagement and defined success using measures such as: (a) academic achievement, (b) engagement in educationally purposeful activities, (c) satisfaction, (d) persistence, and (e) postcollege performance. Students' precollege characteristics (e.g., high school GPA, standardized test scores) correlated with student success in the first year, but their effect diminished considerably in following years once college experiences were taken into account. Additionally, student engagement showed positive effects on students' academic performance as measured by course grades in both their first and last years of college even when controlling for precollege characteristics. Student engagement also increased students' persistence from their first to second years. Students of color and students with lower ability showed greater benefits from engagement than their peers. Kuh et al. recommended planning interventions for all students, as those with higher ACT scores, higher first-year grades, and students from higher income brackets tended to persist to a second year at the same institution at a lower rate than their peers.

International students should be considered as a designation separate from race, as these students face a different type of culture shock from their native classmates. Korobova and Starobin (2015) conducted a study comparing U.S. and international students using data from the 2008 NSSE. Both groups of students experienced similar measures of academic challenges,

interactions with faculty, and quality of relationships. Differences in academic performance emerged in the first year, but were no longer present by students' senior year. In the first year, international students dedicated themselves more to academics, resulting in higher academic performance than their peers. As their education continued, however, they spent less time studying and more time creating social relationships and becoming involved with the campus community. Whether U.S. or international, the more students were academically challenged, interacted with faculty, were supported on campus, and engaged in quality relationships, the higher satisfaction and academic success they experienced.

Factors Influencing Student Involvement

Students who live on campus have additional opportunities for interaction simply due to their proximity to peers, faculty, and campus resources, which facilities personal growth and intellectual development (Astin, 1996; Pascarella & Terenzini, 2005). Increased faculty interactions have been correlated to higher grades, and higher overall involvement has been correlated to higher reported satisfaction with students' academic experiences (Astin, 1996; Webber et al., 2013). Full-time students have reported spending more time on assignments than their part-time peers (Webber et al., 2013). Finally, although not related to academic outcomes, another involvement in extracurricular activities such as academic clubs has also been correlated to strong community values for students (Foreman & Retallick, 2016).

Pascarella's model for assessing student change considers how the interaction between the college and the student changes the student (Long, 2012). He proposed student development and change are affected by: (a) students' precollege traits, (b) the structural characteristics of the college, (c) the college culture and environment, (d) campus socialization opportunities, and (e) students' quality of effort (Long, 2012). Because institutions cannot control the first variable outside of admissions procedures, the latter four correlate with the concept of student involvement. Additionally, Pascarella and Terenzini (2005) discussed differences between the notions of development and change. Development encompasses the idea of a systematic change to help the student adapt to the environment; thus, it implies progress toward maturity and is desirable for both educational and psychological purposes. Change; however, involves transformation in students' cognitive and affective skills over time as measured quantitatively and/or qualitatively. Student change is simply moving between different states of exhibiting skills; it does not imply growth or progression toward a specific end.

Recognizing all students need to engage with the institutional community, Braxton et al. (2007) recommended developing a culture of enforced student success in which all students are treated as though they are at risk. This assumption that all students are at risk creates an environment where intensive interventions are designed for all students and there are efforts to prevent student departure across all undergraduate years. Braxton et al. also claimed no individual department or area of an institution is responsible for reducing student departure, but rather retention is the responsibility of all. One way to include faculty in an effort to reduce student departure is through the implementation of first-year seminars, which are a recognized educationally effective method for fostering both engagement and learning (Kuh et al., 2005, 2008; Padgett et al., 2013). First-year seminars not only provide a structured engagement environment, but also foster meaningful learning, which may enhance students' need for cognition and their overall motivation to inquire (Padgett et al., 2013).

Following Braxton et al.'s (2007) recommendation to approach all students as being at risk for departure from the institution, Wang and Kennedy-Phillips (2013) conducted a study on the academic self-efficacy and institutional commitment of sophomore-level students. These

variables were found to be strong predictors of sophomore-level involvement. Study results showed students' commitment to the institution, not academic self-efficacy, influenced how they approached academic interactions. First-generation sophomore students spent more time studying on their own. Wang and Kennedy-Phillips interpreted this finding as a possible exhibition of stronger academic motivation for these students; however, this possible demonstration of academic motivation removed these students from opportunities for academic involvement with peers and faculty.

In Williams, Zwolak, Dou, and Brewe's (2019) study of student-to-student classroom interactions, changing patterns of student interactions emerged. Meaningful student interactions occurred halfway through the semester and those patterns persisted for the remaining semester. Although patterns of interactions changed, the frequency of involvement did not matter as much as the occurrence of student interactions.

Academic and social engagement and involvement are significantly and positively related to persistence and, thus, impact degree attainment (Flynn, 2014). Although both factors are positively related, behaviors of social involvement are more strongly associated with persistence and degree attainment than are behaviors of academic engagement. Though positive academic and social behaviors are desirable, students with high engagement or involvement in one area do not experience significant benefits from increasing their engagement in the other style. Following this pattern, students with low involvement in both academic and social behaviors can benefit from increasing either engagement style. This holds true for students following their first year as they can increase their probability of degree attainment through either of these styles of engagement. Flynn recognized later engagement, not first-year engagement, was more predictive of degree attainment, thus supporting Braxton et al.'s (2007) suggestion to focus on engagement and involvement for all students.

According to Aydin (2017), motivation is a psychosocial factor along with student attitudes, use of campus resources, and academic effort such as studying. Aydin also mentions that, according to expectancy-value theory, motivation is an important component of academic achievement as it regulates students' expectations for success. Student involvement and motivation are two of the most influential personal factors that influence student success (Aydin, 2017). The study of first-year language preparatory students in Turkey demonstrated a positive correlation between academic achievement and students' relationships with peers and faculty. Aydin cautioned not to rely heavily on students' academic self-efficacy, as it may still be fluid for first-year students and can also be influenced by other variables (Peguero & Shaffer, 2015).

Student Motivation

Self-determination theory posits individuals' growth tendencies and psychological needs are exhibited in their level and orientation of motivation (Ryan & Deci, 2000a, 2000b). Individuals vary not only on how motivated they are (level), but also how they are motivated (orientation). This orientation is what informs underlying attitudes and goals that eventually lead to action (Ryan & Deci, 2000a). In addition to looking at individuals, self-determination theory also considers their environment, as social contexts influence within- and between-person interactions and thus, motivation.

Nature and types of motivation. Motivation involves continued, directed energy, which is a product of intention and action (Ryan and Deci, 2000a). Ryan and Deci (2000b) found individuals who were self-motivated rather than motivated by external sources showed greater interest, excitement, and confidence, which led to better performance and creativity at a task.

This finding held true even when both individuals with different sources of motivation had the same level of ability, competence, or self-efficacy for the task. Within the model of self-determination theory, there are seven distinct categories of motivation: (a) amotivation, (b) external regulation, (c) introjected regulation, (d) identified regulation, (e) integrated regulation, and (f) intrinsic regulation (Ryan and Deci, 2000a). These categories range from the complete absence of motivation to complete self-motivation. Individuals will only exhibit intrinsic motivation in relation to activities that are inherently valuable, novel, challenging, or aesthetically pleasing to them. Certain styles of extrinsic motivation are still valuable and beneficial. Students who showed more autonomous extrinsic motivation still exhibited positive characteristics and were more engaged and had better academic performance (Ryan & Deci, 2000b).

Before discussing differences between extrinsic and intrinsic motivation, it is important to recognize the valid state of amotivation. Amotivation refers to a complete lack of intention to act. Individuals who are amotivated either do not act or do so without intention or purpose. This may occur when individuals do not value an activity, do not believe they are able to complete it, or do not expect to succeed (Ryan & Deci, 2000b).

As shown in Figure 1, there are four categories of extrinsic motivation: (a) external regulation, (b) introjected regulation, (c) identified regulation, and (d) integrated regulation. External regulation exists when an individual completes a task solely to satisfy an external demand or activate a reward contingency. Introjected regulation no longer relies on a reward contingency, but the individual performs a task to avoid guilt or enhance pride. Regulation through identification requires the individual to evaluate the task, compare it to personal values, and accept it as personally important. Integrated regulation occurs when the individual fully

identifies with the value of the task rather than merely accepting its value. Intrinsic motivation does not have any subcategories, as it simply describes and individual's innate desire to engage in a task for the purpose of exploring, learning, or challenging oneself (Ryan & Deci, 2000b). Ryan and Deci also identified three psychological needs: (a) competence, (b) relatedness, and (c) autonomy, which are essential for facilitating growth, social development, and well-being. These psychological needs must be filled across the lifespan for an individual to have a sense of satisfaction and well-being.



Figure 1. Self-determination continuum of motivation. Used with permission of *American Psychologist*, from "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being", by R. M. Ryan and E. L. Deci, *55*(1), 2000; permission conveyed through Copyright Clearance Center, Inc.

Effects of Motivation

Noncognitive factors including academic motivation are important for student success but have not received sufficient attention in higher education research (Robbins et al., 2004; Roksa & Whitley, 2017). Standard frameworks for understanding student success and outcomes have included Astin's (1993) student involvement theory. This theory and research from Pascarella (1985) and Tinto (1993) considered students' experiences in college, but did not adequately account for social-psychological factors (Guiffrida, 2006). Guiffrida (2006), Reason (2009), and Roksa and Whitley (2017) called for academic motivation to be incorporated into models of college student outcomes, as recent literature has not examined how student experiences with faculty and the campus environment interact with academic motivation (Roksa & Whitley, 2017).

On a wide scale, academic motivation has been positively correlated with students' grades and persistence, but this relationship may not hold true for all contexts (Allen, 1999; Eppler & Harju, 1997; Guiffrida, Lynch, Wall, & Abel, 2013). Reason (2009) urged researchers to consider how college environments shape student outcomes and interact with student characteristics, including academic motivation. Roksa and Whitley (2017) noted faculty interactions may play a role in influencing students' academic motivation, and also noted the campus environment may influence whether or not students can effectively translate academic motivation into academic achievement. A true understanding of student success requires assessing interactions between students' academic motivation, background characteristics, and college experiences (Roksa & Whitley, 2017). Motivation is also a factor for students who do not persist to a second year (Naude, Nel, van der Watt, & Tadi, 2017). Students' motivation is a dynamic measure, and educators can influence motivation by creating positive academic opportunities including classroom engagement and learning communities (Naude et al., 2017).

Self-determination theory addresses social and environmental factors that affect motivation (Ryan & Deci, 2000b; Sibold, 2016). Literature has shown institutional commitment

affects students' success (Hausmann, Schofield, & Woods, 2007). Self-determination theory may account for some measure of institutional commitment, as it takes environmental factors into account. This theory is of interest in educational settings because it measures students' motivation to engage with academic material. External factors can adequately motivate a student to action, yet intrinsically motivated behavior produces superior learning outcomes (Ryan & Deci, 2000a). Students often choose to engage in intrinsically motivated activities because they are enjoyable and satisfy a deep psychological need to feel competent and autonomous. Also, intrinsically motivated activities often result in increased learning and competence, even when not the original aim (Deci & Ryan, 2013).

