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Non-classroom involvement among rural community college students: An application of Tinto and Astin's models

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Participation in non-classroom activities has been documented to extend the intellectual, social, and psychosocial outcomes of the college experience. However, the benefits of non-classroom activities are often difficult to quantify due their voluntary nature, with findings mostly related to students within four-year institutions. The purpose of this study was to determine whether rural community college full-time freshman students who participate in non-classroom activities differ from nonparticipants with regard to self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. These five factors have been demonstrated to influence student persistence and were adopted from Davidson et al.'s (2015) College Persistence Questionnaire, Version 2 (CPQ-V2). CPQ-V2 data were collected using an electronic survey distributed during the Fall 2021 semester. Survey participants offered details about their personal background and involvement in non-classroom activities, followed by responses to a series of questions from an adapted form of the CPQ-V2. The chi-square test of independence and one-way ANOVA were used to identify significant associations or relationships between variables. Data were analyzed through the lens of Astin's theory of student involvement and Tinto's theory of student departure. The results of

analysis detected statistically significant associations between students' level of involvement and their program of study, residency, employment, parental education, and volume of online classes. Their type of involvement was found to have a significant association with student residency. The level of involvement among students was also found to be significantly associated with their self-reported sense of social integration and degree commitment, a finding that was accompanied by the types of involvement and their statistical significance to their sense of social integration. Results from the survey instrument can vary across institutions and student populations; still, the results further demonstrate the differences among student groups in their non-classroom involvement. Accordingly, practitioners should continuously monitor their institution's effectiveness in providing non-classroom opportunities that meet community college students' needs and support their persistence efforts.

DEDICATION

Each member of my committee deserves recognition for providing guidance through this journey and "test of endurance." Drs. Carol White, Stephanie King, Katie Oswalt, and Linda Coats – Thank You for your professionalism, insight, and your roles within the Educational Leadership program.

My focus toward this topic is a product of my own experiences as an undergrad. With that in mind, this space acknowledges the community college employees who go above and beyond in providing non-classroom opportunities for their students. These functions would often go ignored without your effort. Keep up the good work.

My dissertation is dedicated to my wife and our two boys, Carson and Hayden. Sallye is a constant source of encouragement and keeps the household from becoming an insane asylum. When the writing process became difficult, I was encouraged by the extra time with the kids that would later come. All of that helped me plow through the work. I love all three of you.

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CHAPTER I

INTRODUCTION

Background of the Study

Community Colleges

The American Association of Community Colleges (AACC, 2021) reports a total of 1,044 two-year institutions, of which 936 are public. Community colleges have various instructional missions (Hatch & Garcia, 2017; Hlinka, 2017; Howley et al., 2013; Moschetti & Hudley, 2015) that typically focus on three areas of commitment: access, equity, and responsiveness to community needs (Troyer, 2015). These institutions are a gateway to postsecondary education for a diverse range of students, many of which would otherwise not be afforded the opportunity (Cohen et al., 2014; Karp et al., 2010). Amey (2017) claims, however, that "the missions of these institutions have not only become greater in number but more complex and more important to achieving the national goal of a more educated populace" (p. 95). This is reflected by the fact that community college educational missions comprehensively include transfer degree pathways, workforce training, adult education, high school equivalency (GED) instruction, and community enrichment (Cohen et al., 2014). The range of instructional services provided by these institutions is important, given that 41% of the U.S. undergraduate population and 39% of first-time freshmen students were enrolled in a community college during the fall 2019 semester (AACC, 2021).

A college education is documented to produce higher incomes and an enhanced quality of life (Boggs, 2011; Perna, 2015), while positively altering the life trajectory for many individuals (Billingsley & Hurd, 2019; Scott et al., 2015). Community colleges are especially useful in meeting these outcomes due to their lower financial investment compared to four-year colleges and universities (Belfield & Bailey, 2011; Moschetti & Hudley, 2015; Sáenz et al., 2011). Two-year institutions awarded 878,900 associate degrees and 619,711 certificates during the 2018-2019 academic year (AACC, 2021), which demonstrates they sustain their historic missions not only by providing access to higher education, but also by contributing to their region's economic development through occupational and vocational education (Hendrickson et al., 2013). A comparison of 2- and 4-year institutions reveals that more students are enrolled in associate's degree and certificate programs than bachelor's degree programs (Carnevale et al., 2020). Workforce assessments also show that some associate's degrees (e.g., dental hygiene, industrial equipment maintenance) and certificate fields of study (e.g., engineering technology) lead to incomes that rival or exceed bachelor's degrees (Carnevale et al., 2020). Furthermore, not only is one's projected lifetime earnings enhanced by attaining an associate's degree, vocational certificate, or basic credits (Belfield & Bailey, 2011), but communities also benefit on a broader scale when a skilled workforce attracts new jobs to their area (Scott et al., 2015).

The growth among community colleges is not merely a product of their diversified educational missions, but also the wide-ranging student populations that include those with various academic abilities, ranging from the highly skilled and prepared to those who are relatively unprepared and/or require remedial courses (Martin et al., 2014; McConnell, 2000; Sáenz et al., 2011). Compared to 4-year institutions, community colleges typically enroll more students from low-income, ethnic minority, and first-generation backgrounds (Bailey, 2017;

Bailey et al., 2015; Cohen et al., 2014; Moschetti & Hudley, 2015; Scott et al., 2015), as well as nontraditional college age and working students (Fong et al., 2017). The AACC (2021) reports that community colleges during the fall 2019 semester made up 43% of all black, 53% of all Hispanic, and 38% of all Asian/Pacific Islander undergraduate students in the U.S. Furthermore, nationwide community college enrollment is comprised of 29% first-generation students, 44% of those 22 years or older, 15% single parents, and 20% with some form of disability (AACC, 2021). Although the college experience provides a path for personal growth, there are documented instances where community college outcomes (e.g., program entry, college completion) are stratified according to race/ethnicity or household background (Lin et al., 2020). Student completion is a prevailing topic among community colleges, given their disproportionate number of underserved students (Cohen et al., 2014; Martin et al., 2014; McConnell, 2000; Sáenz et al., 2011).

Student Persistence and Institutional Retention

Kuh (2016) reports, "No topic has received more attention in the higher education literature during the past half century than the rates at which different groups of students complete their educational objectives and what colleges and institutions should do to help more students finish what they start" (p. 49). Within this context, two terms often warrant clarification: student persistence and student retention. The National Student Clearinghouse (NSC; 2015) defines persistence as the "continued enrollment (or degree completion) at any higher education institution — including one different from the institution of initial enrollment — in the fall semesters of a student's first and second year" (NSC, 2015, Definition and Notes on Cohort Selection section). It describes retention as the "continued enrollment (or degree completion) within the same higher education institution in the fall semesters of a student's first and second year" (NSC, 2015, Definition and Notes on Cohort Selection section). Hagedorn (2006) and Reason (2009) also acknowledge that the two terms (retention and persistence) are not interchangeable. Rather, Hagedorn (2006) claims that persistence is more reflective of the student measure while retention is an institutional measure. For the purposes of this study, student persistence describes a student's reenrollment from one semester to the next (Capps, 2012).

While higher education enrollment has improved among low-income students, student persistence remains a concern (Fong et al., 2017; Soria, 2015). Higher education attrition is generally the greatest during a student's first year (Tinto, 1998; Tinto, 2012), with community colleges facing higher overall student attrition rates than 4-year institutions (Astin 1984; Martin et al., 2014). In fact, graduation rates at both 2- and 4-year institutions have not increased significantly since the 1990s (Caruth, 2018; Kuh, 2016; and Tinto, 2012). According to the National Center for Education Statistics (NCES, 2018a), the graduation rate for 4-year institutions within 150% of the normal time ranged from 54.3-58.6% between 1996 to 2012.

However, from 1999 to 2015, graduation rates for 2-year institutions ranged from 30.6-34.8% (NCES, 2018b). Community colleges typically suffer from retention rates that fall below 50% among first-year students (Sandoval-Lucero et al., 2017). Furthermore, while 71% of incoming freshmen state an intent to transfer from a community college to a 4-year institution, approximately half actually transfer (NCES, 2015).

Community college students, compared to those enrolled at 4-year universities, are less college-ready and have less access to financial and social resources (Hlinka, 2017). Thus, many community college students face barriers that impede their collegiate success and long- term educational goals (Bailey, 2017; Cohen et al., 2014). Consequently, the majority of students who enter higher education through this route fail to persist (Bailey et al., 2015). As a result, one of the key areas of institutional commitment for community colleges – providing access and equity – is challenged when these institutions regularly encounter low retention numbers and graduation rates (Troyer, 2015). Improving the success rates of at-risk students is an ambitious challenge, especially for institutions that are generally the least funded in American higher education (Boggs, 2012).

While the factors that affect student persistence are numerous and complex, research indicates that non-academic factors often have an even greater impact on undergraduates' persistence decisions (Sharma & Yukhymenko-Lescroart, 2018; Venezia & Jaeger, 2013). The following student characteristics are documented as having negative impacts on student persistence: first-generation, a gap between high school and college, employment that involves 30+ hours per week, part-time employment, being a single parent, and financially independent (Kuh, 2016). Across all institutional types, graduation rates are lower for first-generation students, underrepresented students, and those from working-class backgrounds (Soria, 2015). To further illustrate this, Moschetti and Hudley (2015) studied the persistence obstacles faced by first-generation students and found that social capital (networks that help students navigate the college environment) is frequently inadequate at the time of college entry. Moreover, full-time employment or other considerable workloads (i.e., 20-30 hours per week) pull students away from the campus and reduce their opportunities for campus interaction (Moschetti & Hudley, 2015; Perna & Odle, 2020). Such insight relates to Witkow et al.'s (2012) study on the social environment within a college campus. Not only did they find that community college students report less overall social engagement than those who attend 4-year institutions, but they also demonstrate that a lack of social engagement can potentially affect students' sense of belonging and persistence (Witkow et al., 2012). Although these are ongoing concerns for community college personnel given that at-risk populations are common within their institutions, there is no unilateral program or policy that can fully address the challenges associated with student persistence. Therefore, a diverse range of research is continually needed to explore the various reasons why students leave college prior to completing a degree or certificate program.

Student Engagement

Student attrition within higher education is often linked to unsatisfactory college experiences and low levels of engagement (Gibson & Slate, 2010). McClenney et al. (2012) from the Center for Community College Student Engagement (CCCSE) applies the term engagement to signify the "involvement, integration, and quality of effort in social and academic collegiate experiences" (para. 4). Sáenz et al. (2011) state CCCSE data indicate that "students who show the least amount of engagement are at greater risk of dropping out" (p. 236). Institutions of higher education have typically used academic variables such as college admissions tests and high school grade point average to identify at-risk students (Venezia & Jaeger, 2013), yet these measures are not likely to identify all at-risk factors. Likewise, while making her case for increased institutional documentation on student non-classroom involvement, Bowers (2020) states that information concerning the instructional aspects (or in-class experiences) of college have historically served as the most valued data about the undergraduate experience.

Descriptions of campus engagement are often considered too abstract (Axelson & Flick, 2011) or consisting of different meanings and applications (Kuh, 2016). For example, the CCSSE defines engagement as the "amount of time and energy that students invest in meaningful educational practices" (Valencia College, 2021, para. 1). Harper and Quaye (2009) define it more broadly to include "participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes" (p. 3). Caruth (2018) applies it to "how integrated they [students] are with their classes, colleagues, and colleges" (p. 17). Regardless of the varying descriptions, common sources of campus engagement consist of events or behaviors that occur outside of the classroom.

Akin to the broader term engagement, non-classroom behaviors also have varying explanations. One such form of campus engagement, known as cocurricular activities, is defined as "educationally purposeful activities that are usually not required in degree programs and often do not produce grades and credit hours" (Bowers, 2020, p. xv). Additionally, they are referred to as an activity "that requires a student's participation outside of normal classroom time as a condition for meeting a curricular requirement" (Bartkus et al., 2012, p. 699), or "those that help students achieve meaningful learning outcomes in concert with academic study" (Suskie, 2015, p. 6). Another category of campus engagement consists of extracurricular activities. Although Han and Kwon (2018) avow a scarceness of scholarly definitions for the term, Bartkus et al. (2012) broadly describe it as "academic or non-academic activities that are conducted under the auspices of the school but occur outside of normal classroom time and are not part of the curriculum" (p. 698). Bowers (2020) defines it as campus activities that are "not explicitly connected to courses or degree programs" (p. 6), but "are increasingly recognized as valuable learning opportunities" (p. 6). As an extension of Bowers (2020) explanation, extracurricular activities are not mandatory, nor does their participation always result in a grade or academic credit (Bartkus et al., 2012). Since they are not mandatory, extracurricular activities tend to reflect the student's own interests (Han & Kwon, 2018).

Like cocurricular opportunities, extracurriculars are often sponsored by an institution's student affairs office, academic support units, and/or academic programs (Stirling & Kerr, 2015;

Suskie, 2015). Bartkus et al. (2012) contends that inconsistent applications of the two terms have led to problems in fully understanding the impact of such activities. For instance, some institutions differ in the designations for campus clubs that are connected to one's academic major (Bartkus et al., 2012). Based on the various – and sometimes conflicting – descriptions of cocurricular and extracurricular pursuits, this study operationalizes the term non-classroom activities to involve any formal, school-sponsored activity that is not required for degree attainment. This includes (but is not limited to) honors groups, student clubs and organizations, and supplementary (i.e., guest) lectures.

Campus engagement often complements the student experiences gained inside the classroom (Mayhew et al., 2016). Yet, Astin (1999) claims that "Community colleges are places where the involvement of both faculty and students seems to be minimal" (p. 524). Donaldson et al. (2000) assert that, excluding classroom activities, campus involvement does not occur for many community college students. This is partly based on the fact that many community college campuses are nonresidential and/or include a large proportion of part-time students (Astin, 1999). Student engagement in the form of non-classroom activities on rural community college campuses is worthy of sustained attention. However, research on student persistence within rural community colleges is limited when compared to four-year institutions. Moreover, research that concentrates specifically on non-classroom involvement at rural community colleges is even more scarce. This study aims to fill this gap in the literature. The theoretical framework of this study on non-classroom engagement among freshman, full-time rural community college campuses is presented next.

Theoretical Underpinnings

This study is framed within two theories: Tinto's theory of student integration and Astin's theory of student involvement. While some researchers have suggested that academic and social integration can happen concurrently (Hlinka, 2017), a central facet of Tinto's theory of student integration is that students must become socially integrated within a college setting before academic integration can occur (Hlinka, 2017). From Tinto's (1993) standpoint, integration is "shaped by the personal and intellectual interactions that occur within and between students and faculty and the various communities that make academic and social systems of the institution" (p. 231). Tinto's integration framework (1993) and Astin's theory of student involvement (1999) both posit that students benefit from campus engagement in ways that can influence persistence. This comparative study will determine whether Tinto and Astin's theories apply to a sample population of first-semester, full-time students within a rural community college setting.

Statement of the Problem

The research problem leading to the need for this study is the discernable gap in the literature documenting the persistence outcomes of rural community college student involvement in non-classroom activities. Most of the available research on student engagement is directed at full-time, residential, traditional-age students and those who attend four-year institutions (Gibson & Slate, 2010; Martin et al., 2014; Sáenz et al., 2011). Marti (2009) refers to this as being "systematically biased" (p. 16). This presents problems with generalization due to the differences in institutional size, student selectivity, student composition, and/or other institutional traits (Davidson et al., 2009). According to Davidson et al. (2009), "it is becoming increasingly apparent that variables that prominently influence the persistence decision of one student or one group of students may be weakly related or unrelated to the persistence of other undergraduates" (p. 373).

One explanation for the relative lack of research on rural community college student engagement, as stated by Sáenz et al. (2011), is the insufficient amount of national data on the topic. Often, research methods such as Caruth's (2018) will compare student engagement or other outcomes across all institution types via data obtained from the Integrated Postsecondary Education Data System (IPEDS). Such results lump all two-year institutions together rather than provide specific data that is relevant to different geographic locations and/or student populations. Additionally, many studies are narrow in scope, include different measurable variables, and reach conclusions that cannot be applied to all institutions (Maxwell, 2000). In an older study, for instance, Schuetz's (2008) application of self-determination theory relied on data from a large California community college with 15,000 students, of which 40% of its freshman class was Hispanic. Deil-Amen's (2011) research on academic and social integration among non-traditional students involved a student sample that was 37% Latino and 19% white. In a more recent study, Martin et al. (2014) did not find academic or social integration to be a contributing factor in student persistence; however, this is perhaps due to their semi-structured interviews taking place at an institution with a student body that entirely consisted of commuter students, with half being enrolled part-time. Consequently, these study samples do not resemble all community college populations. Such matters further affect the generality of research findings to a rural community college setting.

The benefits of non-classroom activities can also become difficult to quantify due to their voluntary nature, resulting in no impact on grades or academic credits (Buckley & Lee, 2018). Nevertheless, the demand for more specialized research into this topic is well documented.

Billingsley and Hurd (2019), for instance, state that many non-classroom engagement opportunities are understudied within college environments, with a large focus of such efforts being directed at the academic and psychological benefits among middle and high school students. Kuh (2016) also acknowledges the shortage of research on direct, broadly-relevant associations between specific activities and student outcomes. More specifically, Bowers (2020) states that non-classroom activities "can play an important role in student success, but institution-specific evidence of their impact on student success is often lacking" (p. xv). Astin (1999) mentions the benefits of future research regarding whether specific student characteristics are significantly associated with different forms of involvement, as well as if certain types of involvement generate different outcomes for different types of students. Likewise, Buckley and Lee (2018) call for more in-depth research on the impact (e.g., benefits, positive outcomes) of specific types of non-classroom activities, the amount of time a student dedicates to such involvement, and the variety of activities that students are involved in. Suggestions such as these support a concerted study on campus involvement and the outcomes that derive from it among students within a rural community college setting.

Purpose of the Study

The purpose of this comparative study was to determine whether freshmen, full-time rural community college students who participate in non-classroom activities differ from nonparticipants in self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. The study was conducted using an adapted form of Davidson et al.'s (2015) College Persistence Questionnaire, Version 2 (CPQ-V2). The complete survey included 10 measurable factors that are relevant to student persistence research. The study utilized five of the ten factors, which incorporated 28 of the CPQ- V2's original 60 items. These five components will be commonly referred to as “persistence factors.” Additionally, students were asked, prior to the CPQ-V2 items, to answer a series of “Student Attribute” questions.

The survey results were analyzed to discern any significant impact of student involvement in non-classroom activities on academic integration, social integration, degree commitment, collegiate stress, and/or institutional commitment. Evaluating each CPQ-V2 factor individually provides a more holistic perspective regarding the prospective outcomes resulting from non-classroom involvement. For the purposes of this study, “non-classroom activities” constituted any campus involvement opportunity that existed at the research site and was available to freshmen students, whether or not it counted as a credit hour(s). Significant differences that exist among student attributes on the level and type of involvement were assessed as well. Collecting and analyzing data by these means, while viewed through the lens of Tinto’s theory of student integration and Astin’s Input-Environment-Outcome model, contribute to the existing body of research on college students and their on-campus behaviors, while also addressing the literature gap pertaining to the relationship between campus involvement and student persistence within a rural community college setting. It may also aid rural community college personnel when assessing their own campus involvement opportunities and/or student persistence efforts. The theoretical and conceptual framework is presented next.

Theoretical/Conceptual Framework

Student persistence is halted when students depart from an institution and/or the college experience (Hagedorn, 2006; Tinto, 1993). This study utilized a framework that highlights two Person-Environment Interactive concepts that support the notion that student involvement in non-classroom activities has an integral role in student development and persistence.

Tinto's theory of student departure

Vincent Tinto's theory of student departure (also referred to as Tinto's theory of student integration) originated in the 1970s and concentrates on the role that integration plays in student persistence and retention. Students enroll with certain pre-college backgrounds (e.g., family support, academic skills) that can affect their ensuing goals and institutional commitments. This dynamic (along with any external commitments) can subsequently influence a student's decision on whether to persist throughout college or leave (Tinto, 2012).

Tinto's theory is derived from Arnold Van Gennep's social anthropological concept of rites of passage and Emile Durkheim's sociological theory of suicide. Van Gennep outlined the stages required to achieve adulthood, which requires the individual to transition his/her membership from one group to another. Such a transition requires (1) separation from past associations, (2) transition and interaction with members of the new group, and (3) incorporation and full integration into the new group's culture. Tinto (1993) equates this scenario with the transition for most traditionally aged students and many adult learners. In either case, it is the second phase (transition) that individuals learn the behaviors and knowledge needed to make the conversion from previous associations to new membership. Tinto (1993) states that this concept provides "a way of thinking about the longitudinal process of student persistence in college and, by extension, about the time-dependent process of student departure" (p. 94). In essence, newly-enrolled students must navigate a new environment and seek passage into college community membership(s). Such transitions, while not experienced equally by all students, have been documented to be crucial during the first year of college (Tinto, 1993; 1998).

Durkheim's theory of suicide illustrates the importance of social environment, along with its social and intellectual qualities, in discerning the differences in suicide rates within and between countries over time. Of the four types of suicide outlined by Durkheim (altruistic, anomic, fatalistic, and egotistical), egotistical suicide is the variety that results from a person's inability to become integrated within societal communities. In other words, "malintegrated societies" (Tinto, 1993, p. 102) hinder membership by possessing social conditions that are unfavorable. Yet, both social and intellectual integration must be lacking for a society to experience high suicide rates. Durkheim argued that a locale could reduce egotistical suicide rates "and restore social stability by the restructuring of society and by the provision of more effective means for the integration of individuals into the social and intellectual fabric of society" (Tinto, 1993, p. 103). Such a theory allows for aggregate comparisons both between and within institutions over a period of time.

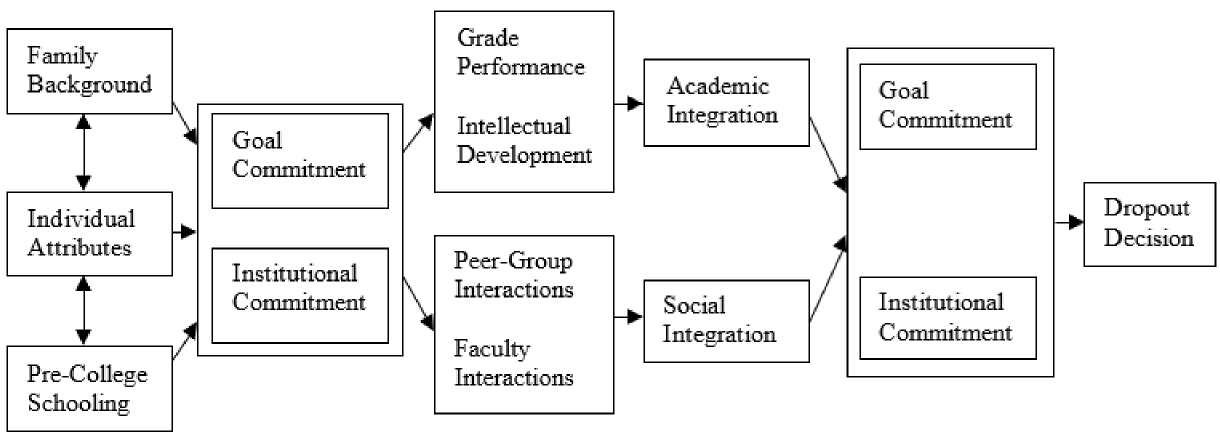
Tinto's (1993) model of student departure underscores the "the longitudinal process of departure as it occurs within an institution of higher education" while focusing on the events "following entry and/or which immediately precede entrance to it" (p. 112). Because it is focused on the interactions that occur from the college experience, the model concentrates on voluntary departure rather than involuntary departure (e.g. departure as a result of external demands or academic dismissal; Tinto, 1993). According to Tinto's (1993) model, academic and social integration are interrelated, meaning that what transpires in one realm can directly or indirectly impact the other. However, the impacts of academic and social integration are asymmetrical and can differ across institutions. Likewise, he makes the distinction between formal and informal social systems, in which formal systems include school-sponsored activities (e.g., cocurricular and extracurricular activities) whereas informal systems involve the more casual, day-to-day campus interactions. Thus, what occurs in one system can impact what occurs in the other (Tinto, 1993). In essence, Tinto's model of student departure is explanatory in nature rather than descriptive, aiming to “explain how interactions among different individuals within the academic and social systems of the institution and the communities which comprise them lead individuals of different characteristics to withdraw from that institution prior to degree completion” (Tinto, 1993, p. 113).

Figure 1 illustrates Tinto’s (1975) original student integration model. Each student enters college with a range of differing family backgrounds (e.g., social status, parental education), personal traits (e.g., gender, race), financial resources and external commitments, skills (e.g., social and intellectual), dispositions (e.g., goals, institutional commitments), and pre-college educational experiences and achievements (Tinto, 1975; Tinto, 1993). These characteristics have both direct and indirect effects on the college experience. Tinto (1993) states that “Positive experiences reinforce persistence through their impact upon heightened intentions and commitments both to the goal of college completion and to the institution in which the person finds him/herself” (p. 115). Negative experiences, on the other hand, weaken those dispositions and increase the likelihood of student departure (Tinto, 1993). Thus, integration into the college’s academic and social communities have an impact on a student’s persistence or departure (Tinto, 1993). “Other things being equal, the greater the contact among students, the more likely individuals are to establish social and intellectual membership in the social communities of the college and therefore the more likely they are to remain in college” (Tinto, 1993, p. 118).

When referring to student persistence, Tinto (2012) asserts that “Decisions to stay or leave are shaped, in part, by the meaning students attach to their involvement, the sense that their involvement is valued and that the community with which they interact is supportive of their presence on campus” (p. 66). However, while student attributes can directly impact the academic performance of students, there is also a continual indirect influence on students' goals and commitments. For example, off-campus employment can have a negative effect on collegiate goals and/or institutional commitment, even when academic and social experiences are positive. Tinto (1993) refers to such instances as a student being "pulled away" (Tinto, 1993, pp. 109, 116). Thus, this is truly a longitudinal model that illustrates how interactions over time affect students and their college attendance.

Figure 1.

Tinto's (1975) Original Student Integration Model



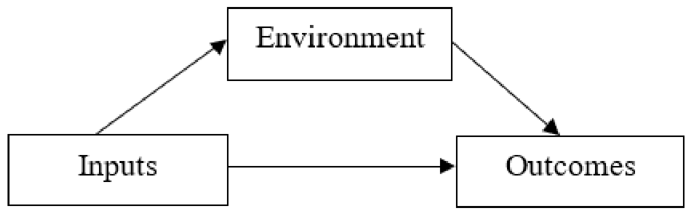
Astin's theory of student involvement and I-E-O model

Alexander Astin is well-referenced in the field of student engagement and posits that student learning and development is dependent on the amount of effort applied by the student. Astin's theory of student involvement has been a leading concept of campus engagement since 1985 (Young et al., 2019) and defines involvement as the investment of physical and psychological energy in various objects (Astin, 1999). Involvement is divided into five categories: academic involvement, involvement with faculty, involvement with peers, involvement in work, and other types of involvement (Sáenz et al., 2011). Ultimately, according to Astin (1999), student involvement involves a behavioral component; thus, student experiences will vary based on their individual choices and the opportunities available within the college. In line with the theory, the extent to which students can achieve particular developmental goals is a direct function of the time and effort they devote to activities designed to produce these gains (Astin, 1999). Mayhew et al. (2016) equates this notion to the saying, "You get out of life what you put into it" (p. 73).

Astin's (2001) input-environment-outcome (I-E-O) model maintains that student engagement is a product of environmental (institutional) and outcome (behavioral) variables. It is comprised of three components. First, the Inputs consist of student characteristics at the time of college entry. Second, the Environment is the educational experiences that students are exposed to. Third, the Outcomes are the student characteristics after exposure to the campus environment (Astin, 1993). Mayhew et al. (2016) used the I-E-O model to categorize two types of relationships. First, they classify general relationships as those that exist between an environments and student outcomes, thereby affecting all students. Second, they label conditional relationships as those that occur between an environment and student outcomes relative to student inputs (i.e., individual characteristics and backgrounds at the time of college entry). The I-E-O model is illustrated in Figure 2.

Figure 2.

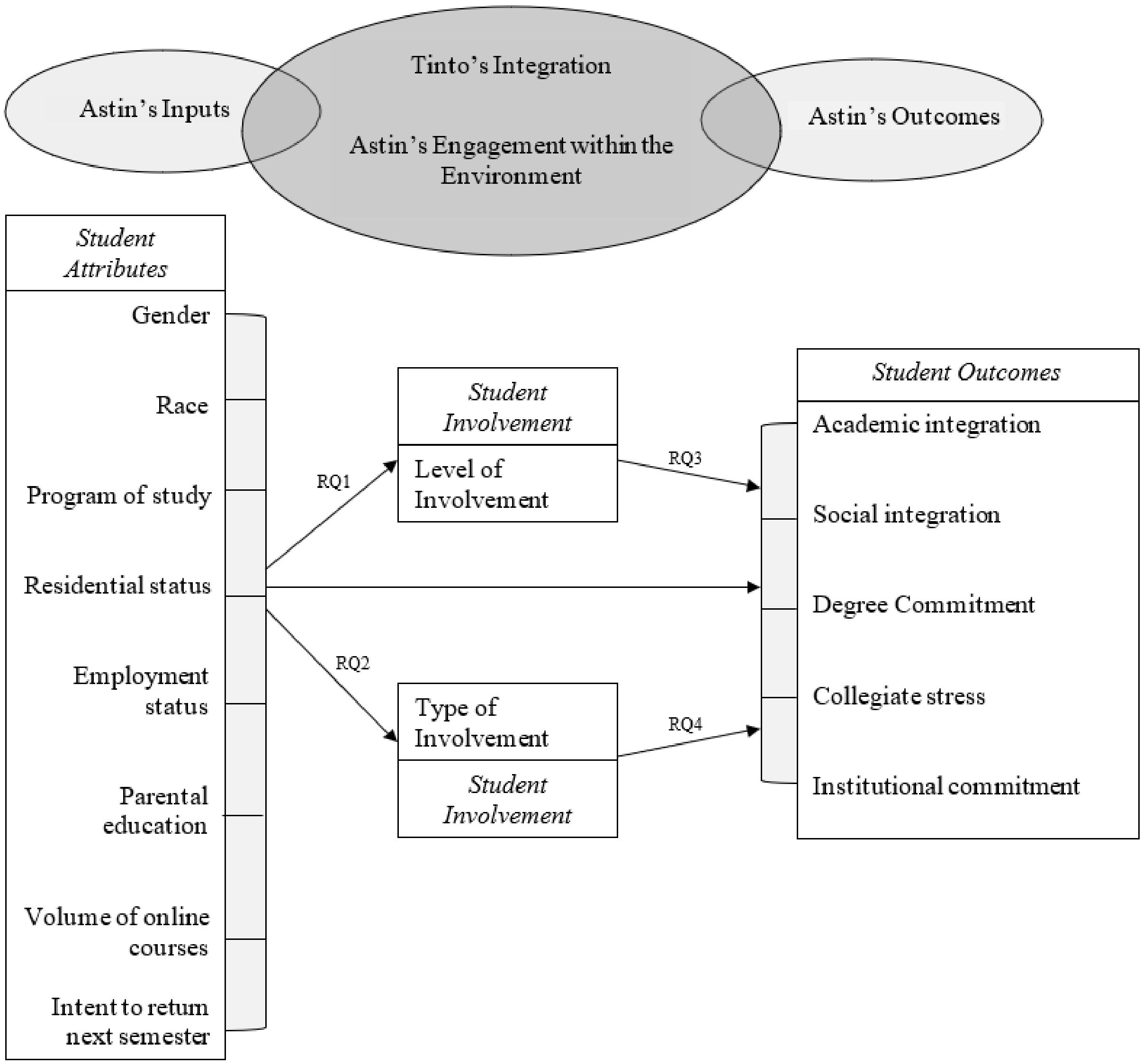
Astin's (1993) I-E-O Model



The purpose of this comparative study was to determine whether rural community college full-time freshman students who participate in non-classroom activities differ from nonparticipants in self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. It utilized the principles of Tinto's theory of student departure and Astin's theory of student involvement to assess non-classroom involvement within a rural community college setting. Figure 3 illustrates the model used within this study. The integration of Tinto and Astin's models utilized the fundamental elements that contribute to student persistence, such as student traits at the time of college entry. The study's model also contained two factors related to students' academic decisions (program of study and volume of online courses). Furthermore, the inclusion of Tinto's involvement component accentuated both the level (amount) and type of student engagement in non- classroom activities. Astin's outputs component was applied in this study's model to indicate the self-reported degree of persistence factors (academic integration, social integration, degree commitment, collegiate stress, institutional commitment) among students.

Figure 3.

Framework for the Study on Student Engagement Among Rural, First-semester Community College Students



Note: Adapted from Tinto (1975) and Astin (1993).

Research Questions

The purpose of this comparative study was to determine whether freshmen, full-time rural community college students who participate in non-classroom activities differ from nonparticipants in self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. It utilized quantitative data to identify intergroup and intragroup relationships within a rural community college setting. The composition of independent and dependent variables changed based on the research question. For Research Questions 1-2, the independent variables consisted of the students' gender, race/ethnicity, program of study, residential status, employment status, status of parental graduation from college, volume of online courses from the institution, and intent to return to the college. The dependent variables included the students' level and type of campus involvement. For Research Questions 3-4, the independent variables consisted of the level and type of campus involvement, while the dependent variables included the five *CPQ-V2* factors. The study sought to answer the following four research questions:

- RQ1) To what extent are there significant associations between the level of student involvement and student attributes as measured by the survey instrument for rural, full-time freshmen community college students?
- RQ2) To what extent are there significant associations between the type of student involvement and student attributes as measured by the survey instrument for rural, full-time freshmen community college students?
- RQ3) Does a significant difference exist among the levels of student involvement and their relationship to academic integration, social integration, degree commitment,

collegiate stress, and institutional commitment as measured by the College Persistence Questionnaire for rural, full-time freshmen community college students?

- RQ4) Does a significant difference exist among the types of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the College Persistence Questionnaire for rural, full-time freshmen community college students?

Overview of the Method

This study utilized a quantitative correlational design, which is useful when the researcher cannot control for other factors that could contribute to the differences among variables (Privitera & Ahlgrim-Delzell, 2019). A comparative method correlational design was used, which, unlike simple correlation designs, is suitable when independent variables consist of at least two groups (Privitera & Ahlgrim-Delzell, 2019). This method employed a survey instrument that was electronically distributed to full-time (enrollment in 12 or more credit hours) freshmen students attending a rural community college during the Fall 2021 semester. The research site was a southeastern community college serving a predominately rural 5-county district. Target respondents varied by demographics and other classifications such as program of study.

The research instrument (survey) included the following three segments: (1) student attributes, (2) an abbreviated version of Davidson et al.'s (2015) CPQ-V2, and (3) student consent to enter a randomized drawing. The research site's Office of Planning and Research's software, EvaluationKIT by Watermark, electronically distributed the survey and collected the responses. Based on the reported beginning enrollment of full-time freshmen students during the fall 2021 semester (1154 students), the Qualtrics (2021) sample size calculator reported an "Ideal

Sample Size" of 289 to attain a 95% confidence level and 5% margin of error. The computed sample size using the priori power analysis function in G*Power 3.1.9.4 was 159, based on a medium effect size (.25) in a one-way analysis of variance (ANOVA) test at the standard $\beta = .80$ level with an alpha level of .05. (Williamson, n.d.). Data analysis employed the chi-square test for independence to answer Research Question 1 and Research Question 2. One-way ANOVA was used to answer Research Question 3 and Research Question 4. The Statistical Package for the Social Sciences (SPSS), Version 28.0, was utilized for variable grouping, numerical coding, and statistical analysis. Table 1 illustrates the overall methods of analysis, which includes the independent and dependent variables associated with each research question and the data analysis procedures.

Table 1

Methods of Analysis

	Student Attributes	Involvement Variables	Student Outcomes	Data Analysis Procedure
	Gender Race/Ethnicity Program of Study Residential Status Employment Parental Education Volume of Online Courses Intent to Return	Level of Involvement: • None • Involved • More Involved Type of Involvement: • Athletics • Cocurricular • Extracurricular	Academic Integration Social Integration Degree Commitment Collegiate Stress Institutional Commitment	
Research Question 1	IV	DV		Chi-Square test for Independence
Research Question 2	IV	DV		Chi-Square test for Independence
Research Question 3		IV	DV	One-way ANOVA
Research Question 4		IV	DV	One-way ANOVA

Delimitations of the Study

This study deliberately targeted full-time freshmen students enrolled at one rural community college in a southeastern state. The target population included male and female students enrolled during the fall 2021 semester. The study did not assess the actual persistence (the decision to either re-enroll for the spring 2022 semester or depart from the college) of the students involved in the study. Rather, it evaluated data that are relevant to the factors that demonstrate an influence on student persistence.