Influencing Motivation

Motivation toward educational tasks impacts learning outcomes for students. Although most self-determination theory studies have focused on primary and secondary students, selfdetermination theory has proven to be a valid lens through which to assess individuals' motivating force to action, as the fundamental needs for competence, autonomy, and relatedness continue throughout their lifespan (Ryan & Deci, 2016).

Research has shown self-determination theory to be useful for understanding college students' motivation toward learning (Goldman, Goodboy, & Weber, 2017). Understanding undergraduate student motivation is valuable, as students who are more intrinsically motivated tend to have higher academic performance, retention rates, and satisfaction with life (Bailey & Phillips, 2016; Vallerand, Guay, & Fortier, 1997). Motivation in the context of self-determination theory is worthy of study, as it is malleable and faculty members who meet students' basic needs for autonomy, competence, and relatedness have the ability to increase students' intrinsic motivation (Bolkan & Goodboy, 2015). Goldman et al. (2017) encouraged
continued study of the relationship between students' psychological needs, intrinsic motivation to learn, and learning outcomes.

College students who have a higher intrinsic motivation to learn perform better when tested unexpectedly on presented material (Benware & Deci, 2016); however, the expectation of graded work following learning undermines students' autonomy (Pulfrey, Buchs, & Butera, 2011). Within the context of supporting students' autonomy in education, mastery lead to more positive emotional experiences than those occurring in a controlling structure (Benita, Roth, & Deci, 2014). Intrinsic and extrinsic motivation tend to be interactive whereby an increase in one motivational type results in a decrease in the alternative form. Self-determination theory holds a differentiated view of extrinsic motivation; however, in which various levels of extrinsic motivation vary in both their degree of autonomy and internalization (Ryan & Deci, 2016).

As prompts and responses to tasks and performance can influence motivation, selfdetermination theory considers the structure and organization of the environment, as it may influence the facilitation of competence perception for individuals (Grolnick, 2015; Grolnick & Ryan, 1989; Jang, Reeve, & Deci, 2010). The structure of an educational environment should be delivered in autonomy-supportive ways such as providing clear expectations, ways to achieve expectations, consistency in guidelines, and rich effectiveness feedback (Vansteenkiste, Sierens, Soenens, Luyckx, & Lens, 2009).

Previous studies have recommended additional research of student–faculty interactions (Roksa & Whitley, 2017; Trolian, Jach, Hanson, & Pascarella, 2016). Research has demonstrated positive correlations between student–faculty engagement and student outcomes, including academic motivation, academic engagement, and academic performance (Kim & Sax, 2009; Komarraju, Musulkin, & Bhattacharya, 2010; Trolian et al., 2016; Zhao & Kuh, 2004).

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Faculty instructional methods are important, as they affect students' academic motivation. Students are more academically motivated when they are exposed to clear and organized instruction and when they perceive their faculty to be invested in their learning and development (Roksa, Trolian, Blaich, & Wise, 2017). Overall, the frequency and quality of student–faculty interactions is significantly associated with students' academic motivation (Trolian et al., 2016).

Student Development

When discussing the involvement and motivation of undergraduate students, it is important to understand the overall undergraduate experience, as well as the influences and changes a student sustains during this period of life. In the 1960s, Sanford was instrumental in the study of student development, as he considered the relationship between college environments and students' transition into adulthood (Evans et al., 2010; Strange, 1994). Miller and Prince (1976) defined student development as "the application of human development concepts in postsecondary settings so everyone involved can master increasingly complex developmental tasks, achieve self-direction, and become interdependent" (p. 3). Thus, student development considers not only intellectual and academic growth during a student's tenure at the university, but also their affective and behavioral changes (Evans et al., 2010).

Also during the 1960's, professional organizations such as the Council of Student Personnel Associations (CSPA) and the American College Personnel Association (ACPA) began to redefine the role of student affairs professionals to assume some responsibility for the holistic development of their students (Evans et al., 2010). Through this movement three main theories emerged and became the foundation for student development. Chickering (1993) built on Erickson's theory of identity development and developed the seven vectors of identity development. These vectors focus on the developmental issues confronting college students. Kohlberg's (2008) theory of moral development used Piaget's knowledge of children's moral reasoning and development. Finally, Perry presented the first theory on intellectual development of college students to be used in student affairs (Evans et al., 2010). Chickering's and Kohlberg's theories warrant additional discussion as they were rooted in other foundational educational theories.

Student effort and involvement. Pace was one of the first individuals to consider, theorize, and research issues concerning student involvement. Pace (1982) believed although institutions were responsible for how they allocated resources, used facilities, and designed curriculum for students, students were ultimately responsible for their education. Specifically, students are responsible for how they involved themselves in the learning process and opportunities available. Pace relied heavily on the idea of effort rather than involvement. Quality of effort refers to both the time and effort a student exerts on their learning and development in college. Like involvement, effort includes a quantitative component in the amount of time invested and a qualitative component in commitment to various activities (Pace, 1982; Webber et al., 2013). Using this quality of effort theory, Pace developed the CSEQ in the 1970s and first administered the questionnaire in 1979 (Gonyea et al., 2003; Pace, 1982). Results from the 1979 questionnaire drew upon data from 12,000 undergraduate students at 40 institutions over a span of 3 years (Pace, 1982).

More recently, Kuh et al. (2008) conducted a longitudinal study involving 18 baccalaureate-granting institutions which administered the NSSE between 2000 and 2003. The study aimed to determine relationships between student behavior and institutional characteristics that fostered student success. Analysis of this study showed engagement in educationally purposeful activities had a positive and statistically significant effect on students' persistence to their sophomore year at the same institution, even after controlling for student characteristics (Kuh et al., 2008). This effect was especially true for minority students and students with lower ACT scores (Kuh et al., 2008). Precollege characteristics, such as lower ACT scores, affected first-year grades and persistence, but once college experiences were accounted for, effects of precollege characteristics were significantly reduced. The researchers recommended faculty and staff use effective educational practices to create a culture of success for all students regardless of their level of academic preparation.

Collaborative learning is one educational practice shown to be effective in increasing students' persistence to their second year of college (Loes, An, Saichaie, & Pascarella, 2017). Loes et al. (2017) conducted a study from the fall of 2006 and spring of 2007 of 2,987 college freshmen from 19 different institutions using data from the Wabash National Study of Liberal Arts Education. The study's conceptual model was based on Tinto's student departure model and the researchers theorized persistence was a function of factors that extended beyond students' background characteristics to include social and academic integration pieces. The researchers also used previous total effects models from Pascarella, Salisbury, and Blaich (2011) and Pascarella, Seifert, and Whitt (2008) and discovered students with significant exposure to collaborative learning opportunities were more likely to persist to their second year than students who had low exposure to collaborative learning opportunities (Loes et al., 2017). Positive peer interactions were a mediating factor in this relationship as collaborative learning necessitates greater levels of peer interactions, which then led to increases in persistence (Loes et al., 2017).

Roksa et al. (2017) conducted a similar study using Wabash National Study of Liberal Arts Education data from 7,116 students enrolled in one of 38 institutions in the fall semester of 2006, 2007, or 2008. This study investigated the relationship between clear and organized instruction and student cognitive and learning outcomes discovered in previous studies (Pascarella et al., 2013). The researchers suggested students are most motivated when they can be successful, therefore lectures that are disorganized or assignments that are not clear create a barrier to success and can negatively impact students' academic motivation. Students who perceive their faculty as being invested in their learning and development through the use of clear and organized instruction; however, are more academically motivated and engaged, and academic motivation is a strong predictor of academic performance (Roksa et al., 2017). Nearly two thirds of the positive relationship between clear and organized instruction and first-year student GPA can be attributed to faculty interest in teaching and student development, student academic motivation, and student academic engagement (Roksa et al., 2017). Wilson et al. (2015) conducted a sense of belonging and emotional engagement study involving over 1,500 STEM undergraduates from five geographically and culturally distinct institutions between the fall of 2010 and fall of 2012. Students with a positive sense of belonging were more willing to try harder and participate in their courses, and had increased persistence rates than students who lacked that sense of belonging (Wilson et al., 2015). Classroom environment setup communicates the level of faculty member care and commitment toward their students, and thus influences students' academic performance (Roksa et al., 2017).

Chickering's seven vectors of identity development. Chickering (2007, 2010) spent over five decades working and researching in the higher education field. He continually advocated for higher education professionals to address issues of purpose, meaning, integrity, identity, and spiritual growth for students and helped students take charge of their own existence (Chickering, 1994, 2010). Chickering (1994) recognized the value of both peer and faculty relationships on student persistence and degree completion, and he used the vectors of identity

development to describe the growth students must experience to form and maintain those types of interpersonal relationships. The importance of these affective domains is reflected in his seven vectors of identity development.

As a psychosocial theory, Chickering's (1994) seven vectors of identity development consider how students move through seven specific vectors, or developmental phases, during their time in college (Evans et al., 2010; Long, 2012). Chickering believed student identity development is the most prominent issue during their college years and suggested students move through the first four of seven vectors during their first 2 years of college and the final three during their latter 2 years. Students progress at different rates and may also backtrack to previous phases as they encounter or re-encounter various issues (Bruess & Peterson, 2000; Long, 2012).

Chickering's (1994) theory suggests students must develop competence, autonomy, and manage emotions appropriately to have the capacity to engage in mature relationships. These first three vectors of identity development partially align with Ryan and Deci's (2000a) self-determination theory. Chickering's vectors of identity development focus on an individual's sense of self rather than need satisfaction, as advocated in self-determination theory. The importance of developing both competence and autonomy appear in both theories; however. Chickering elaborated on the concept of competence by breaking it into three different competency areas: (a) intellectual, (b) physical, and (c) social.

In the first vector, students develop competence by facing new academic challenges and living environments, forcing them to gain new cognitive, psychosocial, and technical skills. Ideally, these new competencies then lead to new confidence. In the second phase, students work on managing emotions, recognize when certain emotions are appropriate, and learn to regulate emotional expression accordingly. In the third phase, students move through autonomy as they build problem-solving skills and recognize they cannot rely on others, but instead must learn to accomplish goals on their own. The fourth phase is when Chickering believed students develop mature interpersonal relationships. Students gain an appreciation for others based on their qualities, thus allowing them to form intimate relationships and accept differences. Students entering their junior year are expected to be entering into the fifth vector, establishing identity. Here students form a secure and multifaceted sense of identity and how they fit into society. The sixth phase is developing purpose. Once students have a firm sense of their identity and place in society, they are able to set clear personal and professional goals and form commitments to themselves and others. Developing integrity is the seventh and final phase, in which students are able to consider complex moral issues and accept countering opinions as valid. These seven phases help complete a student's identity so they are independent and able to distinguish and describe their beliefs, abilities, and ethics (Evans et al., 2010; Long, 2012).