Significance of the Study

This study sought to determine whether freshmen, full-time rural community college students who participate in non-classroom activities differ from nonparticipants in self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. These five persistence factors have been demonstrated to have an impact on student persistence. Moreover, based on the notion that what aids persistence at one institution may not apply to every school, it was important to test the CPQ-V2 on a rural community college setting. By doing so, the results extend the current research on rural community colleges and the effect(s) that non-classroom activities can have on students within similar settings. Thus, the study assists in what Davidson et al. (2009) refer to as "individualization, both at the level of the student and the institution" (p. 374).

As campuses become increasingly diverse, it is important to ensure that the needs of all types of students are met. However, much attention toward student persistence has been directed at what occurs within the classroom (Tinto, 2012). However, student experiences inside the classroom are often complimented by their engagement outside of it (Mayhew et al., 2016). The instrument used for this study and the collected data offer higher education institutions, particularly rural community colleges, with insight that can potentially be used to aid student persistence efforts. With a singular focus on non-classroom activities, this research revealed whether differences existed among student populations, thereby offering a prospective focal point for institutional leaders to assess. Such targeted efforts include not only the volume of available non-classroom opportunities but also their inclusiveness toward all student populations and interests.

From a broader institutional perspective, this study can also aid institutional leaders in their data collection processes. Higher education institutions are looking for additional methods to show "how educational experiences contribute to student learning, persistence to graduation, and success beyond college" (Bowers, 2020, p. viii). Yet, although student data is an essential asset for fulfilling institutional missions and various student-focused strategies, the current methods of documenting student learning and institutional outcomes have often failed to meet stakeholder demands (Bowers, 2020). Therefore, the procedures utilized within this study can assist institutional decision making by offering an additional method for reporting the value of the overall student experience.

Definition of Key Terms

- Academic integration: a student's perception of how his/her academic goals are advanced by an institution's curriculum, class discussions, and/or quality of instruction (Davidson et al., 2009).
- Collegiate stress: a student's feelings of distress, pressure, and/or sacrifice (Davidson & Beck, 2018)

- Degree commitment: the level of importance a student attaches to earning a diploma (Davidson et al., 2009).
- Engagement: the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities (Kuh, 2009).
- First-generation student: a college or university student from a family where no parent or guardian has earned a baccalaureate degree (Pike & Kuh, 2005).
- Institutional commitment: the extent to which students are confident in and satisfied with their selection of a college or university (Davidson et al., 2009).
- Level of Involvement: the measure of a student's participation in non-classroom activities.
- Non-classroom activities: any formal, school-sponsored activity that is not required for degree attainment.
- Nontraditional student: students who possess one or more of the following. characteristics: delayed enrollment into postsecondary education, attended part time, financially independent, worked full time while enrolled, had dependents other than a spouse, was a single parent, or did not obtain a standard high school diploma (NCES, 2002).
- Persistence: the continued enrollment or degree completion at any higher education institution, including one different from the institution of initial enrollment, in the fall semesters of a student's first and second year (NSC, 2015).

- Retention: the continued enrollment or degree completion within the same higher education institution in the fall semesters of a student's first and second year (NSC, 2015).
- Sense of belonging: a generalized sense of membership that stems from students' perception of their involvement in a variety of settings and the support they experience from those around them (Hoffman et al., 2003).
- Social capital: the value of a relationship that provides support and assistance in a given social situation (Moschetti & Hudley, 2015).
- Social integration: a student's perception of belonging, shared values, and similarity to others within a college environment (Davidson et al., 2009).
- Type of involvement: the categorization of a campus engagement prospect based on the nature of its engagement.

Organization of the Dissertation

Chapter 1 of the study provides a background on student persistence and campus engagement. It also includes a statement of the problem, purpose of the study, theoretical framework, research questions, definitions of key terms, an overview of the study's methodology, delimitations, and the significance of the study. Chapter II offers a wide-ranging literature review relating to the study's subject matter. This includes content pertaining to rural community colleges, participation in non-classroom activities, person-environment interactive theories, and the five persistence factors utilized by the study. Chapter III offers an overview of the methods and analytical measures to be applied for the study. It defines the research design, research site, and target participants. The chapter also identifies the survey instrument, data collection process, and data analysis procedures. Chapter IV presents the results of the data analyses relevant to students' attributes, their levels and types of non-classroom involvement, and their self-reported values for each of the five persistence factors used in this study. The data are displayed according to the four research questions. Lastly, Chapter V provides a summary of the findings, identifies study's limitations, and offers recommendations for practitioners and future research opportunities.

CHAPTER II

REVIEW OF THE LITERATURE

Chapter 1 offers a review of the background and purpose of the study. Chapter 2 presents a review of literature that is relevant to the variables included in this study. The review is organized into four predominant segments. First, an overview of rural community colleges and their students is provided. Second, the five factors utilized from the study's research instrument (Davidson et al.'s [2015] CPQ-V2) are discussed. Various student development concepts and college impact studies are also incorporated into this segment. Third, student demographics and characteristics are examined to illustrate which students are more likely to become engaged on campus. This will illuminate the conditional relationships that arise relevant to Astin's I-E-O model. Lastly, the findings relevant to non-classroom activities are discussed. As with the previous three segments, specific findings from the community college tier of higher education will be included.

Rural Community Colleges

Community colleges are commonly referred to as place-based institutions that are defined by state statutes, guidelines, or regional/local customs (Hardy & Katsinas, 2007). As stated by Sáenz et al. (2011), "perhaps no other sector of American higher education has experienced more change and growth within its student population than community colleges" (p. 235). Yet, rural community colleges are not as well-understood as other higher education institutions (Pennington et al., 2006). The challenges faced by these particular community colleges are unique in comparison to other two-year institutions, given that they "include the geographic and economic context of the rural setting, as well as systemic and programmatic features of the community college system and structure" (Pennington et al., 2006, p. 641). For instance, unlike urban or suburban-based schools, rural community colleges serve relatively small populations within a large geographic area. Hence, they often operate within small, undiversified tax bases (Pennington et al., 2006). Thus, not all methodologies involving two-year institutions are reflective of rural institutional makeups, as exemplified by Fike and Fike's (2008) assessment of the predictors of student retention that used a large Texas urban community college as the study site.

Despite the similarities among the different types of community colleges, rural community colleges differ from those located in urban and suburban locales. By comparison, rural community colleges offer a narrower range of curriculum and academic/programmatic options (Hardy & Katsinas, 2007). Additionally, rural community colleges are less likely to provide weekend classes, which is likely a reflection of their smaller budgets (Hardy & Katsinas, 2007). Among the student-specific differences, Scott et al. (2015) state that rural community college students "continue to face obstacles in accessing postsecondary education, as these students are challenged by living in areas with weak economies, traveling long distances to get to schools, poor educational preparation, and inconsistent access to technology" (p. 2). They also identify the unique difficulties faced by rural community college students as those relating to the wider range of resources available to them and/or their high school preparation (Scott et al., 2015).

The higher proportions of full-time students at medium and small rural community college districts, according to Hardy and Katsinas (2007), may indicate that these districts serve more students in nursing, allied health, and/or technical education programs that typically require full-time enrollment. Another explanation is that they enroll more students in traditional transfer programs that lead to associate's degrees. The availability of residence halls at many medium and small rural community colleges may also result in higher percentages of full-time enrollments (Hardy & Katsinas, 2007). The fact that the research site for this study included 72.3% full-time enrollees, 70.7% academic program students, and residential housing that accommodated 20.1% of total full-time students during the fall 2021 semester ([redacted], 2021) challenges Astin's (1999) notion that low community college student involvement results from large numbers of part-time and/or nonresidential students.

Participation in Non-Classroom Activities

Reason (2009) states that "The college experience is broadly conceived, consisting of three sets of primary influences: the institution's internal organizational context, the peer environment, and ultimately, student's individual experiences" (p. 662). Numerous college impact studies have demonstrated that college results in a student's cognitive, intellectual, psychological, psychosocial development (Mayhew et al., 2016). In fact, with consideration to the association between college attendance and student development, Mayhew et al. (2016) state that "scholars have moved from empiricism to assumption: rather than question if college-going has an influence on students, scholars assume that the relationship exists and subsequently focus on investigating the specific practices and psychological mechanisms responsible for student change" (p. 6).

Student engagement is a construct that has received a large amount of attention in recent years due to its positive association to persistence, student satisfaction, and various forms of learning and personal development outcomes (Kuh, 2016). Still, much attention toward student persistence and retention has been directed at what occurs within the classroom (Tinto, 2012). An abundance of research has evaluated academic engagement from the perspective of student-faculty interaction (Astin, 2001; Fischer, 2007; Gibson & Slate, 2010; Reason et al., 2006). Astin (2001), for example, found that academic involvement and interaction with faculty and student peers improved not only cognitive development and academic performance, but also student persistence and institutional commitment. Additionally, pedagogical techniques such as learning communities and service learning have expanded student knowledge and involvement from the traditional classroom (Tinto, 1998). Other studies have even evaluated the impact that institutional practices can have on student success even before coursework begins, such as mandatory student orientation (Sandoval-Lucero et al., 2017). Thus, there is a consistent understanding, as asserted by Kuh (2016) and Tinto (1998), that students are more likely to benefit and persist throughout college when they are engaged in educationally purposeful activities.

Despite the breadth of research on academic-minded engagement, the various outcomes listed above are not actually restricted to the academic aspects of college life. Research on the impact of college life has consistently shown that what occurs outside the classroom can contribute to the beneficial outcomes of college (Kuh, 1995; Stirling & Kerr, 2015; Suskie, 2015). These outcomes can include confidence and self-esteem, self-awareness, and social competence (Kuh, 1995), autonomy (Kuh, 2016), self-direction, presentation skills, and teamwork skills (Wood et al., 2011). In fact, Kuh et al. (2005) assert that “what students do during college counts more for what they learn and whether they will persist in college than who they are or even where they go to college" (p. 8). Campus engagement is frequently cited within literature as a factor that determines a student's growth, well-being, and success. Such campus behavior can include interactions with faculty and staff, interactions with peers, and overall time spent on campus (Museus & Yi, 2015) while also involving experiences that are intellectual, social, recreational, or spiritual in nature (Arminio, 2015). In fact, two of the four research questions within this study pertain to (1) the associations between various student attributes and the types of student involvement and (2) the relationships that different types of campus involvement can have on rural community college students' self-reported sense of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment.

Campus Engagement and Student Outcomes

A key facet of community college systems is the equal access provided for all students, regardless of income level or family background (Boggs, 2011). Often included in this role is the programmatic opportunities offered to students. Non-classroom engagement has been a particularly influential factor in keeping students engaged and motivated to succeed (Young et al., 2019), as well as nurturing social integration on campus and broadening students' social networks (Billingsley & Hurd, 2019; Buckley & Lee, 2018; Elkins et al., 2011; Stuart et al., 2011). They have the potential to connect students with common interests (Schmid & Abell, 2003) and generate peer relationships that are, based on Astin's (2001) assertion, the single most powerful influencer related to cognitive and behavioral development. A small number of students in Buckley and Lee's (2018) study recognized extracurricular involvement as an aid to managing stress during the transition to higher education. Based on 849 responses to a survey of open-ended questions, Buckley and Lee (2018) observed that “extra-curricular activities are valued for more than just how they directly or indirectly affect academic performance. Respondents credited extra-curricular activities with supporting, broadening and deepening their overall experience of higher level education” (p. 9). Although Buckley and Lee’s (2018) research site was located in Ireland, their findings support the perception that both academic and social integration can enhance a student’s commitment by creating interpersonal resources that can help students during difficult times (Young et al., 2019). This correlates with Tinto’s (2012) assertion that stronger levels of campus integration facilitate stronger commitments to persist and graduate (Tinto, 2012).

In a 4-year longitudinal study, Foubert and Grainger (2006) evaluated psychosocial development among students based on their varying levels of involvement in campus clubs and organizations. Three hundred and seven students from a mid-sized public university completed the Student Development Task and Lifestyle Inventory at the beginning of their sophomore year in 1995 and again at the end of their senior year. They found that students who attended meetings and joined organizations reported greater development than uninvolved students, specifically in academic autonomy and purpose. Students who held leadership positions in clubs and organizations reported higher levels of development as sophomores, however, this did not persist as much into their senior year. Although the overall findings of the study were minimal to moderate, involved students displayed higher overall levels of development in their senior year compared to their sophomore year. Based on these results, the influence of peer interaction on a student’s cognitive and intrapersonal development cannot be ignored. However, Foubert and Grainger’s (2006) study included traditionally-aged (18-22) students from a highly selective four-year university. Most of these students lived in residence halls, ranked in the top 10% of their high school class, and came from middle- to upper-class households. Additionally, while Foubert and Grainger (2006) identify the levels of involvement (e.g., joining a campus compared to holding a leadership position within the club), they do not identify the types of involvement (e.g., academic, recreational, social) that students were engaged in.

Mayhew et al. (2016) assert that learning and development theories (such as those that include experiential learning) emphasize learning through experience. Along these lines, the literature indicates that student participation in non-classroom activities, in addition to short-term gains, have benefits that exceed the college years (Elkins et al., 2011; Komives, 2019). In the case of rural community colleges, they may be the primary source for cultural involvements, social engagement, or other forms of personal enrichment (Pennington et al., 2006), which provide students the skills needed to live outside of rural communities (Scott et al., 2015). In fact, Kuh (2018) asserts that "participation in extracurricular activities has been a more accurate predictor of workplace competence than grades" (p. 124). This assertion supports Han and Kwon's (2018) statement that participation in non-classroom activities

> …positively affects students' college life. Satisfaction with college life is the overall feeling of living as part of the college and not just within one's subject area. In particular, the extracurricular realm can serve as the basis of preparations made for the future while satisfying the individuality and diversity needs of students that cannot be completely fulfilled solely by curriculum. (p. 144)

Research has also demonstrated that involvement in extracurricular activities can result in the development of employer desired skills such as problem solving, team-working, self-motivation, and communication (Buckley & Lee, 2018). Plus, positive experiences that generate a sense of belonging with an institution has been shown to influence alumni behavior (Buckley & Lee, 2018).

Suskie (2015) asserts that extracurricular activities, while neither “cocurricular” to most participants nor clearly linked to academic learning, serve a learning and/or developmental purpose for students who have a role in organizing the event(s). Participation in these activities, occasionally referred to as “the other education” (Montelongo, 2002), can increase students’ time on campus and has the potential to develop or enhance their social integration, sense of belonging to the institution, college satisfaction, and/or other forms of personal growth (Karp et al., 2010). Extracurricular activities in particular have demonstrated associations with developmental gains in student autonomy, confidence, appreciation for human diversity, humanitarianism (Kuh, 2018), and civic participation (Kisker et al., 2016; Reason et al., 2007). Additionally, Kuh (2018) collected data from 149 college seniors from 12 institutions to assess students’ intellectual, social, and emotional development throughout their college experience. He found that interpersonal competence (i.e., autonomy, self-awareness, social competence, self-esteem), interaction with peers, and leadership responsibilities were the most frequently mentioned experiences. Although Kuh (2018), like Foubert and Grainger (2006), does not specify the types of activities or interactions these students participated in, an encouraging interpretation from the results is that non-classroom engagement can certainly stimulate positive outcomes among students.

Low Levels of Community College Involvement

Fostering academic success and personal growth are essential functions of the higher education system. However, research shows that community college students are unlikely to partake in many non-classroom activities. In a study on social involvement at a community college in a large western U.S. city, Maxwell (2000) explored the frequency of peer relations and the variation of interaction among students. Based on survey responses from 744 students during the middle of a semester, the findings concluded that social integration is infrequent among students. For instance, over half (57%) reported almost no participation in campus activities with other students. 78% reported to have almost never participated in meetings or campus clubs, organizations, or student government. The most reported social activity was studying together (at least occasionally) at 58%.

In another campus-specific study, Schmid and Abell (2003) evaluated campus involvement patterns at Guilford Technical Community College (GTCC) during the 2001-2002 academic year. They analyzed three student cohorts: (1) students who did not return prior to completing a degree or certificate program, (2) a representative sample of current students, and (3) students who completed a degree or certificate program. Schmid and Abell (2003) used data from the National Center for Education Statistics to compare GTCC students to those in four-year colleges. They found that community college students are less likely than other full-time students to participate in campus clubs. 21.2% of current students, 19.2% of graduates, and 6.5% of non-returning students participated in club activities. On a national scale, Schmid and Abell (2003) reported 18% participation among community college students, compared to 49% participation among those at 4-year public colleges. These data support the notion that students who are the least involved in college activities are also the least likely to return.

A comparison of Maxwell's (2000) and Schmid and Abell's (2003) findings to recent data can verify the trends associated with low participation in student organizations. According to the 2018 CCSSE results from over 170,000 respondents, 75.8% of community college students reported no involvement in student organizations. Higher rates of participation were reported by full-time (30.9%), traditional (26.3%) and first-generation (25.7%) students than part-time (19.0%), nontraditional, (19.5%) and second-generation (23.2%) students. However, 27.2% of all respondents indicated that student organizations were very important to them, with 33.7% stating they were somewhat important. 44.4% of nontraditional-aged and 36.6% of traditional-aged students stated they were not important at all. There was little difference in generational status toward this question, with 38.4% of first-generation students claiming no importance compared to 39.6% of second-generation students. Based on these results, there is a discrepancy between the responses given and actual involvement. These numbers lead to a conclusion that either students were simply not acting on their stated views, or there are limited options of campus clubs and organizations that meet the needs of community college students.

Marti (2009) claims that a likely contributor to low participation rates is that many of the social opportunities offered at four-year institutions are not as abundant at community colleges. However, Howley et al. (2013) claims that "One advantage of rural community colleges is that they often serve as community center or hubs," which means they offer "various educational, social, cultural, and entertainment programs and services to their local communities" (p. 3). Hardy and Katsinas (2007) found that large rural community colleges are more likely to offer recreational and avocational programs than any other type of community college. However, they state that

> …not all rural colleges are alike in offering recreational and avocational programs. Small rural colleges are much less likely than their larger counterparts to offer these activities. This suggests that large rural institutions may be serving as fine arts and recreational hubs for their regions; small rural community colleges may not have the resources necessary to

> benefit from the economy of scale necessary to offer this kind of curricular and community programming. (p. 12)

Person-Environment Interactive Theories and the Challenges to Tinto and Astin

Person-environment interactive theories are components of the human aggregate dimension of campus environments, which considers the collective characteristics of groups of people or "student culture" (Kinzie & Arcelus, 2016, p. 54). Human aggregate models and typologies generally help practitioners "understand the evolving nature of college student characteristics and student types" (Kinzie & Arcelus, 2016, p. 55). Tinto and Astin's theories are staples of higher education research and are similar to other person-environment interactive concepts, wherein the overall student experience is influenced by a broad range of factors that involve more than academic achievement and friendships (Kinzie & Arcelus, 2016). These concepts take a broader look by considering the various effects (direct and indirect) on college students. Terenzini and Reason's framework (2005), for example, identifies four main factors that contribute to student outcomes: student precollege characteristics (i.e., sociodemographic traits, academic preparation, personal goals), the organizational context, the peer environment, and the individual student experience. Similarly, Pascarella's model for assessing student change maintains that five variables collectively foster student growth: students' precollege traits, the institution's structural or organizational characteristics, the campus environment or culture, socializing agents on the campus, and the student's quality of effort (Long, 2012).

Tinto (1993) claims that psychological theories of student departure merely identify one facet of the problem while viewing student departure as a reflection of the student's inadequacies. In doing so, they "ignore the facts that individual behavior is as much a function of the environment within which individuals find themselves and that the effect of personality traits on departure is very much a function of the particular institution and student body being studied" (p. 85). Although concepts prior to Tinto's implied that attrition was the student's fault (e.g., Heilbrun, 1965; Rose & Elton, 1966), the theory of student departure acknowledges that the institution shares accountability for retention (Schuh et al., 2017). Akin to Astin's theory of student involvement, Tinto (2012) stresses the role of colleges and universities in creating environments that meet the student's needs and promote their collegiate success. Therefore, student effort and institutional resources play a vital role in a student's college experience.

Although Astin claims that campus involvement directly correlates with academic and social proficiency because "If students invest significant amounts of time and approach academic work and campus life with seriousness, their overall learning will increase because they are emotionally and physically invested in the outcomes" (Long, 2012, p. 52), it should be acknowledged that a student's time and energy is finite (Astin, 1999). This reflects the zero-sum model, "in which the time and energy that the student invests in family, friends, job, and other outside activities represent a reduction in the time and energy the student has to devote to educational development" (p. 523). Such a model can apply to the effect of non-classroom involvement on academic performance (Buckley & Lee, 2018) since "In the interactive life of the college, actions in one domain almost always have ramifications in other domains of activity" (Tinto, 1993, p. 120).

Bowman and Trolian (2017) challenge the absolute application of Astin's theory of involvement. They used Wabash National Study of Liberal Arts Education survey data from 46 institutions between 2006 to 2012. Each student participant completed a precollege survey and a sequence of outcome assessments, followed by another survey near the end of their first year in college that measured student experiences and a second set of outcome assessments. After controlling for numerous variables (e.g., high school GPA, institutional type, undergraduate major), Bowman and Trolian (2017) found that cocurricular activities result in significant, positive linear relationships with psychological well-being and leadership skills. Yet, this relationship eventually diminished with high levels of engagement in cocurricular activities. Therefore, rather than observing a perpetual application of Astin's theory, Bowman and Trolian (2017) noted a non-linear relationship that eventually resulted in diminishing returns for student outcomes. Billingsley and Hurd (2019) found similar results in academic performance with increased involvement in extracurriculars among underrepresented students in a predominantly white university. Seow and Pan (2014) refer to this phenomenon as the threshold model. However, while these findings support Astin's (1999) suggestion that the most cherished institutional resource may be the students' time, Bowman and Trolian's (2017) research design further demonstrates how many studies are not equally relevant to all institutions.

Although a presumption formed from Bowman and Trolian's (2017) study is that students are becoming too involved in non-classroom activities, they did not use two variables classified by the Wabash National Study: commuting to school and providing care for dependents (Bowman & Trolian, 2017). Both of these variables are more characteristic among community college students than those who attend four-year institutions (Mayhew et al., 2016). Therefore, the representativeness of their findings to community colleges is very questionable. Furthermore, from a broader perspective, Bakoban and Aljarallah's (2015) study of 239 undergraduate students from two gender-specific Islamic campuses found that extracurriculars positively affected students' GPA and did not affect their study time.

The zero-sum model has been largely supplanted by the developmental model (Seow & Pan, 2014), which avows that non-classroom activities result in indirect yet positive impacts on academic performance due to the non-academic benefits (e.g., resilience, time management) and social advantages (e.g., building social networks) of participation (Buckley & Lee, 2018). Thus, integration models such as those within the theory of student departure, according to Tinto (1993), are better suited than other models to meet the needs of institutional leaders who seek to improve student persistence. However, some scholars have criticized Astin's and Tinto's models for their failure to reflect certain subpopulations of higher education students (Fong et al., 2017; Hlinka, 2017). Hlinka (2017) asserts that since Tinto's theory was predominately build on studies of traditional students who attended four-year institutions, it has invited critics to argue that this integration theory is too broad to apply to all student populations (Hlinka, 2017). For instance, some allege that community college students are less likely to become socially integrated due to their commuter status, external obligations, and/or fewer opportunities afforded to them (Karp et al., 2010).

According to Pascarella and Terenzini's (2005) analysis of prior research, many studies have found social and academic integration to matter, yet the level of importance for both has been disputed. Deil-Amen (2011) states that both Tinto and Astin's models "were developed based on traditional students in traditional residential institutions" which "leaves room for an examination of students' institutional experiences in a way that does not necessarily need to be dependent on the traditional college-student lifestyle" (p. 55). Tinto's model has also been criticized for its inadequate reflection of minority students "because it assumes disconnection from a home community must occur before integration into a college community can happen" (Deil-Amen, 2011, p. 57). This perception also applies to 2-year institutions, where many students commute without leaving their communities and have different institutional expectations than residential students (Deil-Amen, 2011; Karp et al., 2010).

Applying Tinto’s model to two-year and commuting students has produced mixed results. In a multi-site, multi-method study that relates Tinto’s model to commuting students at public and private two-year colleges, Deil-Amen (2011) found that socio-academic integrative experiences were facilitated by academically-relevant clubs and activities (in addition to in-class interactions, study groups, mentor relationships, and communication with “similar” students) that “helped students strategize academic success by incorporating college into their social identity, planning better, scheduling their time more effectively, and placing limits on their demands outside of school” (p. 81). Yet, purely social interactions (e.g., attending social events, going places with friends) did not materialize as primary sources of social integration. She found in-class interactions to be the dominant mechanism for socio-academic integration, suggesting that academic integration is a more significant factor than social integration for community college students, “with traditional forms of social integration unrelated to persistence” (Deil-Amen, 2011, p. 82).

Despite certain claims that one form of integration is more important that the other, Karp et al. (2010) illustrate that the two coincide and can each influence the other. Their interviews with 44 students from two Northeastern urban community colleges found that students were likely to attain a sense of belonging and integration through information networks, which were beneficial in creating social contacts, personal resources, and other campus connections. Student who did not develop such connections were more likely to feel isolated, which can affect persistence decisions (Karp et al., 2010). Still, the sources cited as contributors to information networks were college success courses and various forms of classroom interaction. Their study excluded continuing education students and did not mention the role of non-classroom engagement in the form of extra- and cocurricular activities (Karp et al., 2010).

Student Demographics and Characteristics

While schools traditionally use academic variables such as college admissions scores and high school grade point averages to identify at-risk students, research indicates that non-academic factors often have an even greater impact on the persistence decisions among undergraduate students (Venezia & Jaeger, 2013). Community colleges, with their open-door policies, have amassed an ever more diverse array of students with various academic abilities (Cohen et al., 2014; Martin et al., 2014). They enroll higher concentrations of first-generation, low-income, nontraditional, and employed students than four-year colleges and universities (Cohen et al., 2014; Karp et al., 2010; Martin et al., 2014; Sáenz et al., 2011). These categories are generally considered to be “at-risk” in terms of college completion (Cohen et al., 2014; Martin et al., 2014) due to the combination of normative and unique stressors that can affect their academic success and/or social integration a collegiate environment (Billingsley & Hurd, 2019). Consequently, community colleges face lower persistence rates than four-year institutions (Martin et al., 2014).

The inclusion of numerous variables within this study will assist in the exploration of the four research questions. The student background variables will furnish any distinctions among and within student groups concerning their involvement in non-classroom activities. Additionally, associations between students’ level of involvement and the persistence factors may indicate whether a linear relationship or a potential threshold (Seow & Pan, 2014) exists. The type of involvement, which often lacks direct attention within studies (Bartkus et al., 2012), will reveal whether some classifications of engagement indicate higher levels of student outcomes. This section will review student engagement among the student classifications that are identified in Research Questions 1 and 2 of this study as independent variables.

Gender

Fifty-seven percent (57%) of the nation's community college population during the fall 2019 semester was female (AACC, 2021). Additionally, female students obtain over 60% of all associate degrees, regardless of the type of community college (urban, suburban, rural; Hardy & Katsinas, 2007). Belfield and Bailey (2011) observed an average positive earnings rate among associate degree completers of 13% for males and 22% for females. Even for those who do not complete the degree requirements, they noticed an estimated 9% earnings gain for males and 10% for females. By comparison, vocational certificates have been found to produce earnings gains (non-specific to gender) from 7% to 24% (Belfield & Bailey, 2011).

Studies have demonstrated that gender is an influential factor in how students engage in academic settings, whether at the course level or the broader context of campus involvement (Astin & Antonio, 2004; Mertes, 2015; Patton et al., 2016). In fact, Patton et al. (2016) assert that "Campus social life is a highly gendered context within the overall college environment" (p. 188). Yet, differences in student engagement between males and females can vary, and this is often based on what is being measured (and how). For example, Strayhorn (2008) utilized the results from 8,000 participants in the College Student Experiences Questionnaire to assess the impact of engagement in educationally purposeful activities on students' perceived social and personal learning outcomes. Although this study included faculty interactions and active learning practices, he found that females reported higher levels of personal/social growth through campus engagement than males (Strayhorn, 2008). In terms of campus behaviors, Sáenz et al. (2011) observed gender differences that favored female engagement with campus life. In their study involving CCSSE data from 663 institutions from 2007-2009, they state that student engagement across various educational enrichment activities (academic advising, writing labs, tutoring, etc.)

was more common with women than men (Sáenz et al., 2011). Yet, Fike and Fike (2008) did not find gender to be a significant predictor of persistence among first-generation students after controlling for covariates. Moreover, the inclusion of race/ethnicity with a student's gender has demonstrated an influence on levels of engagement. For example, Wood (2014) found that black male community college students were less likely to engage in classroom discussions.

What these studies do not clarify is the association that non-classroom activities in the form of extra- and cocurriculars have with student outcomes, whether perceived or grade-specific. They also fall short of distinguishing any gender differences within campus sub-groups. Such comparisons can relate to first/second generational status, residential status, or primary modes of learning environments (i.e., face-to-face, online). In a rural community college environment, such assessments may prove to be beneficial, given that less is known about campus involvement behaviors among these students.

Race/Ethnicity

During the fall 2019 semester, the racial demographics of those seeking community college credit consisted of 44% white, 27% Hispanic, 13% black, and 6% Asian/Pacific Islander students (AACC, 2021). Between 2000 and 2016, black enrollment within higher education increased from 31 to 36%, with Latino enrollment increasing from 22 to 39% (Kitchen & Williams, 2019). Compared to other ethnic and racial groups, Hispanics are more likely to enroll in a community college directly after high school (Ortiz & Waterman, 2016). However, while community colleges typically enroll higher percentages of minority students than 4-year institutions (Fike & Fike, 2008), rural community colleges differ considerably from urban and suburban community colleges in their racial and ethnic student makeup (Hardy & Katsinas, 2007). Unlike the other classifications, rural community colleges do not generally possess a majority-minority student body (Hardy & Katsinas, 2007).

While Fischer (2007) contends that “race and ethnicity have a fundamental impact on how college is experienced” (p. 128), it is also important to consider Kuh’s (1995) assertion that “What matters most is what one does with one’s time outside of class” (p. 146). Such statements can prove to be reflective in many studies. For example, Sáenz et al. (2011) found that black and Asian students are more likely to participate in educational enrichment activities, with black students reporting more involvement in collaborative learning. Additionally, Strayhorn’s (2008) utilization of the College Student Experiences Questionnaire to assess students’ perceived social and personal learning outcomes discovered that black students gained more from campus engagement experiences than white students. Such campus behaviors are often correlated with a student’s sense of institutional belonging, a component that has been consistently linked to minority student persistence (Kitchen & Williams, 2019).

The existing environment and available opportunities within an institution matter to students (Astin, 1993). For example, student access to culturally engaging conditions is associated with a higher level of connection to the institution (Museus, 2014). Baker (2008) claims that many underrepresented students will rely on the connections made within minority-based student organizations, which reflects Astin’s (1993) assertion that peers are “the single most potent source of influence on college students” (p. 398). Moreover, Billingsley and Hurd (2019) evaluated the role of extracurricular activities in countering perceived discrimination among underrepresented students (i.e., racial/ethnic groups, first-generation, economically disadvantaged) at a predominately white institution. Based on the analysis of 230 students at an elite university in the Southeast, their longitudinal study (data collected over three time periods from 2013-2016) found that extracurricular activities can help social identity and integration among those who are at risk of marginalization. This conflicts with Stuart et al.'s (2011) findings within non-elitist schools that ethnic minority students spent less time in campus-based activities, possibly due to their feelings of alienation. Therefore, student-specific outcomes and the notion that minority students often benefit more from non-classroom activities than white students (Kitchen & Williams, 2019) can differ across institutions.

While research shows that students from all backgrounds benefit from involvement in effective educational practices, some simply benefit more than others (Kuh, 2009). However, the student gains associated with non-classroom involvement among minority students within a rural community college setting are underrepresented within the literature. Thus, a focus on this environment may offer new insight for researchers and practitioners.

First-Generation Students and Social Class

First-generation students have been defined different ways. Moschetti and Hudley (2015) categorize such students if "neither parent attained any type of postsecondary degree" (pp. 235-236). First-generation students have also been defined as undergraduates whose parents never attended college (Spiegler & Bednarek, 2013). Whitley et al. (2018) found that six different applications of the term have been applied in first-generation student programs across the country. Regardless of the definition, first-generation status has been found to be a strong predictor of students leaving college before their second year (Fike & Fike, 2008; Moschetti & Hudley, 2015). Such students often suffer from poor educational preparation prior to college enrollment (Scott et al., 2015), which is one reason why first-generation students and those from low-income households are 1.5 times more likely to attend a 2-year institution than a 4-year college or university (Gupton et al., 2015). As stated by Moschetti and Hudley (2015), they “experience stresses and difficulties similar to all new college students; however, they face additional social and academic barriers based on their first-generation status” (p. 242).

Compared to their peers, first-generation students are less likely to place a high level of importance on college, to possess strong family support for attending college, to aspire for a baccalaureate degree, or to demonstrate high scholastic skill (McConnell, 2000). They are especially susceptible to the challenges of transitioning from high school to the collegiate environment (Sandoval-Lucero et al., 2017). Consequently, they often demonstrate less academic confidence while in college and are less likely than their peers to complete any degree. In fact, they are at a higher risk of dropping out of college during the first semester (McConnell, 2000). Accordingly, community colleges typically suffer from retention rates among first-year students that fall below 50% (Sandoval-Lucero et al., 2017).

Various factors serve as either a source of encouragement or a barrier to student persistence. Moschetti and Hudley (2015) claim that parental educational attainment is often shown to be the greatest influence on whether a student attends college. Indeed, research has shown that the combination of first-generation status and social class are stronger influencers on educational outcomes than gender or race (Moschetti & Hudley, 2015). Thus, social class distinctions have proven to have a role in college persistence. Students from higher socioeconomic backgrounds are more likely to possess the economic, cultural, and social capital to help them persistent through college (Kuh, 2016). The last item, social capital, is gained from academic and social integration and provides students with guidance in regard to basic knowledge about college and the college environment, in addition to assistance with educational degree planning and emotional support (Moschetti & Hudley, 2015). First-generation students, however, particularly lack social capital (Moschetti & Hudley, 2015; Perna, 2015). Moreover, Parks-Yancy (2012) observed that low-income black students seldomly used university resources and connections for career development because of their unfamiliarity with the potential benefits. Therefore, students' feelings of belonging and use of campus resources are strongly affected by social class (Hlinka, 2017). McKinney and Novak (2013) also reflect Moschetti and Hudley's (2015) claims and further illustrate the difficulties faced by community college students when attempting to make informed decisions about the college process because, as their research discovered, many of them were first-generation and/or came from a low-income background.

Hlinka (2017) evaluated this issue among traditional-age students at a rural community college in Kentucky. Students identified social capital derived from family support as the most influential element of student success. However, Hlinka's (2017) study on these Appalachian community college students revealed that while "families push their children to attend college, they often do not understand the dedication needed to be a successful college student" (p. 153). Likewise, Moschetti and Hudley (2015), found that white, first-generation, working-class community college students in Nevada gained social capital from relationships with institutional agents, which helped in furthering their academic goals. They also note that low-socioeconomic, first-generation white students are underrepresented in research (Moschetti & Hudley, 2015). Based on this view, research sites that do not possess a minority-majority student population can extend the literature on non-classroom involvement among white, first-generation rural community college students.

Based on what has been presented, early exposure to opportunities and college-related experiences, while potentially beneficial to everyone, are particularly valuable to first-generation students and those with lower academic ability (Tinto, 2012). Pike and Kuh (2005) assert that innovative practices are needed to increase this at-risk group's time on campus. For instance, Pascarella et al. (2004) observed through data collected from the National Study of Student Learning that first-generation students tend to benefit more than others from extracurricular and noncourse-related peer interactions. Yet, while exposure to college-related experiences is particularly valuable to first-generation students and those with lower academic ability (Cohen et al., 2014), these at-risk students are among the least likely to participate (Moschetti & Hudley, 2015). First-generation students and those from low-income households participate in fewer extracurricular activities and interact less with their peers (Moschetti & Hudley, 2015). McConnell (2000) observed that first-generation students are less likely to contact faculty members outside of the classroom, meet new friends on campus, and participate in student programs or school clubs. Pike and Kuh (2005) corroborate much of this. They analyzed 1,127 first-year students (439 first-generation, 688 second-generation) who completed the College Student Experiences Questionnaire. They found increased levels of both academic and social engagement in second-generation students and, similar to McConnell's (2000) findings, less educational aspirations among first-generation students. Pike and Kuh (2005) suggest that first-generation students know less about how to become engaged on campus because their parents also lack such knowledge. Tinto (2012) refers to this as "shared knowledge" and "cultural capital" (p. 11). Further analysis from a rural community college perspective can ascertain any such association specific to first-generation students and their level and/or type of non-classroom involvement.