A decade and a half after first publishing his theory, Chickering, with the help of Reisser, revised the original seven vectors to better reflect identity development among diverse populations, namely women and minorities (Chickering & Reisser, 1993). In these revisions, the third vector was renamed "moving through autonomy toward interdependence" to emphasize the importance of interpersonal connections and relationships typically valued by women and minorities (Moore & Upcraft, 1990). Chickering and Reisser (1993) also noted the important role these relationships have on identity by changing the fifth vector from "freeing interpersonal relationships." This vector was revised from its original focus on independence and individuality to include the development of intimacy and

acceptance of cultural differences in others. With these modifications, this stage was also moved ahead of the identity vector.

Kohlberg's theory of moral development. Cognitive-structural theories provide an explanation for how students understand and process their experiences (Long, 2012). Specifically, Kohlberg's (2008) theory of moral development considers how students' thought processes and reasoning affect their behavior. Moral development is broken into six stages divided equally into three broader categories (Evans et al., 2010; Kohlberg, 2008). Kohlberg claimed students must face a moral dilemma in each stage before advancing to the next. The first category, preconventional morality, contains the first two stages of moral development. During this period, individuals are primarily concerned with avoiding punishment.

The second category, conventional morality, contains the third and fourth stages of moral development. During this phase, individuals attempt to follow preset roles and perceive rules and laws as supports to those roles. Kohlberg believed most college students operate within this category (Long, 2012). The final category, postconventional morality, occurs when individuals are able to recognize situations can be ambiguous and consistently apply their ethics when dealing with such situations. To progress through the stages, students must first experience a moral dilemma within their current stage to analyze and understand their responses at each level (Long, 2012). Although Kohlberg was unable to demonstrate the existence of this final stage in his studies, he believed it was a necessary logical end to the development process (Evans et al., 2010). Understanding students' moral development is important in higher education, as it helps staff recognize how students process decisions to attend class, engage in academics, or become involved in campus opportunities. This understanding also allows staff approach issues of conduct, ethics, faith, and spirituality in a more informed manner (Long, 2012).

Astin's input-environment-output theory. The input-environment-output (I-E-O) model serves as a conceptual guide for understanding how various environmental components affect students. I-E-O theory describes the growth and change students experience under varying circumstances by assessing students' characteristics when they matriculate into the institution (input), their unique and common experiences (environment), and the characteristics they exhibit after those environmental exposures (Astin, 1993).

A wide range of student input characteristics considered in the input-environment-output model are included in the Cooperative Institutional Research Program (CIRP). Aside from typical test measures such as the Graduate Records Exam (GRE) and SAT, students were administered a pretest measuring 44 of 82 outcomes, as not all outcomes could be pretested (Astin, 1993). Using CIRP data, Astin's (1993) study on college impact considered 192 environmental measures in the I-E-O model. This included the following characteristic measurements: (a) 16 institutional, (b) 35 peer group, (c) 34 faculty, (d) 15 curriculum, (e) 15 financial aid, (f) 16 freshman major choice, (g) four residence, and (h) 57 student involvement (Astin, 1993).

Students' cognitive and noncognitive outcomes are measured because both are important in describing student change. Colleges are interested in cognitive outcomes their primary goal is to increase the knowledge of their students. The noncognitive outcomes are still important, however, as they provide information and help college personnel to understand students' attitudes, values, and behaviors. These outcomes are measured through psychological and behavioral data (Astin, 1993). The goal to determine what difference college attendance has on students' development remains through these measurements and assessments (Astin, 1993) **Tinto's theory of student departure.** Tinto's theory of student departure is a personenvironment interactive theory that considers the relationship between the student and the institution (Long, 2012). Within this perspective, it is important to recognize both students and institutions have unique characteristics, and the factors and processes of retention differ between different institutions (Tinto, 2006). Unresolved conflicts within these sets of unique characteristics can influence a students' decision not to persist (Tinto, 2006, 2017), as does the quality of the interactions between students and the institution (Long, 2012). These interactions may be social in nature or relate to a student's feeling of representation on campus. Alternatively, the interaction between students and institution may relate to a student's sense of academic belonging drawn from the level of challenge or meaningfulness of their coursework (Boysen, 2012; Boysen, Vogel, Cope, & Hubbard, 2009; Chavous, 2005; Harper & Hurtado, 2007; Stebleton, Soria, Huesman, & Torres, 2014; Tinto, 2017). When considering the persistence benefits provided by student involvement, it is also important to acknowledge student departure factors are not reasons for student persistence (Tinto, 2006).

Aside from potential differences in characteristics, students may also fail to persist due to academic problems, failure to integrate socially and academically with the culture of the institution, or because they have a low level of institutional commitment (Tinto, 2006, 2017). Therefore, it is imperative for institutions to intentionally integrate students in these areas. Integration can be facilitated by extracurricular activities and interactions with peers and faculty in both formal and informal settings (Long, 2012). When considering extracurricular opportunities, institutions should ensure students have access to diverse social groups and organizations (Tinto, 2017). Cohort programs, learning communities, and cooperative learning arrangements offer opportunities for students' academic involvement with peers and faculty.

Coursework must be challenging but achievable for students, be inclusive of students' experiences and histories, and have applicable value in meaningful situations (Tinto, 2017). Such types of involvement reinforce Astin's (1996, 1999b) theory of student involvement by demonstrating the importance of students' investment of physical and psychological energy in their college experience.

Motivation, and thus academic motivation, is malleable and can influence a student's decision to persist (Bandura, 1989; Graham, Frederick, Byars-Winston, Hunter, & Handelsman, 2013; Tinto, 2017). Students vary in their academic motivation for attending college, but Tinto (2017) asserted a student's lack of understating their own motivation for attending college can have a negative impact on persistence to completion. For students who lack clarity on their academic motivation to attend college, social support and a sense of belonging can help positively influence their decision to persist (Tinto, 2017). Students' motivation is enhanced when a student feels a sense of belonging. This motivation increases students' willingness to engage with their environment, faculty, and peers and ultimately leads to a greater chance for student persistence (Hausmann, Schofield, & Woods, 2007; Tinto, 2017). Colleges can promote belonging by promoting student involvement in activities that help foster relationships through shared academic and social experiences (Tinto, 2017). These types of involvement with faculty and peers also lead students toward academic success and emotional support (Tinto, 2012). Because faculty member academic activities are listed among these positive student involvement options, Tinto (2006, 2012) advocated for competent and prepared faculty to interact with firstyear students. Involvement is especially crucial during students' first year, and it is vital they encounter faculty who can properly support and advance their involvement efforts (Tinto, 2006). Ultimately, Tinto (2014) pointed out students' success in college depends on repeated academic

achievements in the classroom that allow them to progress through their course of study on pace and gain academic momentum. Therefore, the best way institutions can prepare faculty to enhance student persistence is to equip them with appropriate instructional techniques to assist students in achieving classroom success (Tinto, 2012).

College Environment

As theories on student development and student involvement carefully study the interaction between the student and the college environment, it is important to consider not only student characteristics, but institutional characteristics as well. Liberal arts institutions generally produce a consistent pattern of positive student outcomes unlike any other type of higher education institution (Astin, 1999a). This consistency of positive student outcomes is an impressive mark, as liberal arts institutions as a whole are neither selective nor elite. Faculty at liberal arts institutions tend to place a higher emphasis on teaching and its importance than do their peers at other types of institutions (Pascarella et al., 2013). As a result, their students are exposed to clear and organized instruction and learning experiences that require higher-order thinking (Pascarella et al., 2013). Pascarella et al. (2013) also determined a significant portion of the cognitive influences of liberal arts colleges are not overt, but rather subtle and indirect. These influences are conveyed through differences in the educational environment of the liberal arts institution and environmental differences designed to enhance student involvement (Astin, 1999a). Because liberal arts institutions have a strong student focus, it is not surprising students have reported higher satisfaction with faculty, teaching quality, and education programs (Astin, 1999a).

Even though lower student enrollment is often touted as a benefit to liberal arts colleges, it is a confounding variable. Small college size, measured by student enrollment, is a contributing factor to positive student outcomes, but does not produce those results alone. Rather, a small college size is coupled with the residential nature of the campus and the student orientation of the faculty to produce positive results (Astin, 1999a). Once these factors are accounted for, liberal arts colleges no longer stand out from other institutions with regard to effects on student outcomes. Thus, it is not so much liberal arts colleges themselves that produce such positive student results, but rather their small size, residential nature, and the faculty focus on students (Astin, 1999a).

When analyzing liberal arts institutions, Astin (1999a) considered three categories of student outcomes: (a) educational, (b) existential, and (c) fringe. Educational benefits include lasting changes that can be attributed to students' education, such as what they learned. Existential benefits include the quality of the educational experience, the challenge and meaning of educational endeavors, and whether or not the student felt them to be worthwhile. Finally, fringe benefits include practical benefits of education, such as career and social advantages provided to the student because of their degree from the institution (Astin, 1999a). While discussing the many advantages of the liberal arts institution in terms of the first two types of outcomes, Astin (1999a) recognized fringe benefits provided by a selective and elite institution are likely superior to those from a liberal arts institution due simply to notoriety. Astin (1999a) advocated for liberal arts education and the opportunities that particular setting can provide students to contemplate difficult and central life questions. Although there are certain benefits provided by a liberal arts institution, Astin also recognized not all benefits are so easily distinguished.

Summary

Positive student outcomes such as satisfaction, persistence, and academic achievement are clearly desirable in educational settings. Even though student involvement has a positive impact on such factors, it is unclear why students choose to involve themselves in campus resources and relationships with their peers and faculty in the ways they do. At the same time, students' academic motivation plays a role in their academic performance, as it reflects their perceived value of and autonomy in the educational experience (Núñez & León, 2018; Skinner, Saxton, Currie, & Shusterman, 2017). Additionally, Reeve and Lee (2014) suggested students' motivation may be affected by their classroom engagement and interaction with faculty members. Thus, academic motivation and student involvement have seemingly overlapping outcomes, yet the direct relationship between motivation and involvement remains unclear. Burch et al. (2015) and Webber et al. (2013) suggested an analysis of student involvement as it relates to the psychosocial measure of motivation. This study aimed to determine if a relationship between student cocurricular involvement and student academic motivation exists.

CHAPTER THREE: METHODS

Overview

The purpose of this correlational study was to investigate the relationship between undergraduate students' academic motivation and cocurricular involvement. Chapter 3 outlines the design and methodology of this research study. This chapter also addresses the design structure, research questions, participants, procedures, instrumentation, and data analysis used in this study.