Enrollment Status and Age

The National Center for Education Statistics (2002) identifies nontraditional students as those who meet one or more of the following characteristics: delayed enrollment into higher education, attends on a part-time basis, financially independent, works full-time while enrolled in college courses, has dependents other than his/her spouse, a single parent, or did not attain a standard high school diploma. Compared to four-year institutions, community colleges are more likely to enroll higher proportions of part-time students and those who are 25 or older (Fike & Fike, 2008). Nontraditional students encounter a unique set of challenges, or multiple life roles, that are not faced by more traditional students (Sáenz et al., 2011). This illustrates the perception that higher education's in loco parentis role does not apply the same for adult learners as in traditional-aged students (Capps, 2012). Moreover, community colleges have served an increased number of displaced workers since the Great Recession, especially in rural communities that have been affected by rising unemployment, shrinking tax bases, and globalization (Howley et al., 2013). Yet, while adult students tend to earn higher GPAs than traditional-aged students, they are also less likely to persist (Capps, 2012).

Capps (2012) investigated adult student persistence within a community college setting in Utah. From the students' perspective, she focused on the institutional factors that influenced their persistence. Based on four rounds of semi-structured interviews with 28 participants, she found that adult students identified instructors as their most meaningful campus contact, which "confirms research that suggests that campus climate does influence an organization's members – but often not in ways the members themselves can easily recognize" (Capps, 2012, p. 40). However, while individual representatives within the college held influence, the study's participants were more likely to credit themselves for their own persistence rather than the college itself. Martin et al. (2014) also observed that "successful" community college students possessed a strong sense of motivation, but these findings were collected from a commuter-based two-year institution whose student population where most students (approximately half being traditional-aged) are enrolled part-time. Because of this, the results do not signify how adult students may be affected by campus opportunities on a residential, predominately full-time student campus that presumably provides more offerings for campus integration.

With regard to the opportunities afforded to students once on campus, Gibson and Slate (2010) evaluated the differences in community college experiences between traditional- and nontraditional-age students. Data were collected from the 2004, 2005, and 2006 CCSSE, involving between 20 to 32 Texas community colleges each year and over 40,000 total student responses. They observed that nontraditional-age, first-year students spent more time engaging in educationally purposefully activities and forming quality relationships with faculty and other students than traditional-age, first year students. However, the study does not clarify the distribution of full-time and part-time students or the specific activities that students were engaged in. Their findings can also be compared to Stuart et al.'s (2011), who observed the significance of extracurricular engagement on self-reported marks to be stronger for younger students than mature students, with the latter group indicating a higher concern over involvement that may undermine their academic performance. Nevertheless, these results further indicate that student engagement is often associated with demographic characteristics, a point that cannot be ignored by campus leaders.

Student Residence

Many community college students commute rather than live on campus (Karp et al., 2010). However, among the environmental factors pertinent to student outcomes, Astin (1984), Gellin (2003), and Pike and Kuh (2005) identify student residence as the most important. Living on campus offers more time and opportunity for students to become integrated and involved in college life (Astin, 1984; Witkow et al., 2012) via academic and social engagement (Mayhew et al., 2016). Pike and Kuh (2005) observed positive direct and indirect effects on the self-reported gains in intellectual development and learning among students who lived on campus. Although many community colleges do not offer student housing (McConnell, 2000), approximately 90% of the community colleges offering on-campus housing are rural institutions (Hardy & Katsinas, 2007). However, added to the previously mentioned disparities between first- and second-generation students, first-generation students are less likely to live on campus (McConnell, 2000).

Compared to commuter students, Astin (1984) asserts that residential students are more likely to develop a “strong identification and attachment to undergraduate life” (p. 523). Likewise, Glass and Hodgin (1977), Tinto (1998), and Reason (2007) claim that commuting students are less likely to return to campus for non-classroom functions. This is due to a variety of reasons such as work and/or family obligations. As a result, commuting students may be less likely to form meaningful relationships while in college (Glass & Hodgin, 1977) or develop a sense of belonging (Schuetz, 2008). Consequently, the classroom serves as their primary source for campus engagement (Tinto, 1998). Studies that focus on a rural community college setting can ascertain whether significant differences exist among students based on their residential status with regard to involvement in non-classroom activities and their association to various outcomes.

Employment and External Demands

Astin (1999) focuses on the student’s emotional and physical investment in his/her own learning outcomes (i.e., motivation and behavior) and underscores the notion that “The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program” (p. 519).

Therefore, not only is the amount or length of student involvement significant, but also the quality of exposure (Mitchell et al., 2015). Kuh (2009) reflects on this concept, affirming that while research shows that students generally benefit from engagement in effective educational practices, some simply benefit more than others. The latter part of the previous sentence is especially true for community college students, who are more likely to face external demands than students who attend four-year institutions (Martin et al., 2014). The interaction between external forces and collegiate experiences is important because what occurs in the former can directly or indirectly affect the latter (Tinto, 1993). Such interactions are especially weakened for working students and those attending nonresidential colleges (Tinto, 1993). Thus, when these students' academic and social systems are weak, the external demands can impede college persistence (Tinto, 1993). It is this sort of interaction that prompted Tinto (1993) to differentiate *involuntary* departure from *voluntary* departure.

Students who fail to connect with the campus are more likely to withdraw than others (Astin, 1984; Howley et al., 2013; Tinto, 1993). The sources of external demands that impede on the college experience are numerous. For instance, working students are not as likely to interact frequently with peers or faculty/staff, which affects their development of social capital (Moschetti & Hudley, 2015). Moschetti and Hudley (2015) claim that working over 30 hours per week is the largest predictor of lack of persistence for community college students. Specific to rural community colleges, a lack of on-campus childcare presents additional hurdles for students (Hardy & Katsinas, 2007; Howley et al., 2013; Scott et al., 2015). Additionally, the absence of mass transit within rural areas further exacerbates the obstacles for students with children (Hardy & Katsinas, 2007) or those with unreliable transportation. Such predicaments are encountered by other low-income and/or adult students who attempt to integrate within the campus environment while also facing “challenges to their ability to make social and institutional connections, such as competing commitments to family and work, lack of a cohort of students with similar backgrounds and experiences, and economic constraints” (Howley et al., 2013, p. 6).

While expenses for college attendance have risen faster than family income, state and federal grants have not kept up with this trend and fail to meet students’ financial needs (Perna, 2015; Perna & Odle, 2020). Consequently, many students either acquire loan debt or seek employment to afford their college education. Perna and Odle (2020) state that in 2017, 43% of all full-time undergraduates were employed while enrolled, of which 27% consisted of 20 or more hours per week. The rate of student employment and hours worked, however, are higher among students at two-year institutions (50% employment with 72% working 20 or more hours per week; Perna & Odle, 2020). It is logical that student satisfaction and persistence tend to suffer when students have off-campus, full-time jobs. McConnell (2000) and Perna and Odle (2020) mention that underserved students (e.g., first-generation) are more likely than their peers to fall into this category. Employment of this type affords less opportunities for campus interaction since heavy workloads keep students away from campus (Astin, 1984). This notion correlates with Glass and Hodgin’s (1977) earlier comments about commuting students. Kuh (2009) adds that part-time students with significant work commitments are also less likely to be engaged in campus activities. Therefore, campus engagement is more common among full-time students (Sáenz et al., 2011), and likely those with no substantial external demands. If one considers a student’s time, as Astin (1999) does, as “the most precious institutional resource,” (p. 522) then community colleges certainly face challenges when seeking improvement in overall persistence. As stated by Capps (2012), “colleges may exert only a secondary influence on adult-student persistence” since “many of the characteristics and life circumstances that draw these students away from campus are beyond institutional control, and they generally outweigh institutional influence” (p. 39).

Online Instruction

The volume of online course enrollment has grown significantly since 2005, with over 6.7 million community college students taking at least one online course in 2011 (Chen, 2018). Students will often select this method of instruction over face-to-face courses due to their convenience and compatibility with work or other obligations (Bailey et al., 2015; Britto & Rush, 2013). Yet, persistence rates are lower for online delivery methods than face-to-face courses (Harrell & Bower, 2011), with higher failure rates at community colleges than four-year institutions (Bailey et al., 2015; Britto & Rush, 2013). Britto and Rush (2013) state that “the strong growth record of student enrollment in online courses has been overshadowed by course dropout and failure rates among online learners which have been higher than campus-based rates since the emergence of online courses” (p. 29).

Online programs/classes have become an essential element of enrollment for many higher education institutions (Blau et al., 2018). Yet, Harrell and Bower (2011) acknowledge the limited amount of research on community college student persistence in online courses. In addition, they claim “there is a lack of understanding of variables that could be used to predict the persistence of students in online courses” (p. 178). Their study involving 225 survey respondents from five Florida community colleges found that auditory learning styles, grade point average, and basic computer skills to be significant predictors of online student success. They also identify student isolation and separation from the instructor as factors that can affect persistence. Britto and Rush (2013) note that many students struggle with online classes when they take on a large course load, have significant responsibilities outside of school, lack experience with online classes, and/or lack access to the technology that is expected in online instruction. In addition, a student's access to needed equipment and computer experience (or previous experience with online courses) are factors that can determine success (Harrell & Bower, 2011). Tyler-Smith (2006) illuminates this in his observation that many adult, part-time learners experience "cognitive burden" when learning how to negotiate the technology and communication methods. Furthermore, there is the prospect that typical online courses, compared to the typical face-to-face course, do a poor job in supporting student motivation and success (Baily et al., 2015; Fike & Fike, 2008).

Regarding the extent of institutional commitment (a factor that influences student persistence) among online students, Beck and Milligan (2014) used the College Persistence Questionnaire (CPQ) to evaluate associations among those who were primarily or entirely enrolled in online courses at a southeastern university. Based on a sample of 831 students, there was no statistically significant association when comparing gender or ethnicity. However, students' reasons for attending (i.e., the quality of the academic program, reputation of the school, friends who attend) were significantly associated. Beck and Milligan (2014) found that institutional commitment was determined more by students' interactions within an academic and social environment than by variables that students possessed at the time of college entry (i.e., student background). Although these results are consistent with studies that utilize the CPQ with more traditional modes of academic delivery, the researchers do not elaborate on how a statistically significant association was found for social integration among online learners (other than listing the scale topics within the questionnaire). Also, 16% of the study's sample consisted of freshmen while the remainder were classified as sophomores or higher. Given that older students were reported to have higher institutional commitment scores, a similar study involving only freshmen and sophomore online students within a community college setting would likely have vastly different results.

A later study by Blau et al. (2018) compared the perceptions of various modes of classroom delivery methods among business undergraduate students. This study was conducted over two semesters, involving 242 (fall 2017) and 237 (spring 2018) volunteers at a large urban Mid-Atlantic university. Participants had to be simultaneously enrolled in at least one face-to-face class and one online or hybrid course. Comparisons were made across three preferred learning environments: face-to-face, hybrid, and online. Of the six perception-based outcomes that were measured, three related to online/hybrid preferences were found to be significant. However, Blau et al. (2018) did not find a significant difference between the three learning environments in students' perceived institutional commitment, persistence toward graduation, or ease of technological use. The study did not make a distinction on the volume of one learning environment over another; therefore, these findings may be different for students who take all or most of their courses online.

Persistence Factors

This section pertains to the five persistence factors that are included in this study (the dependent variables in Research Questions 3 and 4) from Davidson et al.'s (2015) CPQ-V2: academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. It includes studies that relate to various aspects of student development, corresponded with concepts and/or findings that illustrate the effect(s) of cognitive and affective stimuli on a range of student outcomes. For instance, Mayhew et al. (2016) acknowledge that psychosocial development relates to various aspects of personal adjustment, psychological well-being, autonomy and independence, and a person's perception of their academic and social self related to his/her peers. In comparison, humanistic-existential theories pertain to a student's self-discovery and relationships with others. Both concepts are conditional and based on the nature of one's environment (Hendrickson et al., 2013), which foreshadows the fact that some outcomes are more pronounced in certain types of community college students.

Academic Integration

Integration reflects "the ways in which students change on the basis of their interactions with the campus environment, incorporating academic and social experiences into their perceptions and involvement behaviors" (Davison et al., 2009, p. 375). It is influenced by variables such as the quality of instruction, class discussions, and feelings of intellectual growth (Davison et al., 2009). However, many community college students struggle with the transition from high school (Sandoval-Lucero et al., 2017) since not all of them arrive at college's doorstep prepared for the cognitive demands required to succeed in the collegiate field (Hlinka, 2017). For instance, Hlinka's (2017) interviews with rural community college students found that many students have trouble making the transition from memorization to critical analysis. Although one of Hlinka's (2017) limitations was that only traditional-aged students were interviewed, she explains that academic difficulties do not exclude social class by stating "Even students from middle or higher social standings, whose habitus does mirror that of the college, may not grasp the rules of academia because they have not yet reached the cognitive development order that allows for understanding within a complex academic setting" (Hlinka, 2017, p. 147).

Cognitive-structural theories pertain to student learning and change/adaption (Long, 2012). Hendrickson et al. (2013) expands this description to involve "the internal processing of information" in which "learning is a function of acquisition and understanding of knowledge, irrespective of any behavioral change that can be observed as a result of gaining that knowledge"

(p. 359). The development of critical thinking skills directly relates to this statement. Pascarella and Terenzini (2005) determined that approximately 63-90% of critical thinking and postformal reasoning skill development occurs by a student’s sophomore year in college. Based on data from the Collegiate Learning Assessment, Arum and Roksa (2011) found that two years in college resulted in an increase of critical thinking scores by 7%.

Doubts have existed regarding the positive association between cognitive development and non-classroom activities. For instance, Stirling and Kerr (2015) state that research indicates that such benefits are limited, with most gains being concentrated in personal and social development while cognitive gains may be simply inferred. However, an earlier study from Berger and Milem (2002) observed that participation in campus clubs increased students’ self-rated academic ability. Gellin (2003) suggests that involvement in campus clubs and organizations “may lead to critical thinking gains because undergraduates must make a conscious effort to seek out groups they are interested in and, therefore, may bring a high level of commitment to their involvement” (p. 754). Pascarella et al. (2004) also observed a positive association between extracurricular involvement among first-generation students and their level of high-order thinking.

Social Integration

Social integration relates to a student’s sense of belonging, shared beliefs, and connection to others within the college environment (Davidson et al., 2009) and is associated with persistence (Reason, 2009). During the transition into college (whether from high school or among returning adult students), people often deal with feelings of weakness or isolation. Feelings of loneliness, according to Elkins et al. (2011), is a negative influence on one’s sense of community. Such anxieties, therefore, increase the probability of student departure from the "community" prior to "incorporation" (Tinto, 1993, p. 93). While Astin claims that peers are the most important source of influence during one's college experience (Soria, 2015), he avows that faculty and student affairs personnel should make the college experience relatable to students' lives (Astin, 1993). Thus, social and academic integration are often closely linked.

From a humanistic-existential perspective, Witkow et al. (2012) illustrate how important a campus' social environment can be. Based on a sample of 373 college students, they found that community college students reported less social engagement than those who attended 4-year institutions. In fact, the findings showed that school identification among community college students had decreased when compared to high school, which contrasts with the results produced from students who attended four-year institutions. "Social engagement" was measured through self-reports of having friends in college, participating in academic activities with friends, and participating in school-based extracurricular activities. Additionally, female students reported higher levels of school identification than male students, while white students reported higher levels than minority students. Although the study does not distinguish the students' program of study, these results illustrate the notion that students who demonstrate a lack of connectedness to their campus are more likely to withdraw (Astin, 1984; Howley et al., 2013; Tinto, 1993).

Laurie Schreiner's concept of thriving emerged during the 2000s. Thriving is a construct used to identify students who "not only are academically successful" but "also experience a sense of community and a level of psychological well-being that contributes to their persistence to graduation and allows them to gain maximum benefit from being in college" (Schreiner, 2010, p. 4). Therefore, the theory is based not only on one's intellectual engagement, but also social and emotional engagement (Schreiner, 2010). Vetter et al. (2019) tested the concept of thriving by examining the relationship between cocurricular involvement and holistic development.

Using 2017 Thriving in College survey data from 2,973 students across 13 four-year colleges, they found that the quality of student involvement directly predicts a student's sense of thriving, while the quantity of such involvement is an indirect predictor.

The role of social integration is discussed throughout this study. The findings from Witkow et al. (2012) and Vetter et al. (2019) demonstrate that social interaction within a campus environment influences student's persistence outcomes. Yet, social integration activities have not been rated as highly important by rural community college enrollment management administrators compared to those located at non-rural institutions. The reasons for these differences, however, are not apparent (Howley et al., 2013).

Degree Commitment

Key components of degree commitment consist of students' intentions, estimations of their likelihood that a degree will be attained, and the self-appraised dedication to earning a degree (Davidson et al., 2009). Degree commitment, unlike institutional commitment, reflects the importance that a student places on earning a diploma from any school. While both types of commitment may coincide for some students, it is not always the case (Davidson et al., 2009). For example, Tinto (1975) states that "high goal commitment may lead to persistence even when little commitment to the institution is present" (p. 110). On the other hand, Tinto (1993) discounts the notion that those who depart from college without a degree have failed to benefit from the experience. In some cases, departure is temporary and/or creates a trial-and-error experience that enables individuals to discover their abilities and interests.

Not all students are motivated once they arrive in a college environment. In fact, pre-college achievements such as ACT or SAT score can diminish within the first year of college (Kuh, 2009). Fong et al. (2017) incorporated previous literature with their findings to determine which psychosocial factors were predictors of community college success. They found that motivation and self-perception were the most influential predicators for student persistence and achievement outcomes. Their results did not produce significant differences within race or gender. Additionally, in a qualitative study that included semi-structured student interviews at a large, public community college, Martin et al. (2014) concluded that the most apparent self-reported trait by graduates was an intense motivation to succeed. Such notions run slightly counter to Astin (1984), who, while not discrediting motivation as an influential factor of college involvement, focuses on the student's actual behaviors (time and effort) directed at activities and goals.

According to self-determination theory, a person's behavior is led by intrinsic and extrinsic motivation, where the former reflects a person's interest in a task for its own sake, while the latter reflects the external influences that motivate such interest (Fong et al., 2017). In a sample of 310 students within an urban community college, Liao et al. (2014) found that persistence was more strongly related to extrinsic motivation than intrinsic. Educational costs are acutely aligned with this notion and resemble the concept behind prospect theory, in which people's decisions are greatly influenced by the personal values placed on outcomes (Mowrer & Davidson, 2011). Scott et al. (2015) also found that low-income rural students considered the cost of tuition with the anticipated benefits of earning a degree.