Design

A quantitative, correlational design was used to study the relationship between undergraduate students' academic motivation and students' cocurricular involvement. This design was appropriate for the study because the purpose of a correlational design is to investigate a potential relationship between variables without influencing behaviors or controlling variables (Gall, Gall, & Borg, 2007). This study sought to understand the relationship without controlling or treating variables.

The predictor variable was academic motivation—factors that influence an individual to attend school and earn a degree (Clark & Schroth, 2010). The predictor variable was measured using the Academic Motivation Scale College Version (AMS-C 28). The criterion variable was student cocurricular involvement—the physical and psychological energy a student invests in curricular and cocurricular activities related to the educational experience (Astin, 1999b).

The criterion variable was measured using each subscale of the College Student Experience Questionnaire (CSEQ). This study considered four aspects or subscales of student cocurricular involvement: (a) clubs and organizations, (b) campus facilities, (c) course learning, and (d) experiences with faculty. The Clubs and Organizations subscale measured the frequency with which a student engaged in activities such as attending a meeting of a campus organization or working on a committee or group. The Course Learning subscale encompassed a student's habits of completing assignments, taking notes, and participating in class discussions. The Faculty Experiences subscale gauged student interactions with faculty members outside of the classroom pertaining to coursework, academic program, career ambitions, research, or for socialization. The Campus Facilities subscale considered how often a student attended organized campus events, used public campus spaces such as lounges and recreational facilities, or participated in an organized intermural, club, or intercollegiate sport (Gonyea et al., 2003).

Research Questions

The following research questions guided the study:

RQ1: Is there a relationship between undergraduate students' academic motivation and cocurricular clubs and organizations involvement?

RQ2: Is there a relationship between undergraduate students' academic motivation and cocurricular course learning engagement?

RQ3: Is there a relationship between undergraduate students' academic motivation and cocurricular campus faculty experiences?

RQ4: Is there a relationship between undergraduate students' academic motivation and cocurricular campus facilities use?

Hypotheses

The null hypotheses for this study were:

 H_01 : There is no significant relationship between undergraduate students' academic motivation and cocurricular clubs and organizations involvement.

 H_02 : There is no significant relationship between undergraduate students' academic motivation and cocurricular course learning engagement.

 H_03 : There is no significant relationship between undergraduate students' academic motivation and cocurricular campus faculty experiences.

 H_04 : There is no significant relationship between undergraduate students' academic motivation and cocurricular campus facilities use.

Participants and Setting

Participants for the study were drawn from a convenience sample of traditional undergraduate students enrolled at a liberal arts Christian university in the Midwest during the Spring 2020 semester. The rural institution enrolled 2,533 full-time, traditional, undergraduate students during this study. The student body was 34.4% male, 65.6% female, 84% Caucasian, 3.8% Hispanic or Latino, 3.6% Black or African American, 1.5% Asian, 0.2% American Indian or Alaska Native, and 6.8% did not report their ethnicity (College Factual, n.d.). At the time of the study, the institution offered over 80 different undergraduate degree programs to its traditional population and also served nontraditional and graduate students through a different program platform.

A convenience sample was used for this study. The researcher was associated with the research site and had accessibility to the population, thus a convenience sample was appropriate (Gall et al., 2007). For this study, a minimum sample size of 66 participants was needed. According to Gall et al. (2007), 66 participants is the required minimum for a medium effect size with a statistical power of 0.7 at the 0.05 alpha level for a bivariate correlational study. This study exceeded the minimum sample size with a total of 197 participants. The sample did not focus on a particular academic program, course, grade level, or academic standing, but

participants were required to be full-time, undergraduate students 18 years old or older. Qualified students were invited to participate in the study via email and students who chose to engage in the survey became participants.

The sample consisted of 37 males (18.8%), 156 females (79.2%), and four who preferred not to answer (2%) for a total sample size of 197. The participant demographics included 175 Caucasian (88.8%), nine Hispanic (4.6%), four African American (2%), four Asian (2%), three multiracial (1.5%), one American Indian or Alaskan Native (0.5%), and one participant who chose not to disclose their race (0.5%). All grade levels were represented with six freshmen (3%), 62 sophomores (31.5%), 55 juniors (27.9%), 71 seniors (36%), and three fifth-year seniors (1.5%). Additionally, 182 participants (92.4%) enrolled in the institution directly after high school, whereas the other 15 participants (7.6%) transferred from another institution. The sample included 181 participants who were residential students living in campus housing (91.9%) and 15 participants (0.5%) did not disclose their living arrangements. The average age of participants was 20.27 years old.

Instrumentation

Two surveys were used to collect student data on academic motivation and involvement. The surveys were distributed using an online electronic platform, and the total time commitment for participants was approximately 10 minutes. Instrument results were assessed by the principal researcher.

Academic Motivation Scale College Version

The AMS-C 28 aligns with self-determination theory. The AMS-C 28 survey contains 28 questions to determine the level of motivation college students have for pursuing their college

education. The questions use a 7-point Likert scale ranging from 1, "Does Not Correspond at All," to 7, "Corresponds Exactly." The survey contains four questions for each of the seven motivation levels: (a) amotivation, (b) external regulation, (c) interjected regulation, (d) identified regulation, (e) integrated regulation, and (f) intrinsic motivation. The scoring procedure can be found in Appendix A.

Calculated composite scores range from -18, "very little self-determination," to 18, "extreme self-determination." Vallerand et al. (1992) developed this survey in Canadian French to measure college students' rationale for pursuing a degree in higher education. The survey was then translated to English using the parallel back-translation procedure (Vallerand et al., 1992). Factor analysis confirmed the translation's validity and reliability statistics for the seven subscales. Smith, Davy, and Rosenberg (2010) surveyed 2,078 students at American institutions using the AMS-C 28. The researchers examined alternative seven-, five-, and three-factor structures for the AMS-C 28 and concluded the seven-factor structure was sufficient and outperformed the alternative models. Internal consistency for each of the subscales ranged from .79 to .87 using Cronbach's alpha (Smith et al., 2010).

The survey also measured at acceptable levels for temporal stability, confirming it measures students' stable motivation toward education and not a temporal feeling. The AMS-C 28 was an appropriate instrument to use for this study, as it could directly measure the predictor variable, academic motivation, and has been successfully used in previous undergraduate educational settings (Clark & Schroth, 2010; Hanousek et al., 2015). Permission was granted to use this survey in its entirety (see Appendix A).

College Student Experience Questionnaire

Student involvement was measured on four subscales from the CSEQ. Pace developed the original questionnaire, which was last updated in 1998. With growing interest in student achievement, the questionnaire was designed to investigate student behaviors and experiences as predictors of achievement rather than focusing solely on demographic information (Gonyea et al., 2003). Items on each subscale use a 4-point Likert scale ranging from a score of 4, "Very Often," to 1, "Never." The Clubs and Organizations subscale measures the frequency with which a student engages in activities such as attending a meeting of a campus organization or working on a committee or in a group. This subscale contains five items, has a Cronbach alpha of 0.83, and scores range from 5 to 20. The Course Learning subscale measures a student's habit of completing assignments, taking notes, and participating in class discussion. This subscale contains 11 items, has a Cronbach alpha of 0.83, and scores range from 11 to 44. The Faculty Experiences subscale measures student interactions with a faculty member outside of the classroom pertaining to coursework, academic program, career ambitions, research, or for socialization. This subscale contains 10 items, has a Cronbach alpha of 0.88, and scores range from 10 to 40. The Campus Facilities subscale measures how often a student attends organized campus events, uses public campus spaces such as lounges and recreational facilities, or participates in an organized intermural, club, or intercollegiate sport. This subscale contains eight items, has a Cronbach alpha of 0.74, and scores range from 8 to 32. On each of these subscales, high scores indicate a higher level of involvement and lower scores indicate a lower level of involvement. The scoring procedure can be found in Appendix D.

Content validity for the CSEQ subscales was confirmed by content experts as well as one-factor and two-factor analyses. Construct validity was established through blocked

hierarchical regression analysis. Gonyea et al. (2003) provided scoring information for each subscale of the CSEQ. As a foundational student involvement survey, the fourth edition of the CSEQ has been administered to over 100,000 students at 200 institutions (Gonyea et al., 2003). The CSEQ Assessment Program does not license the entire CSEQ for use; however, the four subscales included in this study were used with permission from the *CSEQ Assessment Program, Indiana University*, Copyright 1998, The Trustees of Indiana University (see Appendix E for permission).

Procedures

The researcher obtained permission to conduct research at the research site (see Appendix F) and then submitted applications to the Internal Review Board (IRB) at Liberty University and the research site. Upon approval from both institutions (see Appendix G), the researcher contacted the research site to obtain a comprehensive list of full-time, undergraduate students 18 years old and over to include in the survey. The principal researcher sent an email to these students inviting them to participate in the study (see Appendix H). The research site provided the email list. The recruitment email was sent after the first half of the spring semester to allow sufficient time for students to interact with their college environment. The email included a link to SurveyMonkey. In SurveyMonkey, participants completed an electronic consent form (see Appendix I). When completed, the student then selected a link directing them to survey instructions. Instructions and demographic questions can be found in Appendix J. Upon reading the instructions, participants completed the college experiences questionnaire, which required approximately 4 minutes to complete. Participants then complete. Participants were given a 2-

week window to complete the online survey. The principal researcher sent two reminder emails during this period at 6-day intervals (see Appendix K).

Data were collected through the online platform, which was password secured and accessible only to the researcher. Data downloaded from the online platform were stored on a password-protected computer. Any printed data were stored in a locked filing cabinet. Survey responses were separated into their AMS-C 28 and CSEQ components before running statistical analyses through SPSS to test each of the null hypotheses. Descriptive statistics are reported for each subscale of the administered survey in addition to demographic information provided. All responses and data will be securely saved for 5 years following the completion of this study.

Data Analysis

A series of Pearson product moment correlational analyses were used for this study to test the null hypotheses. The Pearson product moment correlation was appropriate because it allowed the researcher to mathematically describe the relationship between two variables in terms of strength and direction (Gall et al., 2007). Gall et al. (2007) confirmed the Pearson product moment coefficient is appropriate for use with continuous data.

Before running the test, the researcher performed data screening and looked for bivariate outliers using a scatter plot on each pair of variables. Three assumptions must be met for a quantitative correlational analysis (Warner, 2013). First, observations must be independent as each participant's academic motivation and involvement are not dependent on those of other participants and are, therefore, independent. Second, data must have a bivariate normal distribution. Bivariate normality was tested using a scatterplot. A cigar-like shape indicated the bivariate normality assumption was tenable (Warner, 2013). Third, the relationship must be linear. A scatterplot was used to test the linearity of the data to ensure it created a linear pattern.