Tinto (1993) refers to the term dropout as an often-misused term that does not account for the reasons for each individual's reasons for leaving an institution (Tinto, 1993). He claims that identifying financial reasons as the reason for leaving college "is simply another way of stating their view that the benefits of continued attendance do not outweigh the costs of doing so" (Tinto, 1993, p. 88). While many students who are satisfied with the student experience interpret the benefits as being worth the cost, others who decide to depart from an institution or the college experience are actually taking positive actions toward their goal fulfillment (Tinto, 1993). This relates to Stuart et al.'s (2014) model that applies a direct and ongoing cost-benefit analysis (i.e., the economic value of the college degree/credential) to students' decisions to persist. In accordance with their model, students will determine whether the human and/or career capital gained from the college experience will benefit them within the job market. Such determinations are contingent on the job market and the college's capacity to prepare students for prospective jobs (Stuart et al., 2014). With such considerations in mind, how an individual's alternatives are framed will impact decision making (Mowrer & Davidson, 2011).

Collegiate Stress

Collegiate stress pertains to matters such as self-efficacy, coping strategies, and personal control (Davidson et al., 2015; Davidson & Beck, 2018). Fong et al. (2017) state that "anxiety is not only conceptually distinct as a psychological factor but also highly prevalent in today's college campus culture and student population" (p. 395). To illustrate this, Sax et al. (2004) used Astin's I-E-O model to evaluate the emotional health of first-year college students and how the college environment can affect it. Using survey data from the 2000 Cooperative Institutional Research Program (CIRP) Freshman Survey and the 2001 Your First College Year survey, they found that both male and female students experienced a decline in emotional health due to academic influences, such as feeling overwhelmed at the point of college entry. Lower levels were indicated among female students, which the authors accredit to being separated from family. This supports Tinto's (1993) statement that "Though most students are able to cope with the problems of transition, many voluntarily withdraw from college very early in their first academic year" due to an "inability to withstand the stresses that such transitions commonly induce" (p. 98).

Bowman (2010) utilized longitudinal first-year student data from 19 colleges and universities who participated in the 2006 Wabash National Study to assess psychological well-being (PWB) during college. Of the pre-college characteristics observed, Bowman (2010) found that PWB gains were associated with students who had high academic achievement and were non-first generation, non-traditional age, and female. This correlates with Fong et al.'s (2017) assessment that excessive amounts of anxiety can affect collegiate performance and may be more impactful for high-risk students. Furthermore, Bowman (2010) found that positive social interactions, meaningful relationships with other students, and positive interactions with faculty were among the notable college experiences that promoted PWB. Additional studies can determine whether students' self-reported collegiate stress scores differ according to the level and/or type of campus involvement in non-classroom activities.

Pittman and Richmond (2008) examined how changes in students' sense of belonging, quality of friendships, and psychological adjustment were correlated by compiling survey data at two separate points during the freshman year for 79 students at a public university.
They found that students who experienced positive changes in their sense of belonging had corresponding positive changes in their self-perceptions of social acceptance and scholastic competence. Also, their findings match previous research that shows associations among belonging, friendship quality, and involvement in campus group activities. However, Pittman and Richmond (2008) did not identify any particular campus programming that influenced these positive changes.

As illustrated in these studies, on-campus interactions are strongly linked to student development and psychological growth. Sax et al. (2004) underscore their finding that social integration into campus life and having a strong support network were both strong predictors of emotional health. Mayhew et al. (2016) also note that a student's self-concept, such as those related to investment in college life, can be influenced by the average peer behaviors and attitudes on campus. Thus, they assert that institutions should consider options to further develop a sense of belonging among first-year students, as well as more positive friendships.

Institutional Commitment

Institutional commitment is described as a "student's intentions to re-enroll and to earn a degree from that institution and their confidence in having selected the right institution" (Davidson et al., 2009, p. 374). It, like degree commitment, plays "a crucial role in contemporary causal models of retention" (Davidson et al., 2009, p. 374) and demonstrates a significant positive relationship to persistence-minded outcomes (Blau et al., 2018). Student satisfaction is typically associated with increased persistence (Sáenz et al., 2011), given that students with strong feelings of loyalty to a college are more likely to graduate than students with lower levels of commitment (Davidson et al., 2015). Yet, while institutional commitment and degree commitment can correlate among some students (e.g., either high levels or low levels of both for an individual student), there are instances in which this is not true. Therefore, Davidson et al. (2009) decided to measure these two factors separately in their College Persistence Questionnaire.

Schuetz (2008) challenges the common perception that community college attrition is most associated with poor academic preparation, lack of motivation, demographic profiles, and/or family and work obligations. Rather, she proposes that students leave college due to a lack of connectedness to the school. This is consistent with the premise of self-determination theory (SDT), which suggests that basic psychological needs (i.e., belonging, competence, and autonomy) must be met before optimal levels of student engagement are achieved. Schuetz (2008) collected data from over 1,100 CCSSE respondents and interviews with 30 adult students from a large, suburban California institution. She concludes that long-term engagement is weakened if students lack a sense of belonging to the college. Kuh (2016) refers to this self-perception as psychological fit. Schuetz (2008) found such deficiencies can negatively affect the development of personal competence and autonomy.

The key components of institutional commitment are students' intentions, confidence, and thoughts (Davidson et al., 2009). Buckley and Lee (2018) also add that students with strong social connections to their college resulting from extracurricular involvement are likely to demonstrate increased motivation and have improved academic performance. Students who are socially integrated into their college are also more likely to develop a connection to persist (Tinto, 2012). For example, Karp et al. (2010) conducted interviews with 44 students from two Northeastern urban community colleges who were in their second semester. They found that students who reported a sense of belonging with their campus were more likely to persist to the second year. Likewise, through interviews with 30 students at one public institution (10 freshmen, 10 sophomores, and 10 non-returning freshmen), Turner and Thompson (2014) found that 67% of participants cited focused activities and events to be the greatest supporting factor for continuing after the first year. They found that such involvement promotes college persistence, a student's sense of belonging and institutional connectedness.

Studies such has Schuetz's (2008), Karp et al.'s (2010), and Turner and Thompson's (2014) uphold the viewpoint that community colleges must maintain an active role in helping students adjust academically and socially to the college experience. First-generation students especially benefit from early exposure to institutional resources (McConnell, 2000; Gist-Mackey et al., 2017; Pascarella et al., 2004; Pike & Kuh, 2005; Stephens et al., 2014 Tinto, 2012). For example, Gist-Mackey et al. (2017) highlight the influence of social support during the college socialization process and suggest that a variety of social support types can further aid first-generation student perseverance. Additionally, Caruth (2018) and Sáenz et al. (2011) both emphasize that campus engagement aids institutional commitment, with Caruth (2018) asserting that "Earning a college diploma is tied to students' commitment to their college and the level of commitment to their college is tied to students' level of campus social and academic integration" (p. 18).

Summary

Research has demonstrated that college can positively affect a student's cognitive, social, psychological, and psychosocial growth. Interaction with one's peers, whether through formal or informal means, has proven to be a key facet in such outcomes. The research findings presented in this review show that a student's time spent on campus in educationally purposeful activities can have a significant role in personal growth and college persistence. The findings also suggest that engagement in campus activities is essential during a student's first year in college. However, the literature underscores the fact that some students are more likely to become engaged than others.

This section presented a review of the literature pertinent to student involvement in non-classroom activities and how they relate to various student outcomes. There are discernible gaps in recognizing the associations between student outcomes (experiences) and the campus involvement that spurred those outcomes. Research shows that community colleges persistently struggle with student involvement in non-classroom activities. The challenges encountered by these institutions are markedly different in comparison to four-year institutions. This certainly applies to participation in non-classroom-oriented pursuits. Chapter III will offer an overview of the study’s methods and analytical measures.

CHAPTER III

RESEARCH DESIGN, METHODOLOGY, AND ANALYSIS

Introduction

The purpose of this comparative study was to determine whether freshmen, full-time rural community college students who participate in non-classroom activities differ from nonparticipants in self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. The study was conducted using Davidson et al.'s (2015) CPQ-V2. Each of the five factors measured by the survey are relevant to student persistence research. Data were analyzed through the lens of Tinto's theory of student integration and Astin's theory of student involvement. Chapter III of this study discusses the method and procedures used to facilitate the study. The chapter includes a description of the research design, research questions, research site, population and sampling procedure, instruments, data collection procedures, and data analysis procedures.

Research Design and General Method

This study employed a quantitative, correlational research design to identify intergroup and intragroup relationships among full-time freshmen students within a rural community college setting. The independent and dependent variables varied according to the research question. For Research Question 1 and Research Question 2, the independent variables consisted of the students' gender, race/ethnicity, program of study, residential status, employment status, status of parental graduation from college, volume of online courses from the institution, and intent to return to the college. The dependent variables consisted of the students' level of campus involvement (uninvolved, involved, more involved) and type of campus involvement (athletic/recreational, extracurricular, cocurricular). For Research Question 3 and Research Question 4, the independent variables included the latter two elements, while the dependent variables consisted of the students' academic integration, social integration, degree commitment, collegiate stress, and institutional commitment.

This study's approach is unique because it employed the CPQ-V2 instrument to specifically highlight campus engagement within a rural community college setting, while other studies that have applied the instrument looked solely at student persistence and variables such as student residential status (Smith, 2016), military student populations (Mentzer et al., 2015), institutional commitment of online students (Beck & Milligan, 2014) and international students at a private four-year university (Adams, 2017). This research design utilized a 3-week data collection period, which illuminates its cross-sectional nature. The data collected were pertinent to students' inputs (attributes), the college environment (campus engagement offerings), and outputs (persistence factors). The chi-square test for independence and one-way ANOVA were selected as the data analysis methods.

Research Questions

- RQ1) To what extent are there significant associations between the level of student involvement and student attributes as measured by the survey instrument for rural, full-time freshmen community college students?
- RQ2) To what extent are there significant associations between the type of student involvement and student attributes as measured by the survey instrument for rural, full-time freshmen community college students?

- RQ3) Does a significant difference exist among the levels of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the College Persistence Questionnaire for rural, full-time freshmen community college students?
- RQ4) Does a significant difference exist among the types of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the College Persistence Questionnaire for rural, full-time freshmen community college students?

Research Site

The target population was situated within a rural community college within a single community college district in Mississippi (pseudonym: Hill Country Community College). The study site offered a small, rural community college setting from which the *CPQ-V2* instrument was utilized from the perspectives of Astin's I-E-O model and Tinto's theory of student departure. The college used for this study is one of 15 institutions within the Mississippi community college system. It is comprised of a five-county district in the northern section of the state. The median household income for the region ranged from $37,681 to $45,754 (U.S. Census Bureau, 2019). The college's enrollment at the beginning of the fall 2021 semester was 3,384 students. Full-time students accounted for 72.3% (2373) of this total, with 27.7% (911) enrolled part-time. Freshmen students comprised 59.6% (1956) of total enrollment compared to 40.4% (1328) sophomore students. The majority of the student body was female (61%). Students classified in the 19-21 age range amounted to 38.1% (1251) of total enrollment, compared to 23.9% (784) who were 21 years old or older. Concerning programs of study, 70.7% (2320) of students were enrolled in an academic program, 26.4% (867) were enrolled in a technical program, and 2.9% (97) were enrolled in a vocational program (some areas of study within the Health Sciences program are classified as “technical” while others are classified as “vocational”). The average ACT score was 19.3. Most students (76.7%) entered the college from within its 5-county district, with 20.1% (660) of all full-time students living in a campus residence hall (dormitory). The fall 2021 student body was 75.4% Caucasian, 18.5% black, and 3.1% Hispanic ([redacted], 2021). Participants were located both on- and off-campus during the data collection process.

Research Participants

All full-time freshmen students enrolled at HCCC during the fall 2021 semester were targeted recipients of the online survey. This student classification was chosen due to the first year’s higher rate of attrition (Sandoval-Lucero et al., 2017; Tinto, 2012) and the documented importance of first-year intervention efforts (Turner & Thompson, 2014). A request to use HCCC students for this study was submitted to the college’s Office of Research and Planning (Appendix A) and approved by the institution’s president (Appendix B). Targeted recipients were provided with a letter of consent prior to initiating the survey. The letter of consent outlines the purpose of the survey, its procedures, potential benefits, and a confidentiality notice. Students who did not provide consent were denied access to the survey, thus terminating their participation until consent was offered. As an incentive for participation, the waiver states that a random drawing for three $50 Amazon gift cards would occur after the survey’s deadline.

Research Instrument

The research instrument included an adapted version of a pre-existing survey instrument (CPQ-V2) that best accommodates the needs of the four research questions. This adapted version of the CPQ-V2 is included in Appendix C. The CPQ was created as an early warning system that detects student adjustment difficulties prior to the onset of low grades or departure (Davidson et al., 2009). It is an instrument that assesses a diverse range of variables that serve as a basis for retention theories and are associated with student persistence (Davidson et al., 2009). Its primary purpose is to identify students who are at risk of dropping out of college, determine why a particular undergraduate student is likely to drop out, and discover the variables that differentiate students who will persist at their institutions from those who will not (Davidson et al., 2009). Yet, the survey's creators clarify that efforts to improve student persistence should not be limited solely to at-risk students (Davidson et al., 2009).

College Persistence Questionnaire, Version 1: Background on the Original Instrument

Davison et al. (2009) created a survey item pool by evaluating approximately 150 research studies and classifying variables that were linked to retention at one or more schools. Questions were subsequently written in a manner that reflected these variables. Following three exploratory factor analyses, 53 items were retained for further analysis. A principal components analysis was performed on the favorability scores of the 53 items using a direct oblimin rotation, which allowed for the possibility of correlations between components. Initial data were gathered from 2,022 students from four schools (three universities and one large community college), resulting in six factors with eigenvalues greater than 1.4 (Institutional Commitment, Degree Commitment, Academic Integration, Social Integration, Support Services Satisfaction, and Academic Conscientiousness). All items with pattern coefficients of .40 or higher were retained for further analysis. A second principal components analysis with a direct oblimin rotation was conducted on the resultant 36 items to ensure that the deletion of questions did not cause substantial changes in the pattern coefficients. The findings from the two analyses were similar. Item deletion did not have a pronounced effect on the coefficients.

To test for validity and whether the six factors (Institutional Commitment, Degree Commitment, Academic Integration, Social Integration, Support Services Satisfaction, and Academic Conscientiousness) predicted student persistence, a second study collected data from 283 first-semester freshmen students at Angelo State University during the fall semester of 2004. Out of 257 freshmen, 146 (57%) returned while 111 (43%) did not return for their sophomore year (Davison et al., 2009). Logistic regression analysis (using student retention as the outcome measure and mean scores on the six persistence factors as predictors) correctly classified 66% of the students and found the following three factors to be reliable and significant predictors of a student returning for his/her sophomore year, controlling for high school class rank and standardized test scores: Institutional Commitment, Academic Integration, and Academic Conscientiousness. Institutional Commitment was the best predictor of retention, followed by Academic Conscientiousness and Academic Integration. Social Integration, Support Services Satisfaction, and Degree Commitment were not significant predictors of retention at the university where Study 2 was performed (Davidson et al., 2009).

Together, the results of Study 1 and Study 2 established validity of the CPQ for predicting retention. The CPQ scales were better predictors of retention than precollege performance measures such as high school rank and standardized test scores (Davidson et al., 2009). Although Social Integration, Support Services Satisfaction, and Degree Commitment did not improve prediction, the instrument's creators acknowledged substantial evidence that these variables are linked to retention at other institutions. Thus, they infer that persistence factors can vary according to institution and student group. They support this with the claim that “The lack of generalizability of the predictors from one school to another argues for the use of an instrument like the CPQ, which assesses a diverse array of variables” (Davidson et al., 2009, p. 375).

College Persistence Question, Version 2

CPQ-V2 derived from a study that tested a validated indices of Institutional Commitment and a set of student experiences variables. According to the instrument’s creators, “Student experience indices are dependent upon the student’s interaction with the institution’s academic and social environments” (Davidson et al., 2015, pp. 164-165). In addition, the study examined the direct and indirect relationships of a variety of variables on Institutional Commitment.

Included in their analysis were the six validated student experience variables from CPQ-V1 (Institutional Commitment, Degree Commitment, Academic Integration, Social Integration, Support Services Satisfaction, and Academic Conscientiousness). However, Davidson et al. (2015) found a need to improve on these scales with additional or more internally consistent items. Thus, they added four more factors that were not measured by CPQ-V1. The study’s participants consisted of 2,982 freshmen students enrolled at eight primarily undergraduate institutions in the southeastern and southwestern United States. Six of these institutions were public universities, two were small private colleges, and one was a large community college (Davidson et al., 2015).

The study’s experimental instrument consisted of the 53 survey items from the CPQ-V1, plus 15 new items. These 68 items were subjected to a principal component analysis (PCA) using a direct oblimin rotation. The first 10 components were highly interpretable, containing a total of 60 items with loadings of .40 or higher. Fifty-one percent (51%) of the variance was credited to these 10 components. A second PCA was performed using only the items with a pattern coefficient loading of .40 or greater. These outcomes were comparable to the initial analysis. Item deletion did not significantly affect the structure or pattern coefficients (Davidson et al., 2015).

The final results revealed that Academic Integration, Social Integration, and Degree Commitment had direct and favorable effects on Institutional Commitment. They also discovered that Degree Commitment was significantly associated with Academic Integration and Social Integration. However, Davidson et al. (2015) state, “The finding that we have least confidence in replicating is the negative association between Collegiate Stress and Social Integration variables” (p. 180). Ultimately, the development of an updated version of the CPQ instrument resulted in 10 scales: Academic Integration, Financial Stress, Social Integration, Degree Commitment, Collegiate Stress, Advising, Scholastic Conscientiousness, Institutional Commitment, Academic Motivation, and Academic Efficacy (Davidson et al., 2015).

Applying the CPQ-V2 to the Research Site (HCCC)

An adapted version of the CPQ-V2 instrument was used for this study. It reflects the noncognitive variables that have proven to be predictive of college student success (Fong et al., 2017), which is important when examining the impact of non-classroom activities within a rural community college setting. In fact, Davidson et al. (2009) state that

> An important benefit of a factor analytic approach is that the formation of psychometrically credible scales often clarifies the relationship among variables. Although single items sometimes provide useful information, multiple-item scales tend to be more reliable and are, therefore, preferred by researchers and those who design interventions. (p. 377)

Additionally, from an institution-specific standpoint, the factors that affect student persistence are often specific to the school and/or student groups. Therefore, it is important to identify the variables that significantly affect persistence within that context (Davidson et al., 2009). In this case, the survey instrument was intended to identify the variables that relate to students' involvement in non-classroom engagement, with direct consideration of the student composition and the opportunities available on the campus.