The test was run at the 95% confidence level; however, because there were four separate null hypotheses using the same instruments, it was appropriate to use a Bonferroni's correction to avoid a Type I error. A Bonferroni correction was calculated, and the alpha level was adjusted to .0125 (Warner, 2013). Effect size was reported using Pearson's r.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this study was to determine if there was a relationship between undergraduate students' academic motivation and their cocurricular involvement. The predictor variable was academic motivation, and the criterion variable was student cocurricular involvement. A series of Pearson product moment correlations were used to test four hypotheses. The findings section includes the research questions, null hypotheses, data screening, descriptive statistics, assumption testing, and results.

Hypotheses

The null hypotheses for this study were:

 H_01 : There is no significant relationship between undergraduate students' academic motivation and cocurricular clubs and organizations involvement.

 H_02 : There is no significant relationship between undergraduate students' academic motivation and cocurricular course learning engagement.

 H_03 : There is no significant relationship between undergraduate students' academic motivation and cocurricular campus faculty experiences.

H₀4: There is no significant relationship between undergraduate students' academic motivation and cocurricular campus facilities use.

Clubs and Organizations Findings

Research Question 1

RQ1: Is there a significant relationship between undergraduate students' academic motivation and cocurricular clubs and organizations involvement?

Null Hypotheses 1

H₀1: There is no significant relationship between undergraduate students' academic motivation and cocurricular clubs and organizations involvement.

Data Screening

Data were sorted and scanned for inconsistencies on each variable. Missing data were deleted. A scatter plot was used to detect bivariate outliers between the predictor variable and criterion variable. Two bivariate outliers were identified. A boxplot confirmed these to be extreme outliers (coded 38 and 113) in the responses for the AMS-C 28 and they were removed from the data set. After removing the two extreme outliers, the total sample size was 197 participants (see Figure 2 for scatter plot and Figure 3 for box plot).



Figure 2. Scatterplot between Academic Motivation and Clubs and Organizations subscales with outliers.



Figure 3. Boxplot for Academic Motivation subscale.

Descriptive Statistics

Descriptive statistics were obtained on each of the variables. The survey consisted of 199 participants who answered all survey questions; however, two participants were removed, resulting in a sample size of 197. Academic motivation was measured using the AMS-C 28 survey. Scores range from -5.42 to 13.25 out of a possible -18 to 18, with a higher score indicating more intrinsic motivating factors and a lower score indicating more extrinsic motivating factors. Extreme low scores indicate an absence of motivation. Student cocurricular involvement in clubs and organizations was measured using the Clubs and Organizations subscale from the College Student Experience Questionnaire (CSEQ). On this subscale, a higher score of 20 indicates a higher level of cocurricular involvement and a lower score of 5 indicates a lower level or no level of involvement. Descriptive statistics for Academic Motivation and Clubs and Organizations subscales can be found in Table 1.

Table 1

Descriptive Statistics for Academic Motivation and Clubs and Organizations Subscales

Variables	N	М	SD	Min.	Max.
Academic Motivation	197	6.95	3.32	-5.42	13.25
Clubs & Organizations	197	9.64	3.95	5	20

Assumption Testing

The Pearson product moment correlation requires the assumption of linearity be met. A scatterplot with a line of best fit was used to determine linearity. The assumption of linearity was met. The Pearson product moment correlation also requires the assumption of bivariate normal distribution be met. The assumption of bivariate normal distribution was examined using a scatter plot. The assumption of bivariate normal distribution was met (see Figure 4 for scatter plot).



Figure 4. Scatterplot between Academic Motivation and Clubs and Organizations subscales. **Results**

A Pearson product moment correlation was conducted to evaluate the null hypothesis there is no relationship between undergraduate students' academic motivation and cocurricular involvement in clubs and organizations. The predictor variable was academic motivation, and the criterion variable was cocurricular involvement in clubs and organizations. The correlation was originally set at an alpha level of .05. To protect against a Type I error, a Bonferroni correction was calculated, and the alpha level was adjusted to .0125. The null hypothesis where r(195) = .205, p = .004 was rejected. The effect size was medium, and the relationship was positive. There was a statistical relationship between the predictor variable (academic motivation) and the criterion variable (cocurricular involvement in clubs and organizations; see Table 2 for Pearson product moment correlation test results).

Table 2

		Academic Motivation	Clubs & Organizations
Academic	Pearson Correlation	1	.205**
Motivation	Sig. (2-tailed)		.004
	Ν	197	197
Clubs &	Pearson Correlation	.205**	1
Organizations	Sig. (2-tailed)	.004	
	Ν	197	197

Pearson Correlation Test for Academic Motivation and Clubs and Organizations Subscales

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

Course Learning Findings

Research Question 2

RQ2: Is there a significant relationship between undergraduate students' academic

motivation and cocurricular course learning engagement?

Null Hypotheses 2

H₀2: There is no significant relationship between undergraduate students' academic motivation and cocurricular course learning engagement.

Data Screening

Data were sorted and scanned for inconsistencies on each variable, and missing data were deleted. A scatter plot was used to detect bivariate outliers between the predictor variable and criterion variable. Two bivariate outliers were identified. A boxplot confirmed these to be

extreme outliers (coded 38 and 113) in the responses for the AMS-C 28 and they were removed from the data set. After removing the two extreme outliers, the total sample size was 197 participants (see Figure 5 for scatter plot and Figure 6 for box plot).



Figure 5. Scatterplot between Academic Motivation and Course Learning subscales with

outliers.



Figure 6. Boxplot for Academic Motivation subscale.

Descriptive Statistics

Descriptive statistics were obtained on each of the variables. The survey consisted of 199

participants who answered all survey questions; however, two participants were removed, resulting in a sample size of 197. Academic motivation was measured using the AMS-C 28 survey. Scores range from -5.42 to 13.25 out of a possible -18 to 18, with a higher score indicating more intrinsic motivating factors and a lower score indicating more extrinsic motivating factors. Extreme low scores indicate an absence of motivation. Student cocurricular engagement in course learning was measured using the Course Learning subscale from the CSEQ. On this subscale, a higher score of 44 indicates a higher level of cocurricular involvement, and a lower score of 20 indicates a lower level or no level of involvement. Descriptive statistics for Academic Motivation and Course Learning subscales can be found in Table 3.

Table 3

Descriptive Statistics for Academic Motivation and Course Learning Subscales

Variables	N	М	SD	Min.	Max.
Academic Motivation	197	6.95	3.32	-5.42	13.25
Course Learning	197	35.46	5.41	20	44

Assumption Testing

The Pearson product moment correlation requires the assumption of linearity be met. A scatterplot with a line of best fit was used to determine linearity. The assumption of linearity was met. The Pearson product moment correlation also requires the assumption of bivariate normal distribution be met. The assumption of bivariate normal distribution was examined using a scatter plot. The assumption of bivariate normal distribution was met (see Figure 7 for scatter plot).



Figure 7. Scatterplot between Academic Motivation and Course Learning subscales. **Results**

A Pearson product moment correlation was conducted to evaluate the null hypothesis there is no relationship between undergraduate students' academic motivation and cocurricular engagement with course learning. The predictor variable was academic motivation, and the criterion variable was cocurricular engagement in course learning. The correlation was originally set at an alpha level of .05. To protect against a Type I error, a Bonferroni correction was calculated, and the alpha level was adjusted to .0125. The null hypothesis where r(195) = .368, p < .001 was rejected. The effect size was large, and the relationship was positive. There was a statistical relationship between the predictor variable (academic motivation) and the criterion variable (cocurricular engagement in course learning; see Table 4 for Pearson product moment correlation test results).

Table 4

	Academic	
	Motivation	Course Learning
Pearson Correlation	1	.368**
Sig. (2-tailed)		.000
Ν	197	197
Pearson Correlation	.368**	1
Sig. (2-tailed)	.000	
Ν	197	16
	Pearson Correlation Sig. (2-tailed) N Pearson Correlation Sig. (2-tailed) N	Academic MotivationPearson Correlation1Sig. (2-tailed)197Pearson Correlation.368**Sig. (2-tailed).000N197

Pearson Correlation Test for Academic Motivation and Course Learning Subscales

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

Campus Faculty Findings

Research Question 3

RQ3: Is there a significant relationship between undergraduate students' academic motivation and cocurricular campus faculty experiences?

Null Hypotheses 3

 H_03 : There is no significant relationship between undergraduate students' academic motivation and cocurricular campus faculty experiences.

Data Screening

Data were sorted and scanned for inconsistencies on each variable, and missing data were deleted. A scatter plot was used to detect bivariate outliers between the predictor variable and criterion variable. Two bivariate outliers were identified. A boxplot confirmed these to be extreme outliers (coded 38 and 113) in the responses for the AMS-C 28 and they were removed from the data set. After removing the two extreme outliers, the total sample size was 197 participants (see Figure 8 for scatter plot and Figure 9 for box plot).



Figure 8. Scatterplot between Academic Motivation and Campus Faculty subscales with outliers.



Figure 9. Boxplot for Academic Motivation subscale.

Descriptive Statistics

Descriptive statistics were obtained on each of the variables. The survey consisted of 199 participants who answered all survey questions; however, two participants were removed, resulting in a sample size of 197. Academic motivation was measured using the AMS-C 28 survey. Scores range from -5.42 to 13.25 out of a possible -18 to 18, with a higher score indicating more intrinsic motivating factors and a lower score indicating more extrinsic

motivating factors. Extreme low scores indicate an absence of motivation. Student cocurricular experiences with campus faculty was measured using the Campus Faculty subscale from the CSEQ. On this subscale, a higher score of 40 indicates a higher level of cocurricular involvement, and a lower score of 10 indicates a lower level or no level of involvement. Descriptive statistics for Academic Motivation and Campus Faculty subscales can be found in Table 5.

Table 5

Descriptive Statistics for Academic Motivation and Campus Faculty Subscales

Variables	N	Mean	S.D.	Min.	Max.
Academic Motivation	197	6.95	3.32	-5.42	13.25
Campus Faculty	197	25.19	5.92	13	40

Assumption Testing

The Pearson product moment correlation requires the assumption of linearity be met. A scatterplot with a line of best fit was used to determine linearity. The assumption of linearity was met. The Pearson product moment correlation also requires the assumption of bivariate normal distribution be met. The assumption of bivariate normal distribution was examined using a scatter plot. The assumption of bivariate normal distribution was met (see Figure 10 for scatter plot).



Figure 10. Scatterplot between Academic Motivation and Campus Faculty subscales. **Results**

A Pearson product moment correlation was conducted to evaluate the null hypothesis there is no relationship between undergraduate students' academic motivation and cocurricular experiences with campus faculty. The predictor variable was academic motivation, and the criterion variable was cocurricular experiences with campus faculty. The correlation was originally set at an alpha level of .05. To protect against a Type I error, a Bonferroni correction was calculated, and the alpha level was adjusted to .0125. The null hypothesis where r(195) =.367, p < .001 was rejected. The effect size was large, and the relationship was positive. There was a statistical relationship between the predictor variable (academic motivation) and the criterion variable (cocurricular engagement in faculty experiences; see Table 6 for Pearson product moment correlation test results).

Table 6

		Academic Motivation	Campus Faculty Experiences
Academic	Pearson Correlation	1	.367**
Motivation	Sig. (2-tailed)		.000
	Ν	197	197
Campus Faculty	Pearson Correlation	.367**	1
	Sig. (2-tailed)	.000	
	Ν	197	16

Pearson Correlation Test for Academic Motivation and Campus Faculty Subscales

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

Campus Facilities Findings

Research Question 4

RQ4: Is there a significant relationship between undergraduate students' academic motivation and cocurricular campus facilities use?

Null Hypotheses 4

 H_04 : There is no significant relationship between undergraduate students' academic motivation and cocurricular campus facilities use.

Data Screening

Data were sorted and scanned for inconsistencies on each variable, and missing data were deleted. A scatter plot was used to detect bivariate outliers between the predictor variable and criterion variable. Two bivariate outliers were identified. A boxplot confirmed these to be extreme outliers (coded 38 and 113) in the responses for the AMS-C 28 and they were removed from the data set. After removing the two extreme outliers, the total sample size was 197 participants (see Figure 11 for scatter plot and Figure 12 for box plot).


Figure 11. Scatterplot between Academic Motivation and Campus Facilities subscales with outliers.



Figure 12. Boxplot for Academic Motivation subscale.

Descriptive Statistics

Descriptive statistics were obtained on each of the variables. The survey consisted of 199 participants who answered all survey questions; however, two participants were removed, resulting in a sample size of 197. Academic motivation was measured using the AMS-C 28

survey. Scores range from -5.42 to 13.25 out of a possible -18 to 18, with a higher score indicating more intrinsic motivating factors and a lower score indicating more extrinsic motivating factors. Extreme low scores indicate an absence of motivation. Student cocurricular use of campus facilities was measured using the Campus Facilities subscale from the CSEQ. On this subscale, a higher score of 32 indicates a higher level of cocurricular involvement, and a lower score of 8 indicates a lower level or no level of involvement. Descriptive statistics for Academic Motivation and Campus Facilities subscales can be found in Table 7.

Table 7

Descriptive Statistics for Academic Motivation and Campus Facilities Subscales

Variables	Ν	М	SD	Min.	Max.
Academic Motivation	197	6.95	3.32	-5.42	13.25
Campus Facilities	197	20.45	4.77	9	32

Assumption Testing

The Pearson product moment correlation requires the assumption of linearity be met. A scatterplot with a line of best fit was used to determine linearity. The assumption of linearity was met. The Pearson product moment correlation also requires that the assumption of bivariate normal distribution be met. The assumption of bivariate normal distribution was examined using a scatter plot. The assumption of bivariate normal distribution was met (see Figure 13 for scatter plot).



Figure 13. Scatterplot between Academic Motivation and Campus Facilities subscales. **Results**

A Pearson product moment correlation was conducted to evaluate the null hypothesis there is no relationship between undergraduate students' academic motivation and cocurricular use of campus facilities. The predictor variable was academic motivation, and the criterion variable was cocurricular use of campus facilities. The correlation was originally set at an alpha level of .05. To protect against a Type I error, a Bonferroni correction was calculated, and the alpha level was adjusted to .0125. The null hypothesis where r(195) = .225, p = .001 was rejected. The effect size was medium, and the relationship was positive. There was a statistical relationship between the predictor variable (academic motivation) and the criterion variable (cocurricular use of campus facilities; see Table 8 for Pearson product moment correlation test results).

Table 8

		Academic Motivation	Use of Campus Facilities
Academic	Pearson Correlation	1	.225**
Motivation	Sig. (2-tailed)		.001
	Ν	197	197
Campus Facilities	Pearson Correlation	.225**	1
	Sig. (2-tailed)	.001	
	Ν	197	16

Pearson Correlation Test for Academic Motivation and Campus Facilities Subscales

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

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this study was to determine if there was a relationship between undergraduate students' academic motivation and their cocurricular involvement. Results of statistical analyses from Chapter 4 with respect to the research questions will be discussed in this chapter. Implications and limitations of the study will be discussed and suggestions for future research will be presented.

Discussion

The purpose of this study was to investigate a potential relationship between undergraduate student academic motivation and their cocurricular involvement in key areas including interaction with their peers, faculty, and environment. The predictor variable, academic motivation, was measured using the Academic Motivation Scale College Version (AMS-C 28) and the criterion was cocurricular involvement, which was measured using four separate subscales from the College Student Experiences Questionnaire (CSEQ). The four CSEQ subscales used include Clubs and Organizations, Course Learning, Campus Faculty, and Campus Facilities. A series of Pearson product-moment correlations were used between participants' AMS-C 28 score and their score from each of the four CSEQ subscales to test the hypotheses there were no statistically significant relationships between the criterion variable and predictor variables.

Clubs and Organizations Discussion

The first null hypothesis stated there is no significant relationship between students' academic motivation and their cocurricular clubs and organizations involvement. To investigate this hypothesis, a Pearson product-moment correlation analysis was conducted using SPSS. The

null hypothesis was rejected, as there was a medium, positive relationship between academic motivation and cocurricular clubs and organizations involvement.

Past studies with student involvement theory have shown interactions with peers, such as those found within the clubs and organizations scale, are the strongest influence on student outcomes when compared to student interactions with professors, college environment, and academic engagement (Astin, 1996; Flynn, 2014). This study did not assess student outcomes but did analyze the relationship between peer interactions and student academic motivation. This study parallels Astin's findings indicating peer interaction is an important factor of student involvement. This relationship may be due to the fact students only spent the first half of the semester on campus with their peers, and were only able to participate in clubs and organizations during that time. Williams et al. (2019) found meaningful classroom peer interactions outside of the classroom. If that is the case, students may not have had the opportunity to fully develop or continue those meaningful relationships or involvement with clubs and organizations past the midpoint of the semester.

Course Learning Discussion

The second null hypothesis stated there is no significant relationship between students' academic motivation and their cocurricular course learning engagement. To investigate this hypothesis, a Pearson product-moment correlation analysis was conducted using SPSS. The null hypothesis was rejected, as there was a large, positive relationship between academic motivation and cocurricular course learning engagement.

Ryan and Deci's (2000b) self-determination theory would suggest students who have a higher level of academic motivation are more likely to engage with their course learning because

they have more of an intrinsic need to demonstrate competence in their work toward a degree and place a higher value on academic activities they perceive to assist them in achieving their goal. This study also supports findings of Goldman et al. (2017) indicating academic motivation can enhance students' engagement with course learning. These findings also align with expectancy-value theory, which points out the importance of motivation with respect to academic achievement as motivation regulates students' expectations for success.

Campus Faculty Discussion

The third null hypothesis stated there is no significant relationship between students' academic motivation and their cocurricular campus faculty experiences. To investigate this hypothesis, a Pearson product-moment correlation analysis was conducted using SPSS. The null hypothesis was rejected, as there was a large, positive relationship between academic motivation and cocurricular campus faculty experiences. This study supports previous literature and research demonstrating a positive relationship between academic motivation and experiences with campus faculty (Kim & Sax, 2009; Komarraju et al., 2010; Trolian et al., 2016; Zhao & Kuh, 2004). These findings align with those of Trolian et al. (2016) and Roksa et al. (2017), which showed student–faculty interactions were positively correlated with students' academic motivation. Ryan and Deci's (2000b) self-determination theory would suggest students who have a higher level of academic motivation are more likely to engage with faculty members if they believe those interactions to be need fulfilling in reaching their goal of a college degree.

Campus Facilities Discussion

The fourth null hypothesis stated there is no significant relationship between students' academic motivation and their cocurricular campus facility use. To investigate this hypothesis, a Pearson product-moment correlation analysis was conducted using SPSS. The null hypothesis

was rejected, as there was a medium, positive relationship between academic motivation and cocurricular campus facility use. These findings help address the literature gap identified by Roksa and Whitley (2017) on the unknown relationship between students' interactions with the campus environment and their academic motivation.

The campus facilities subscale measured students' use of campus resources for individual and group activities. Spending time on campus, and thus using these resources and facilities, is one of Astin's (1999b) four distinct areas of involvement. Korobova and Starobin (2015) recognized use of campus facilities is an area of students' cocurricular involvement that influences their satisfaction and academic success. This study suggests use of campus facilities and resources also has a positive correlation with students' academic motivation, which supports the resource theory perspective of student involvement theory claiming various resources, including physical facilities of an institution, enhance student learning and the student experience (Astin, 1999b). When students are engaged with their campus facilities and environment, they develop a sense of relatedness, a fundamental need in self-determination theory, and therefore cocurricular involvement could be expected to have a positive correlation with academic motivation (Sibold, 2016).

Summary

These results support previous findings demonstrating students' interactions with their academics, environment, faculty, and peers are important aspects of cocurricular involvement (Astin, 1999b). Peer interaction may be the most important aspect when considering other educational outcomes, such as satisfaction and persistence, but this study revealed interactions with course learning and campus faculty had the strongest correlation to academic motivation. These findings support Reeve and Lee's (2014) position students' academic motivation and

interaction with faculty and classroom engagement are connected. The findings also support the positive correlation between student–faculty interactions and student outcomes such as academic motivation demonstrated in previous research (Kim & Sax, 2009; Komarraju et al., 2010; Trolian et al., 2016; Zhao & Kuh, 2004).

Student face-to-face interactions halted at the midpoint of the semester as students were sent home due to the COVID-19 pandemic, and they lost valuable time to develop or continue with peer relationships. Williams et al. (2019) noted meaningful patterns of student interactions tend to emerge halfway through the semester. Even though Williams et al. stated the frequency of involvement is not of importance, student interactions still must occur. Thus, it is not surprising the relationship between academic motivation and involvement with clubs and activities was the weakest of the four subscales, given participants were only able to reflect upon experiences with peers from the first half of their semester. The same is true for participants' use of campus facilities, as they were not able to be on campus during the entire semester.

Implications

Past studies have focused primarily on cocurricular involvement and student outcomes such as persistence, retention, graduation, and academic success. Few studies have considered the relationship between student cocurricular involvement and affective student dimensions such as academic motivation. This study added to the body of literature by examining the relationship between students' academic motivation and cocurricular involvement in clubs and activities, course learning engagement, campus faculty experiences, and use of campus facilities.

The primary implications of this study relate to the relationship between students' academic motivation and their engagement with course learning and experiences with campus faculty. Both course learning engagement and campus faculty experiences had large, positive

relationships with students' academic motivation. This finding is unsurprising as it seems reasonable for a student motivated to earn their college degree to interact with their courses and faculty members in meaningful ways. With knowledge of this positive relationship, this research can help inform expectations for student–faculty interactions and, because academic motivation can be changed, perhaps inform practices to positively influence students' academic motivation as well (Grolnick, 2015; Grolnick & Ryan, 1989; Jang et al., 2010; Naude et al., 2017).