Appendix C displays the entire survey used for this study; however, its format does not mirror how participants viewed the instrument (i.e., the format viewed by students did not include numerical ordering). Still, the ordering of survey items within Appendix C is consistent with how participants viewed the instrument. Two preliminary validation questions were asked prior to the set of 38 analyzed questions. These items, "Are you a full-time freshman student?" and "Are you at least 18 years old?", served as screening questions to ensure that only targeted students were contributing to the study. These two items were added during the Institutional Review Board approval process. Answering "No" to either of these questions did not automatically result in students' exclusion from the survey; however, any students who answered "No" were later omitted from statistical analyses.

Following the two validation questions, the survey instrument contained 10 items that collected the attributes of each student. Questions 3-9 provided a range of response options that best fit the specific question. Questions 10-12 included a "checklist" of the college's formal non-classroom opportunities during the fall 2021 semester. These three questions were classified according to the following engagement types: athletics, cocurricular, and extracurricular. Responses to Questions 10-12 also enabled the grouping of students into one of the following campus engagement levels: Uninvolved (no activities selected), Involved (1-3 activities selected) and More Involved (more than 3 activities selected). For analytical purposes, an "intent to return" variable was added with this set of 10 questions. This variable was measured by the responses given to Question 27 of the survey, which asked "How likely is it that you will earn a degree from here?" Collectively, these 11 questions contributed to answering Research Question 1 and Research Question 2.

The majority of the remaining survey items (Questions 13-40) contained the adapted form of CPQ-V2, which assessed five of the original 10 CPQ-V2 factors: Academic Integration, Social Integration, Collegiate Stress, Degree Commitment, and Institutional Commitment. The selection of these factors was supported by their eigenvalues (Davidson et al., 2015). Davidson et al. (2015) found that Academic Integration, Social Integration, and Degree Commitment had direct and favorable effects on Institutional Commitment. They also found that Degree Commitment was significantly associated with Academic Integration and Social Integration. Collegiate Stress was included as the fifth factor in this study due to Davidson et al.'s (2015) observation of a negative association between Collegiate Stress and Social Integration variables during their CPQ-V2 analysis. They claim this outcome can vary by institution and/or student group. Table 2 provides the five persistence factors selected for this study along with their corresponding survey items.

Table 2

Persistence Factors with Survey Item Numbers

CPQ-V2 factors	Survey items associated with each factor
Factor 1: Academic integration	Questions 13, 18, 23, 28, 33, 36, 39
Factor 2: Social integration	Questions 14, 19, 24, 29, 34, 37, 40
Factor 3: Degree commitment	Questions 15, 20, 25, 30, 35, 38
Factor 4: Collegiate stress	Questions 16, 21, 26, 31
Factor 5: Institutional commitment	Questions 17, 22, 27, 32

The adapted form of CPQ-V2 (Questions 13-40) was formatted according to a 5-point Likert scale, with a sixth option, "Not Applicable," available in some questions for students who believed the item did not pertain to them. Verbal labels for the response scales depended on the wording of the questions. For example, if a question asked "how satisfied" students were with an aspect of the college environment, the response scale ranged from *Very Satisfied* to *Very Dissatisfied*. Or, if the question asked "how much" students liked an aspect of the college environment, the response scale ranged from *Very Much* and *Very Little*.

The data gained from Questions 3-40 of the survey instrument provided the descriptive and inferential statistics collected throughout the quantitative segment of the study. The last question in the survey instrument, Question 41, allowed each participant to enter himself/herself into the randomized drawing for one of three $50 Amazon gift cards. Student identifiers provided for Question 41 (e.g., email addresses) were not correlated with any other survey response and were not factored into the data analysis.

Data Collection

One of the responsibilities of a researcher is to uphold ethical standards. Prior to the application of these research methods, Mississippi State University's Institutional Review Board (IRB) evaluated the specifics of the study's involvement of human subjects for any potential risk. The IRB exemption determination letter is provided in Appendix D. Such precautions ensured that careful consideration toward the participants was given. As previously mentioned, it was during this stage that the two validating questions, Question 1 ("Are you a full-time freshman student?") and Question 2 ("Are you at least 18 years old?"), were added to the research instrument.

To further meet the study's ethical obligations, each student participant was required to acknowledge their voluntary consent to participate. A waiver of informed consent was included in the survey distributed to each full-time freshman student at the study site and followed guidelines set forth by the American Educational Research Association and Mississippi State University's IRB. The waiver advised each participant of the study's purpose, the expected duration of their involvement, their right to decline or cease participation at any time, what data will be collected and how it will be used, and contact information for any questions. Participants were also notified that no personal or mental harm would occur during their involvement, as well as the assurance that confidentiality would be protected (Privitera & Ahlgrim-Delzell, 2019). As an incentive for participation, the waiver also stated that a random drawing for three $50 Amazon gift cards would occur. The question "Do you wish to proceed with the survey?" was offered at the bottom of the letter of consent. Answering "No" to this question ended the students' further advancement into the survey. Appendix D includes the waiver provided to each student within the study's target population.

Data collection began during the latter part of the Fall 2021 semester. The survey was available to the targeted audience for a 3-week period (November 1-November 21, 2021). The end date corresponded with the last week of regular classes for any distance learning (online) course offered by the Mississippi Virtual Community College (MSVCC). In addition, distributing the survey toward the end of the semester correlates with Astin's (1993) concept that "outputs" are generated after one's exposure to the "environment." The survey and its ensuing data were sent/collected electronically via the research site's Office of Research and Planning and its EvaluationKIT software. The survey instrument was distributed via institutional email by the college's Office of Research and Planning.

Data Analysis

This study included quantitative methods with data analyses that comparatively gauged whether students' attributes differed significantly in their level and type of campus involvement, and whether campus involvement levels and types differed significantly with regard to students' academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. The responses to Questions 3-12 of the survey were coded in SPSS, Version 28.0 to a numerical scale that coincided with students' attributes, level of involvement (Uninvolved, Involved, More Involved), and type of involvement (Athletic, Extracurricular, Cocurricular, 2+ Types of Involvement). Athletic participation was coded based on responses given to Question 10 ("Were you a member of, or associated with, any of the following athletic teams/groups this semester?"). Cocurricular activities were coded based on the quantity of items selected in Question 11 ("Were you a member of, involved in, or did you attend any of the following college-sponsored, co-curricular organizations/groups this semester?"). Extracurricular activities were coded based on the quantity of items selected in Question 12 ("Were you a member of, or involved in, any of the following college-sponsored, extra-curricular organizations/groups this semester?”).

The “2+ Types of Involvement” category was created as a fourth classification of involvement type to meet the chi-square test’s assumption of independent frequencies. While it was possible to further sort the involvement types into additional and more specific classifications (e.g., “Athletics + Cocurricular,” “Extracurricular + Cocurricular”), doing so would have expanded the chi-square matrix, thus resulting in fewer observed and expected frequencies. The reduced observed frequencies (spread over a larger matrix) would have diluted any inferences compared to simply consolidating students who participated in more than two involvement types. The “2+ Types of Involvement” category was also retained for the one-way ANOVA tests (i.e., Research Question 4) to maintain analytical consistency and meet the ANOVA assumption of independent frequencies.

The coding structures entered into SPSS were used to weigh the relationships among variables. Responses of “Do not know” or “Prefer not to answer” to a survey item were excluded from statistical analysis. Responses to Questions 13-40 of the survey were coded on a scale that ranged from 5-1, based on whether the response reflected a positive or negative student experience. A “Not Applicable” option was available on eight survey items. Such responses were coded as 0 on the Likert scale and excluded from statistical analysis. Table 3 illustrates this SPSS coding scheme for each variable within the study.

Table 3

Variable Coding for Student Attributes, Levels and Types of Involvement, and Persistence Factor Items

Variable	Coding Scheme for SPSS, Version 28.0
Student Attributes	
Gender	1= Male 2 = Female 3 = Prefer not to answer
Race/Ethnicity	1 = White 2 = Black or African American 3 = Hispanic or Latino 4 = Asian 5 = Mixed 6 = Other 7 = Prefer not to answer
Program of Study	1 = Academic 2 = Career and Technical 3 = Health Sciences
Residential Status	1 = On campus 2 = Within 20 miles 3 = Further than 20 miles
Employment	1 = None 2 = 1-9 hours/week 3 = 10-20 hours/week 4 = 21-30 hours/week 5 = 31-39 hours/week 6 = 40+ hours/week
Parental Education (Degree Attainment)	1 = Yes, both did 2 = One did, but the other did not 3 = Neither did 4 = Do not know / Prefer not to answer

Table 3 (continued)

Variable	Coding Scheme for SPSS, Version 28.0
Volume of Online Classes	1 = None 2 = Less than half 3 = Half 4 = More than half, but not all 5 = All
Intent to Return (using Question 27)	5 = Very likely 4 = Somewhat likely 3 = Neutral 2 = Somewhat unlikely 1 = Very unlikely
Campus Involvement	
Level of Involvement (dependent on student selections)	1 = None 2 = Involved (1-2 activities selected) 3 = More Involved (3+ activities selected)
Type of Involvement (dependent on student selections)	1 = Athletics 2 = Cocurricular 3 = Extracurricular 4 = 2+ Types of Involvement
Persistence Factors	
Academic Integration	Potential Score: 6 (min.) – 35 (max.) Question 14: 1-5 Question 19: 1-5 Question 24: 0-5 ("N/A" option) Question 29: 1-5 Question 34: 1-5 Question 37: 1-5 Question 40: 1-5
Social Integration	Potential Score: 2 (min.) – 35 (max.) Question 15: 0-5 ("N/A" option) Question 20: 0-5 ("N/A" option) Question 25: 1-5 Question 30: 1-5 Question 35: 0-5 ("N/A" option) Question 38: 0-5 ("N/A" option) Question 41: 0-5 ("N/A" option)

Table 3 (continued)

Variable	Coding Scheme for SPSS, Version 28.0
Degree Commitment	Potential Score: 4 (min.) – 30 (max.) Question 16: 0-5 (“N/A” option) Question 21: 1-5 Question 26: 1-5 Question 31: 1-5 Question 36: 0-5 (“N/A” option) Question 39: 1-5
Collegiate Stress	Potential Score: 4 (min.) – 20 (max.) Question 17: 1-5 Question 22: 1-5 Question 27: 1-5 Question 32: 1-5
Institutional Commitment	Potential Score: 4 (min.) – 20 (max.) Question 18: 1-5 Question 23: 1-5 Question 28: 1-5 Question 33: 1-5

Note. “Prefer not to answer,” “Do not know,” and “Not applicable” (N/A) selections will be omitted from data analysis.

Chi-Square Test of Independence

Data were analyzed using the chi-square test for independence and one-way ANOVA with a significance level of .05 (Gravetter & Wallnau, 2013). The chi-square test for independence is a nonparametric test suitable for analyzing categorical dependent variables, such as those in Research Questions 1-2. Nonparametric tests are also utilized to eliminate potential concerns due to a high variance from the original scores, which decreases the probability of detecting significant differences (Gravetter & Wallnau, 2013). Essentially, the chi-square test for independence evaluates relationships between two variables to determine whether a consistent and predictable association exists (Salkind, 2017).

Chi-square analyses do not make assumptions about the parameters of the population distribution (normal distribution). However, it assumes the existence of independent observations (Gravetter & Wallnau, 2013; Salkind, 2017). To meet the assumption of independent frequencies, the fourth mutually exclusive category of involvement type was coded into SPSS: “2+ types of involvement.” This classification reflected students who identified their involvement within more than one of the available categories (Athletic, Cocurricular, and Extracurricular).

The strength of any existing significant relationship was measured using the phi-coefficient for 2x2 matrixes and Cramer’s V for matrixes larger than 2x2 (Gravetter & Wallnau, 2013). The adjusted residuals values were examined when significant relationships existed within contingency tables that exceeded a 2x2 matrix. Adjusted residual values that exceeded ±1.96 were considered significant; thus, this practice essentially served as a chi-square post-hoc test. The chi-square test of independence assumes that no more than 20% of expected cell counts are fewer than 5 (Field, 2018; Gravetter & Wallnau, 2013); thus, it is sensitive to low sample sizes (Field, 2018) and low expected frequencies (Gravetter & Wallnau, 2013). Consequently, for instances when more than 20% of expected cell counts were fewer than 5 – which was possible for contingency tables exceeding a 2x2 matrix – the Fisher-Freeman-Halton Exact test was used as a corrective measure to determine significant associations (rather than the Pearson chi-square statistic; Field, 2018).

One-Way Analysis of Variance (ANOVA)

The ANOVA testing procedure uses sample data to obtain general conclusions about a population. It provides more flexibility than t-tests because of its ability to simultaneously evaluate the statistical variance between two or more “treatments” (Gravetter & Wallnau, 2013).

ANOVA tests assume the following: (1) the observations within each sample are independent, (2) the population from which the samples were selected are normal, and (3) the population from which the sample is selected have equal variances (homogeneity of variance; Gravetter & Wallnau, 2013).

The current study incorporated three approaches to meeting the assumptions identified above. First, to ensure the existence of independent frequencies, regrouping the Race/Ethnicity, Employment, and Intent to Return variables was resumed, as was the inclusion of the "2+ Types of Involvement" classification. Second, the robustness of the one-way ANOVA test allows analyses to continue even if the normal distribution assumption was not met by the Shapiro-Wilk test (Field, 2018). Third, Welch's ANOVA test was applied when the homogeneity of variance assumption was not met (Field, 2018). Post hoc tests were utilized as needed to further determine where significant effects occurred. The Bonferroni test was used when homogeneity was met, while the Games-Howell correction was used when homogeneity was not met. Partial eta squared values were used to assess the effect sizes of any significant relationships.

Summary

Chapter III provided an overview of the research design, research questions, research site, participants, research instrument, data collection, and analysis procedures that were applied in this study. This comparative study utilized Davidson et al.'s (2015) CPQ. The study's participants consisted of full-time freshman students enrolled in a rural Mississippi community college during the fall 2021 semester. The chi-square test for independence was employed to determine whether significant differences existed between (1) the students' attributes and level of involvement, and (2) the students' attributes and type of involvement. One-way ANOVA determined whether significant differences existed between (1) the students' level of involvement and their self-identified academic integration, social integration, degree commitment, collegiate stress, and institutional commitment, and (2) the students' type of involvement and their self-identified academic integration, social integration, degree commitment, and collegiate stress institutional commitment. Chapter IV will present the results of the data analyses while Chapter V will provide a summary of the findings, identify the study's limitations, and offer recommendations for practitioners and future research opportunities.

CHAPTER IV

RESULTS

Introduction

The purpose of this comparative study was to determine whether freshmen, full-time rural community college students who participate in non-classroom activities differ from nonparticipants in self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. The study was conducted using an adapted form of Davidson et al.'s (2015) CPQ-V2. Each of the five factors measured by the survey are relevant to student persistence research. Survey participants were asked a series of questions related to their demographic background and college experience(s). Variables were established based on the grouping of students according to their demographic background and other attributes, level of non-classroom involvement, type of non-class involvement, and self-reported values for each of the five persistence factors. Statistical analyses employed the chi-square test of independence and one-way ANOVA, along with supplemental analysis using factorial ANOVA. Data were analyzed through the lens of Tinto's theory of student integration and Astin's theory of student involvement.

This study utilized a quantitative approach to assess any differences between participants and non-participants of non-classroom activities. The survey instrument was electronically distributed to the target audience at one rural community college in Mississippi (HCCC) over a 3-week period during the fall 2021 semester. The study site's software, EvaluationKIT, also collected participants' responses, whereupon the data were analyzed using SPSS, Version 28.0. Chi-square tests were used in the statistical analysis because of the categorical nature of the independent and dependent variables within Research Questions 1-2 (Gravetter & Wallnau, 2013). One-way ANOVA was used (Research Questions 3-4) to determine whether statistical differences exist between the means of two or more groups (Gravetter & Wallnau, 2013), thereby evaluating the relationship between students' non-classroom involvement and the five CPQ-V2 persistence factors.

This chapter presents the quantitative findings from the adapted form of Davidson et al.'s (2015) CPQ-V2. Descriptive statistics are presented to identify participant attributes and their non-classroom involvement. Subsequent results will then relate specifically to each of the four research questions.

Description of Sample

At the time of the research instrument's deployment, the target population consisted of 1,154 full-time freshmen students. HCCC's student attrition from the beginning of the fall 2021 semester to the opening of the survey window consisted of 146 (a reduction of 1300 to 1154 target students from August to November 1, 2021). A total of 342 students opened the electronic survey link during its 3-week timeframe (November 1-21, 2021), which equates to 29.64% of the total target population. Following this initial entrance, 308 students (90.06%) progressed to the survey after being presented with the waiver of informed consent and agreeing to participate in the research. Thus, 34 students (9.94%) selected "No" to the consent waiver's question, "Do you wish to proceed with the survey?," and were removed from data analysis. From these 308 students, additional omissions resulted from 12 students (3.93%) who responded "No" to the survey's initial question, "Are you a full-time freshman student?" These exclusions left 296 students within the data pool.

Consideration of five additional survey participants occurred because of their failure to provide responses to either of the two validation questions. Three participants did not answer Question 1 ("Are you a full-time freshman student?") and two participants did not answer Question 2 ("Are you at least 18 years old?"). These five students remained in the study due to three points of reasoning. First, all five students were included in the targeted population to the receive the electronic survey link, as identified by HCCC's Office of Research and Planning. Second, they progressed past the provided waiver of consent which states that "Submission of the survey will be interpreted as your informed consent to participate and verification that you are at least 18 years of age." It also advises the survey link's recipients that "You have been asked to participate in this study based on your freshman, full-time status" (Appendix E). Lastly, these students did not actively respond "No" to either question, unlike those who were omitted.

Data Screening

Data screening involved an appraisal of the raw data to confirm that the values collected for each survey item were within the correct range. It also ensured that missing values, excluded Likert scale values ("Do not know," "Prefer not to answer," "Not Applicable"), and other irregularities would not factor into the statistical analyses. SPSS, Version 28.0 was then used to identify any outliers within the dataset that could affect the analytics. No such outliers were identified.