The secondary implications of this study relate to the relationship between students' academic motivation and their involvement with clubs and organizations and use of campus facilities. These areas of cocurricular involvement had medium, positive relationships with students' academic motivation. Because students were only on campus and able to fully participate in clubs, organizations, and the campus environment for the first half of the semester, it is not surprising this relationship was the weakest of the four subscales. The finding there was still a positive relationship is important and should be further examined under normal circumstances to determine how these variables relate to and interact with each other.

Limitations

This study had several limitations. First, the sample size was sufficient for this survey, but there was overrepresentation of female students, Caucasian students, and underrepresented freshman students. Second, there was a lapse in time between students' on-campus experiences they were asked to reference and the administration of the survey. This study was also dependent upon participants checking their school email outside of a standard semester to be informed of the opportunity to participate. It is possible certain students, perhaps those who tend to be more academically motivated, were more inclined to check their email during this timeframe with regularity and, therefore, received the invitation to participate during the survey window.

This study also referenced the semester in which the COVID-19 global pandemic began. Although participants were directed to only reflect upon the first half of their semester, which occurred uninterrupted on campus with traditional in-person instruction and activities, it is possible their experiences during the second half of the semester affected how they reflected upon or remembered their time on campus. Because frequency and quality of students' interactions with faculty are associated with their academic motivation, the move to off-campus, virtual instruction during the pandemic likely created a limitation for this study (Roksa et al., 2017; Trolian et al., 2016).

Finally, the population of the research site institution may not be representative of the population at other liberal arts universities, faith-based institutions, or institutions of higher education outside of the Midwest. Therefore, results of this research may only be generalized to a similar population of students, and findings may be different for students from other types of institutions.

Recommendations for Future Research

The following list includes four recommendations for future research:

- Research should reference an academic semester when students are continuously involved in on-campus instruction and activities rather than having standard activities disrupted by a global pandemic.
- Future researchers should consider administering a similar study on academic motivation and student involvement during an academic semester so there is less of a time lapse between experiences and data collection.

- Researchers should conduct similar research with additional samples, as these results are specific to a faith-based liberal arts institution. Continued research is recommended to consider the relationship between academic motivation and cocurricular involvement at public institutions, other private non-faith-based institutions, and institutions outside of the Midwest.
- Researchers should also consider other measurements for cocurricular involvement that focus on students' interactions with their peers, faculty, and environment.

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APPENDICES

Appendix A: AMS-C 28 Permission and Scoring Procedure

Lab LRCS <i< th=""><th>1></th></i<>	1>
Wed 6/29/2016 1:13 PM	
To:Wakeman, Rebecca	

Dear Mrs. Wakeman,

You have the permission to use the AMS and you can download the scale from our web site:

http://www.lrcs.uqam.ca/echelles en.htm

AMS

To calculate a person's score on the AMS, you need to find the mean response for each of the subscales. These means will vary between 1 and 7. You then insert these means in the following formula which will able you to calculate a self-determination index:

2((know+acc+stim/3)) + iden - ((intro+reg/2) + 2amo)= self-determination index know= intrinsic motivation to know acc= intrinsic motivation to accomplishments stim= intrinsic motivation to experience stimulation iden= identification introj= introjected regulation reg= external regulation amo= amotivation

This formula will give you scores ranging from -18 (very little self-determination) to +18 (extreme self-determination). Most of the people we have tested with this scale obtain scores around 10.

Syntax for SPSS :

```
COMPUTE Index=(((2 * (know+acc+stim/3)) + IDEN)) - (((INTROJ + REG) / 2) + (2 * AMO)).
EXECUTE.
```

Or your can compute two scores for Autonomous Motivation and Controlled Motivation :

COMPUTE AUTMOT=(INT + IDEN). EXECUTE.

COMPUTE CONTMOT=(INTROJ + REG). EXECUTE. I would like to mention that this scale has not been normalised. This index is only used for research purposes. Nevertheless, we noticed that a high index is associated with positive consequences and, on the opposite, a low index is associated with negative consequences for the person.

I hope these few words will help you. I wish you good luck in your research project!

Quality of Effort Scale	s	
QELIB	Quality of Effort: Library Scale	Score is sum of LIB1 through LIB8; scores range from 8-32*
QECOMPUT	Quality of Effort: Computer and Information Technology Scale	Score is sum of COMPUT1 through COMPUT9; scores range from 9-36*
QECOURSE	Quality of Effort: Course Learning Scale	Score is sum of COURSE1 through COURSE11; scores range from 11- 44*
QEWRITE	Quality of Effort: Writing Experiences Scale	Score is sum of WRITE1 through WRITE7; scores range from 7-28*
QEFAC	Quality of Effort: Experiences with Faculty Scale	Score is sum of FAC1 through FAC10; scores range from 10-40*
QEAMT	Quality of Effort: Art, Music, Theater Scale	Score is sum of AMT1 through AMT7; scores range from 7-28*
QEFACIL	Quality of Effort: Campus Facilities Scale	Score is sum of FACIL1 through FACIL8; scores range from 8-32*
QECLUBS	Quality of Effort: Clubs and Organizations Scale	Score is sum of CLUBS1 through CLUBS5; scores range from 5-20*
QEPERS	Quality of Effort: Personal Experiences Scale	Score is sum of PERS1 through PERS8; scores range from 8-32*
QESTACQ	Quality of Effort: Student Acquaintances Scale	Score is sum of STACQ1 through STACQ10; scores range from 10- 40*
QESCI	Quality of Effort: Science & Quantitative Experiences Scale	Score is sum of SCI1 through SCI10; scores range from 10-40*
QECONTPS	Quality of Effort: Topics of Conversation Scale	Score is sum of CONTPS1 through CONTPS10; scores range from 10- 40*
QECONINF	Quality of Effort: Information in Conversations Scale	Score is sum of CONINF1 through CONINF6; scores range from 6-24*

Appendix B: CSEQ Scoring Procedures

*A quality of effort scale score will be reported as "missing" if one or more of the items which contribute to that score is missing.

CSEQ Scoring (Gonyea et al., 2003, p. 159)

Appendix C: CSEQ Usage Agreement



Item Usage Agreement College Student Experiences Questionnaire Assessment Program

The College Student Experiences Questionnaire Assessment Program is part of the Indiana University Center for Postsecondary Research. The CSEQ Assessment Program is home to the *College Student Experiences Questionnaire (CSEQ)* and the *College Student Expectations Questionnaire (CSEQ)*. These are copyrighted survey instruments, and the copyrights are owned by The Trustees of Indiana University. Any use of survey items contained within the *CSEQ* or *CSXQ* is prohibited without prior written permission from Indiana University. When fully executed, this Agreement constitutes written permission from the University, on behalf of the CSEQ Assessment Program, for the party named below to use an item or items from the *College Student Experiences Questionnaire* or *College Student Experiences Questionnaire* in accordance with the terms of this Agreement.

In consideration of the mutual promises below, the parties hereby agree as follows:

- The University hereby grants Rebecca Wakeman ("Licensee") a nonexclusive, worldwide, irrevocable license to use, reproduce, distribute, publicly display and perform, and create derivatives from, in all media now known or hereafter developed, the item(s) listed in the proposal attached as Exhibit A, solely for the purpose of including such item(s) in the survey activity described in Exhibit A, which is incorporated by reference into this Agreement. This license does not include any right to sublicense others. This license only covers the survey instrument, time frame, population, and other terms described in Exhibit A. Any different or repeated use of the item(s) shall require an additional license.
- 2) In exchange for the license granted in section 1, Licensee agrees:
 - a) to provide to the CSEQ Assessment Program frequency distributions and means on the licensed item(s);
 - b) in all publications or presentations of data obtained through the licensed item(s), to include the following citation: "Items xx and xx used with permission from the CSEQ Assessment Program, Indiana University, Copyright 1998, The Trustees of Indiana University";
 - c) to provide to the CSEQ Assessment Program, a copy of any derivatives of, or alterations to, the item(s) that Licensee makes for the purpose of Licensee's survey ("modified items"), for the CSEQ Assessment Program's own nonprofit, educational purposes, which shall include the use of the modified items in the CSEQ, CSXQ or any other survey instruments, reports, or other educational or professional materials that it may develop or use in the future. Licensee hereby grants the University a nonexclusive, worldwide, irrevocable, royalty-free license to use, reproduce, distribute, create derivatives from, and publicly display and perform the modified items, in any media now known or hereafter developed; and

Indiana University Center for Postsecondary Research 1900 East Tenth Street • Eigenmann Hall, Suite 419 • Bloomington, IN 47406-7512 Phone: (812) 856-5825 • Fax: (812) 856-5150 d) to provide to the CSEQ Assessment Program for its own nonprofit, educational purposes, a copy of all reports, presentations, analyses, or other materials in which the item(s) licensed under this Agreement, or modified items, and any responses to licensed or modified items, are presented, discussed, or analyzed. The CSEQ Assessment Program shall not make public any data it obtains under this subsection in a manner that identifies specific institutions or individuals, except with the consent of the Licensee.

The undersigned hereby consent to the terms of this Agreement and confirm that they have all necessary authority to enter into this Agreement.

For The Trustees of Indiana University:

4-29-2020 Date

Associate Director, Center for Postsecondary Research Director, CSEQ Assessment Program Indiana University

For Licensee:

Name: Rebecca Wakeman Title: Graduate Student Institution: Liberty University Indiana University Center for Postsecondary Research 1900 East Tenth Street • Eigenmann Hall, Suite 419 • Bloomington, IN 47406-7512 Phone: (812) 856-5825 • Fax: (812) 856-5150

Appendix D: Permission Letter



July 6, 2020

Institutional Review Board Liberty University 1971 University Blvd Lynchburg, VA 24515

Members of the IRB,

Rebecca Wakeman is a faculty member at the second s

This letter serves as approval for her to conduct her study on the campus of

, more specifically the undergraduate students who study here. We look forward to learning of the results from Rebecca's study and utilizing them to enhance our students' experience.

If you have any further questions, please to not hesitate to contact me at

Sincerely,



College of Arts and Sciences

4

Appendix E: IRB Approvals

LIBERTY UNIVERSITY.

July 7, 2020

Rebecca Wakeman Kurt Michael

Re: IRB Exemption - IRB-FY19-20-476 THE RELATIONSHIP BETWEEN UNDERGRADUATE STUDENTS' ACADEMIC MOTIVATION AND CO-CURRICULAR INVOLVEMENT AT A MIDWEST CHRISTIAN UNIVERSITY

Dear Rebecca Wakeman, Kurt Michael:

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46: 101(b):

Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording). The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

Your stamped consent form can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. This form should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document should be made available without alteration.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at

Sincerely,

Administrative Chair of Institutional Research Research Ethics Office



Notice of Exemption

The Relationship between Undergraduate Students' Academic Motivation and Co-Curricular Involvement at a Midwest Christian University

Title of Research Topic	
Rebecca Wakeman	
Investigator(s)	
1467.20	
IRB ID Number	

The Institutional Review Board has reviewed your proposal and has determined that your proposal is exempt from further review from the IRB under Exemption Number:

(2) Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:

(i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

This exemption is valid for one year from the date of this notice. If there are any changes in the project during the year or if the project extends beyond the one-year period, the IRB must be notified.

Comment: The IIII IRB red with their conclusions	cognizes the work of the Liberty U	Iniversity IRB and concurs
	Ph.D.	
-	Chair, Institutional Review Board	
	July 7,2020	
	Date	

Appendix F: Recruitment Email

FROM:

ı via SurveyMonkey

DATE: Wednesday, July 08, 2020 10:21 PM

SENT TO: 2,354 recipients

SUBJECT: Student Involvement & Motivation Study - Survey Invitation

MESSAGE:

Student Involvement and Academic Motivation

Hello,

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to understand the relationship between undergraduate students' motivation for earning a college degree and their involvement in campus co-curricular opportunities, and I am writing to invite eligible participants to join my study.

Participants must be 18 years of age or older and have been registered as a full-time traditional undergraduate student at during the Spring 2020 semester. Participants, if willing, will be asked to respond to survey questions about their involvement in co-curricular campus opportunities and motivation for earning a college degree. It should take approximately 10 minutes to complete the survey. Participation will be completely anonymous, and no personal, identifying information will be collected.

In order to participate, please click the "Begin Survey" button below or visit

A consent document is provided as the first page of the survey. The consent document contains additional information about my research. After you have read the consent form, please click the button to proceed to the survey. Doing so will indicate that you have read the consent information and would like to take part in the survey.

Sincerely,

Rebecca Wakeman Doctoral Candidate, Liberty University



Please do not forward this email as its survey link is unique to you. $\underline{\text{Privacy}} \mid \underline{\text{Unsubscribe}}$


Appendix G: Consent Form

CONSENT	
	Title of the Project:
	The Relationship Between Undergraduate Students' Academic Motivation and
	Co-Curricular Involvement at a Midwest Christian University
	Principal Investigator:
	Rebecca Wakeman, Doctoral Candidate, Liberty University;
	Assistant Professor,
Invitation to be Part of	a Research Study
You are invited to partici	pate in a research study. In order to participate, you must be at least 18 years old and have been registered as
full-time traditional under	rgraduate student at during the Spring 2020 semester. Taking part in this research project is
voluntary.	
Please take time to read	this entire form and ask questions before deciding whether to take part in this research project.
What is the study show	it and why is it haing done?
The purpose of the study	it and why is it being done : v is to understand the relationship between students' motivation to attend college and their involvement in co-
curricular activities.	
What will happen if you	u take part in this study?
If you agree to be in this	study, I would ask you to do the following things:
 Respond to online This anonymous 	e survey questions about your desire to pursue a college degree and your interaction with campus resources. survey will take approximately 10 minutes to complete.
How could you or othe	rs benefit from this study?
Participants should not e	expect to receive a direct benefit from taking part in this study.
What risks might you e	experience from being in this study?
The risks involved in this	study are minimal, which means they are equal to the risks you would encounter in everyday life.
How will personal info	mation be protected?
The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to	
records. Data collected f	rom you may be shared for use in future research studies or with other researchers.
 Participant response 	nses will be anonymous and the survey is designed to not collect IP addresses.
 Data will be store 	d on a password-locked computer and may be used in future presentations and publications. Electronic record
of data will be ma	intained for a minimum of three years.
Doos the researcher by	we any conflicte of interact?
The researcher serves a	s a professor at To limit potential or perceived conflicts the study will be
anonymous, so the rese	archer will not know who participated. This disclosure is made so that you can decide if this relationship will
affect your willingness to	participate in this study. No action will be taken against an individual based on his or her decision to participat
in this study.	
le etudu participation u	aluntary?
Participation in this stude	viunuary r v is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty
University or Indiana We	slevan University. If you decide to participate, you are free to not answer any duestion or withdraw at any time
prior to submitting the su	rvey without affecting those relationships.
Whom do you contact	if you have questions or concerns about the study?
The researcher conducti	ng this study is Rebecca Wakeman. You may ask any guestions you have now. If you have guestions later. you
are encouraged to conta	ct her at . You may also contact the researcher's faculty sponsor, at

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at

* 1. Your Consent

By clicking the checkbox below, you are agreeing to be in this study. Make sure you understand what the study is about before you proceed. You may print a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you review this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

Appendix H: Instructions and Demographics

This online survey contains two questionnaires. When responding to each questionnaire, only consider your experiences during the first half of the Spring 2020 semester. Please complete the brief demographic information below before proceeding to the survey question What is your sex? Male Female Prefer not to answer Which race/ethnicity best describes you? (Please choose only one.) American Indian or Alaskan Native Hispanic Asian / Pacific Islander Hispanic Asian / Pacific Islander Hispanic Huitple ethnicity / Other (please specify) Khow old are you? S. What is your classification in college? Ferstman Seption Seption Cother (please specify) Ferstman Seption Cother (please specify) Ferstman Seption Seption Seption Cother (please specify) Ferstman Seption Seption Cother (please specify) Ferstman Seption Sept	astructions	
Please complete the brief demographic information below before proceeding to the survey question 2. What is your sex? Male Female Prefer not to answer 3. Which race/ethnicity best describes you? (Please choose only one.) American Indian or Alaskan Native Hispanic Asian / Pacific Islander Black or African American Multiple ethnicity / Other (please specify) 5. What is your classification in college? Freshman Junior Sophomore Senior Other (please specify) E 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing	his online survey contains two questionnair onsider your experiences during the first ha	res. When responding to each questionnaire, only If of the Spring 2020 semester.
2. What is your sex? Aale Female Prefer not to answer 3. Which race/ethnicity best describes you? (Please choose only one.) American Indian or Alaskan Native Hispanic Asian / Pacific Islander Hispanic Black or African American Black or African American Black or African American Black or African American Hultiple ethnicity / Other (please specify) 5. What is your classification in college? Freshman Sunior Sophomore Senior Other (please specify) 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing	lease complete the brief demographic inforr	mation below before proceeding to the survey questions.
Male Permale Prefer not to answer 3. Which race/ethnicity best describes you? (Please choose only one.) American Indian or Alaskan Native Hispanic Asian / Pacific Islander White / Caucasian Black or African American Multiple ethnicity / Other (please specify) . . How old are you? . . S. What is your classification in college? Freshman Junior Sophomore Senior Other (please specify) . . 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing	2. What is your sex?	
Female Prefer not to answer 3. Which race/ethnicity best describes you? (Please choose only one.) American Indian or Alaskan Native Hispanic Asian / Pacific Islander White / Caucasian Black or African American Black or African American Multiple ethnicity / Other (please specify) . How old are you? 5. What is your classification in college? Freshman Junior Sophomore Sophomore Senior Other (please specify) 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing	◯ Male	
Prefer not to answer 3. Which race/ethnicity best describes you? (Please choose only one.) American Indian or Alaskan Native Hispanic Asian / Pacific Islander Black or African American Black or African American Multiple ethnicity / Other (please specify) . . How old are you? 5. What is your classification in college? Freshman Junior Sophomore Other (please specify) . 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing	Female	
3. Which race/ethnicity best describes you? (Please choose only one.) American Indian or Alaskan Native Hispanic Asian / Pacific Islander White / Caucasian Black or African American White / Caucasian Multiple ethnicity / Other (please specify)	Prefer not to answer	
American Indian or Alaskan Native Asian / Pacific Islander Asian / Pacific Islander Black or African American Black or African American Multiple ethnicity / Other (please specify) . How old are you? . How old are you? . How old are you? . Sophomore Sophomore Sophomore Sophomore Sophomore Sophomore Sophomore Source Cutter (please specify)	3. Which race/ethnicity best describes you? (I	Please choose only one.)
 Asian / Pacific Islander Black or African American Black or African American Multiple ethnicity / Other (please specify) . How old are you? 5. What is your classification in college? Freshman Junior Sophomore Senior Other (please specify) . 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing 	American Indian or Alaskan Native	Hispanic
Black or African American Multiple ethnicity / Other (please specify) . How old are you? 5. What is your classification in college? Freshman Sophomore Sophomore Senior Other (please specify) 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing	Asian / Pacific Islander	White / Caucasian
 Multiple ethnicity / Other (please specify) . How old are you? 5. What is your classification in college? Freshman Junior Sophomore Senior Other (please specify) 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing 	Black or African American	
A. How old are you? 5. What is your classification in college? 5. Where lass specify 6. Where did you live during the FIRST HALF of the Spring 2020 semester? 6. Where did you live during the FIRST HALF of the Spring 2020 semester? 7. Residence hall or other campus housing 7. Non-university housing	Multiple ethnicity / Other (please specify)	
5. What is your classification in college? Freshman Junior Sophomore Sophomore Other (please specify) C. 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing	. How old are you?	
 Freshman Junior Sophomore Senior Other (please specify) 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing 	5. What is your classification in college?	
Sophomore Senior Other (please specify)	Freshman	Junior
Other (please specify) 6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing	Sophomore	Senior
6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing	Other (please specify)	
6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing		
6. Where did you live during the FIRST HALF of the Spring 2020 semester? Residence hall or other campus housing Non-university housing		
Residence hall or other campus housing Non-university housing	6. Where did you live during the FIRST HALF	of the Spring 2020 semester?
Non-university housing	Residence hall or other campus housing	
	Non-university housing	

7. Was the first college you attended full-time after high school?

Yes, is the first college I attended full-time after high school

O No, I transferred to from another college or university

Other (please specify)

Appendix I: Recruitment Reminder Email

FROM:

via SurveyMonkey

DATE: Tuesday, July 14, 2020 10:00 PM

SENT TO: 2,277 recipients

SUBJECT: Student Involvement & Motivation Study - Survey Reminder

MESSAGE:

Student Involvement and Academic Motivation

Hello,

As a graduate student in School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. Last week an email was sent to you inviting you to participate in a research study. This follow-up email is being sent to remind you to complete the survey if you would like to participate and have not already done so. The deadline for participation is Wednesday, July 22nd.

If you choose to participate, you will be asked to complete a survey. It should take approximately 10 minutes for you to complete the survey. Your participation will be completely anonymous, and no personal, identifying information will be required.

In order to participate, please click the "Begin Survey" button below or visit

A consent document is provided as the first page you will see after clicking on the survey link. The informed consent document contains additional information about my research, please box at the end of the informed consent document to indicate that you have read it and would like to take part in the survey.

Sincerely,

Rebecca Wakeman Doctoral Candidate, Liberty University

Begin Survey

Please do not forward this email as its survey link is unique to you. <u>Privacy</u> | <u>Unsubscribe</u>

Powered by SurveyMonkey