While reviewing the raw data, some participants were observed to have not completed the entire survey instrument due to leaving some items unanswered. Check and Schutt (2012) claim there are "no hard rules" (p. 277) when addressing such encounters. For most of the data analyses within this study, these instances were treated as missing values rather than omitting the participant's entire contribution. Essentially, unanswered survey items did not automatically invalidate a student's contribution to answering the four research questions. However, the pairwise exclusion method (IBM, 2020) was employed for survey participants who did not respond to every item within a single factor's question set (see Table 2).

During this process, it was also discovered that the same campus group was represented in two separate questions: "Scholars Bowl" for the list of cocurricular options in Question 11 and "Quiz Bowl Team" in the list of extracurricular options for Question 12. This item entry error was likely due to the common use of two names for the same group. Verifying the case-by-case student responses to Questions 11-12 found that the same five students listed these involvement opportunities for both questions, with no additional students selecting one option without the other in the adjacent question. To correct for this oversight, all outputs and statistical analyses omitted "Quiz Bowl Team" and strictly considered "Scholars Bowl" participation as a non-classroom activity. Likewise, all reported levels of involvement do not count the "Quiz Bowl Team" item as an additional student activity.

Data Coding and Data Transformation of Student Groups

The mean for participants who selected a campus activity from Questions 10-12 was 1.98 (N = 120, SD = 1.23). Using the sum of the involved student mean and its standard deviation (1.23), 3 (rounded down from 3.21) served as the threshold to distinguish "Involved" students from "More Involved" students. This approach resembles Knifsend's (2020) and her assessment of associations between campus activity intensity and psychosocial well-being. Accordingly, student levels of involvement that computed to 1-2 activities were coded and analyzed as

"Involved" students. Student levels of involvement that computed to three or more activities were coded and analyzed as "More Involved" students.

Data transformation (recoding) ensued to meet the independent frequencies assumption for the chi-square test of independence. Here, the fourth mutually exclusive involvement type (2+ Types of Involvement) was coded into SPSS to reflect students who identified their involvement in two or more of the available campus engagement types (Athletics, Cocurricular, Extracurricular). In addition, because the chi-square test of independence is sensitive to low expected frequencies (Gravetter & Wallnau, 2013), three variables (Race/Ethnicity, Employment, and Intent to Return) were condensed and recoded to a lesser number of groups while also upholding the assumption of independent frequencies. The Race/Ethnicity variable was condensed dichotomously to "White" and "Non-white." The Employment variable was condensed to three groups: "None," "1-30 hours," and "30+ hours." Using 30 hours as the threshold to separate the latter two employment levels is consistent with the observation that working over 30 hours per week is the largest predictor of lack of persistence for community college students (Fike & Fike 2008; Moschetti & Hudley, 2015; Kuh et al., 2010). Lastly, the Intent to Return variable (using Question 27) was condensed dichotomously to "Somewhat and Very Likely" and "Less Than Likely." Table 4 shows the original coding scheme for these four variables alongside their transformed categories and values.

Table 4

Comparison of Original SPSS Coding Scheme to Recoded Levels for Student Involvement Types, Race/Ethnicity, Employment, and Intent to Return

Variable	Original Group Coding	Recoded Groups
Type of Involvement	1 = Athletics 2 = Cocurricular 3 = Extracurricular	1 = Athletics 2 = Cocurricular 3 = Extracurricular 4 = 2+ Types of Involvement
Race/Ethnicity	1 = White 2 = Black or African American 3 = Hispanic or Latino 4 = Asian 5 = Mixed 6 = Other 7 = Prefer not to answer	1 = White 2 = Non-white
Employment	1 = None 2 = 1-9 hours/week 3 = 10-20 hours/week 4 = 21-30 hours/week 5 = 31-39 hours/week 6 = 40+ hours/week	1 = None 2 = 1-30 hours/week 3 = 31+ hours/week
Intent to Return	1 = Very likely 2 = Somewhat likely 3 = Neutral 4 = Somewhat unlikely 5 = Very unlikely	1 = Very and somewhat likely 2 = Less than likely

Note: The "Prefer Not to Answer" choices were omitted from statistical analyses during recoding.

Frequencies Per Student Attribute

Table 5 displays the descriptive data for student attributes. Of the 296 survey completers, 96 (32.4%) were classified as male, 198 (66.9%) were classified as female, and two students (0.7%) preferred not to answer. Most students indicated their race/ethnicity as White (228 for 77%), followed by 44 (14.9%) Black or African American, 9 (3.0%) Hispanic or Latino, 1

(0.3%) Asian, 11 (3.7%) Mixed race, 1 (0.3%) Other, and 2 students (0.7%) preferred not to answer. The University Transfer program was represented by 118 (39.9%) students, followed by 90 (30.4%) in Career and Technical, and 88 (29.7%) in Health Sciences. Tables 6-9 illustrate the participant statistics with regard to gender, race, and program of study.

Table 5

Descriptive Data Among Survey Participants

	N	Range	Mean	Std. Deviation	Variance
Gender	296	2	1.68	.481	.231
Race/Ethnicity	296	6	1.43	1.022	1.045
Program of Study	296	2	1.90	.829	.688
Residential Status	294	2	2.02	.818	.669
Employment Status	295	5	2.92	1.733	3.004
Parental College Degree	294	3	2.31	.861	.741
Online classes	295	4	2.58	1.375	1.890
Intent to Return	294	4	4.69	.764	.584
Valid N (listwise)	289				

Table 6

Frequency Data by Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	96	32.4	32.4	32.4
	Female	198	66.9	66.9	99.3
	Prefer not to answer	2	.7	.7	100.0
	Total	296	100.0	100.0	

Table 7

Frequency Data by Race/Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	228	77.0	77.0	77.0
	Black or African American	44	14.9	14.9	91.9
	Hispanic or Latino	9	3.0	3.0	94.9
	Asian	1	.3	.3	95.3
	Mixed	11	3.7	3.7	99.0
	Other	1	.3	.3	99.3
	Prefer not to answer	2	.7	.7	100.0
	Total	296	100.0	100.0	

Table 8

Frequency Data by Race/Ethnicity After Data Transformation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	228	77.0	77.0	77.0
	Non-White	66	22.3	22.3	99.3
	Prefer not to answer	2	.7	.7	100.0
	Total	296	100.0	100.0	

Table 9

Frequency Data by Program of Study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	University Transfer	118	39.9	39.9	39.9
	Career and Technical	90	30.4	30.4	70.3
	Health Sciences	88	29.7	29.7	100.0
	Total	296	100.0	100.0	

Additional participant data revealed that of 294 respondents, 95 (32.1%) of students lived on campus, 98 (33.1%) lived within 20 miles, and 101 (34.1%) lived further than 20 miles. Of 295 respondents, 101 (34.1%) claimed no employment status while 24 (8.1%) worked 1-9 hours per week, 57 (19.3%) worked 10-20 hours per week, 60 (20.3%) worked 21-30 hours per week, 16 (5.4%) worked 31-39 hours per week, and 37 (12.5%) worked 40 or more hours per week. Of 294 respondents, 63 (21.3%) indicated that both parents or legal guardians graduated with college degree, while 90 (30.4%) indicated that one did, 127 (42.9%) that neither did, and 14 (4.7%) did not know or preferred not to answer. Of 295 respondents, 57 (19.3%) students stated that none of their classes were online, while 139 (47.0%) stated that less than half were online, 24 (8.1%) had an equal number of online and face-to-face class, 20 (6.8%) had more than half of their classes online, and 55 (18.6%) had all classes online. Based on the responses provided to Question 27 of the survey ("How likely is it that you will re-enroll here next semester?"), 269 (90.9%) of participants suggested their intent to return was either "Very Likely" or "Somewhat Likely," while 10 (3.4%) suggested their intent was either "Somewhat Unlikely" or "Very Unlikely." Tables 10-16 illustrate the participant data with regard to residential status, employment status, parental education background, instructional delivery distribution, and intent to return. Tables 11-12 show the original and recoded Employment groups while Tables 15-16 show the original and recoded Intent to Return groups.

Table 10

Frequency Data by Residential Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	On campus	95	32.1	32.3	32.3
	Within 20 miles	98	33.1	33.3	65.6
	Further than 20 miles	101	34.1	34.4	100.0
	Total	294	99.3	100.0	
Missing	System	2	.7		
Total		296	100.0		

Table 11

Frequency Data by Employment Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	101	34.1	34.2	34.2
	1-9 hours/week	24	8.1	8.1	42.4
	10-20 hours/week	57	19.3	19.3	61.7
	21-30 hours/week	60	20.3	20.3	82.0
	31-39 hours/week	16	5.4	5.4	87.5
	40+ hours/week	37	12.5	12.5	100.0
	Total	295	99.7	100.0	
Missing	System	1	.3		
Total		296	100.0		

Table 12

Frequency Data by Employment Status After Data Transformation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	100	33.8	33.9	33.9
	1-30	142	48.0	48.1	82.0
	31-40+	53	17.9	18.0	100.0
	Total	295	99.7	100.0	
Missing	System	1	.3		
Total		296	100.0		

Table 13

Frequency Data by Parental Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, both did	63	21.3	21.4	21.4
	One did, but the other did not	90	30.4	30.6	52.0
	Neither did	127	42.9	43.2	95.2
	Do not know / prefer not to answer	14	4.7	4.8	100.0
	Total	294	99.3	100.0	
Missing	System	2	.7		
Total		296	100.0		

Table 14

Frequency Data by Volume of Online Classes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	57	19.3	19.3	19.3
	Less than half	139	47.0	47.1	66.4
	Half	24	8.1	8.1	74.6
	More than half, but not all	20	6.8	6.8	81.4
	All	55	18.6	18.6	100.0
	Total	295	99.7	100.0	
Missing	System	1	.3		
Total		296	100.0		

Table 15

Frequency Data by Students' Intent to Return to the College

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unlikely	3	1.0	1.0	1.0
	Somewhat Unlikely	7	2.4	2.4	3.4
	Neutral	15	5.1	5.1	8.5
	Somewhat Likely	29	9.8	9.9	18.4
	Very Likely	240	81.1	81.6	100.0
	Total	294	99.3	100.0	
Missing	System	2	.7		
Total		296	100.0		

Note. Data obtained from Question 27 of the survey instrument.

Table 16

Frequency Data by Students' Intent to Return to the College After Data Transformation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less Than Likely	25	8.4	8.5	8.5
	Somewhat and Very Likely	269	90.9	91.5	100.0
	Total	294	99.3	100.0	
Missing	System	2	.7		
Total		296	100.0		

Note. Data originally obtained from Question 27 of the survey instrument.

Frequencies Per Involvement Type

Of the 298 respondents to Question 10 ("Were you a member of, or associated with, any of the following athletic teams/groups this semester?"), a total of 19 (6.38%) indicated their involvement in an athletic team/group. Seven responses (36.84%) of this proportion represents male-oriented athletics while 12 (63.16%) represents female-oriented athletics. The three most common activities selected from the list of options were softball (26.3% of involvement responses), cheerleader/pom squad (21.1% of involvement responses), and football (21.1% of involvement responses). Most students (267 for 93.4%) indicated no involvement with an athletic team/group. Table 17 provides the complete summary of athletic involvement.

Table 17

Frequency Data by Athletic Participation

		Responses[a]		
		N	Percent	Percent of Cases
Athletic[b]	Football	4	1.4%	1.4%
	Men's Basketball	1	0.3%	0.3%
	Women's Basketball	2	0.7%	0.7%
	Baseball	1	0.3%	0.3%
	Softball	5	1.7%	1.7%
	Men’s Tennis	0	0.0%	0.0%
	Women's Tennis	1	0.3%	0.3%
	Golf	1	0.3%	0.3%
	Cheerleader/Pom Squad	4	1.4%	1.4%
	None	267	93.4%	93.4%
Total		286	100.0%	100.0%

a. 10 missing values (3.4% of 296 survey participants) were recorded.
b. Dichotomy group tabulated at value 1.

Of the 286 respondents to Question 12 (“Were you a member of, or involved in, or did you attend any of the following college-sponsored, co-curricular organizations/groups this semester?”), a total of 79 (27.6%) indicated their involvement in a college-sponsored cocurricular organization/group. The three most common cocurricular activities selected from the list of options were Phi Theta Kappa (51 selections for 64.6% of involvement responses) and attending the two guest lectures (29 [36.7% of involvement responses] and 22 [27.8% of involvement responses]). Most students (207 for 72.4%) responded to Question 12 by indicating no involvement with a cocurricular organization/group. Table 18 provides the complete summary of cocurricular involvement.

Table 18

Frequency Data by Cocurricular Participation

		Responses[a,b]		
		N	Percent	Percent of Cases
Cocurricular[c]	Honors College	3	0.9%	1.0%
	Phi Theta Kappa	51	15.4%	17.8%
	Scholars Bowl	5	1.5%	1.7%
	Hospitality Mgt – DECA	4	1.2%	1.4%
	Medical Lab Technology	1	0.3%	0.3%
	Nursing Students – MOSA	1	0.3%	0.3%
	Student Success Workshops	8	2.4%	2.8%
	Guest Lecture 1	22	6.6%	7.7%
	Guest Lecture 2	29	8.8%	10.1%
	None	207	62.5%	72.4%
Total		331	100.0%	115.7%

a. 9 missing values (3.1% of 296 survey participants) were recorded.
b. 1 additional missing value (0.3% of 296) was recorded due to additional items selected alongside “None.”
c. Dichotomy group tabulated at value 1.

Of the 284 recorded respondents to Question 13 (“Were you a member of, or involved in, any of the following college-sponsored, extra-curricular organizations/groups this semester?”), a total of 49 (17.25%) indicated their involvement in a college-sponsored extracurricular organization/group. The four most common extracurricular activities selected from the list of options were Band (including dance squad) (20 for 40.8% of involvement responses), Chorus/Chamber Choir (15 [30.6% of involvement responses]), Baptist Student Union (9 [18.4% of involvement responses]), and attending a scheduled exercise class (9 [18.4% of involvement responses]). The remaining 235 respondents (82.75%) indicated no involvement with an extracurricular organization/group. Table 19 provides the complete summary of extracurricular involvement.

Table 19

Frequency Data by Extracurricular Participation

		Responses[a,b]		
		N	Percent	Percent of Cases
Extracurricular[c]	Student Govt Assoc	3	0.9%	1.1%
	Band w/ dance squad	20	6.3%	7.0%
	Drama Production/Theatre	5	1.6%	1.8%
	Baptist Student Union	9	2.8%	3.2%
	Wesley Foundation	3	0.9%	1.1%
	Chorus/Chamber Choir	15	4.7%	5.3%
	Private Lessons (non-Music majors)	2	0.6%	0.7%
	Future Farmers of America	2	0.6%	0.7%
	9/11 Day of Service	3	0.9%	1.1%
	The Voices (vocal ensemble)	2	0.6%	0.7%
	Campus Country	5	1.6%	1.8%
	Jazz Band	7	2.2%	2.5%
	Scheduled Exercise Class	9	2.8%	3.2%
	None	235	73.4%	82.7%
Total		320	100.0%	112.7%

a. 10 missing values (3.4% of 296 survey participants) were recorded.
b. 2 additional missing values (0.7% of 296) was recorded due to additional items selected alongside "None."
c. Dichotomy group tabulated at value 1.

Representativeness of Sample

An evaluation of the study sample and the total study body at HCCC during the Fall 2021 semester revealed that survey participants varied in their representativeness. For instance, 61% of the overall student population identified as female compared to 66.9% of survey participants. Additionally, 75.4% of the overall student population identified as White compared to 77.0% of survey participants. By comparison, 18.5% of the overall student population identified as Black or African American with 14.9% of survey participants indicating as such. The overall student enrollment consisted of 70.7% in an academic program, 26.4% in a technical program, and 2.6% in a vocational program. However, 39.29% (121) of survey participants indicated their program of study to be University Transfer, 30.52% (94) indicated Career and Technical, and 30.19% (93) indicated Health Sciences. 20.1% of all full-time students lived on campus compared to 32.3% of survey participants.

These comparisons show that survey participants were fairly representative of HCCC's overall gender and racial makeup. Differences did exist, however, within programs of study. One plausible explanation for this is some academic divisions at HCCC (Business and Technology or Health Sciences, for example) have areas of study that classify into more than one program. Or, it was possible that students were aware of their "major" but were uncertain of the program of study that it was grouped in. Differences were also observed regarding campus residency with survey participants more prone to live on campus.

The researcher was aware of the potential for response error and nonresponse bias, the latter of which is indicative of a low response rate. Nonrespondents may differ systematically from the survey respondents (Check & Schutt, 2012). Potential examples of this from the current study were those who identified with a form of athletic involvement. Nineteen (6.64%) of 286 respondents to Question 10 ("Were you a member of, or associated with, any of the following athletic teams/groups this semester?") selected an athletic group, with 73.7% (14) identifying as White. Twelve (63.2%) of the 19 athletic participants identified as female. By comparison, 42.2% of athletes within the target population were White and 38.6% were female (Office of Institutional Research at [redacted], personal communication, January 3, 2022). This signifies an underrepresentation of non-white and male athletic participants within this study. Such matters can be corrected with a larger sample size and/or through proportional or stratified random sampling (Check & Schutt, 2012), rather than the simple random sampling method used in this study. Nevertheless, the survey results may contribute toward empirical generalization (Privitera & Ahlgrim-Delzell, 2019).

Results

Research Question 1

Research Question 1 asked "To what extent are there significant associations between the level of student involvement and student attributes as measured by the survey instrument for rural, full-time freshmen community college students?" Questions 3-9 of the research instrument contained survey items that collected students' attributes and demographic information while Questions 10-12 related to students' non-classroom involvement. Question 27 was used to measure students' intent to return to the college.

Gender

Table 20 provides the analytical data for levels of student involvement by gender. There were 288 of 296 valid responses (98.0%) for the assessment of these variables. Male students comprised 32.6% (94) of total involvement among the three levels, 32.4% (55) of the Uninvolved level, 34.1% (29) of the Involved level, and 30.3% (10) of the More Involved level. Female students comprised 67.4% (194) of total involvement among the three levels, 67.6% (115) of the Uninvolved level, 65.9% (56) of the Involved level, and 69.7% (23) of the More Involved level.

A chi-square test of independence was performed to examine the relation between gender and levels of student involvement. Pearson's test was used since less than 20% of expected counts were fewer than 5. The relation between these variables was not significant, X^2 (2) = .17, *p* = .917. Therefore, neither gender was more likely than the other to be involved in any certain level of involvement. This suggests that levels of student involvement are independent of gender.

Table 20

Crosstabulation of Student Involvement Level Per Gender

			Level of Involvement			
			Uninvolved	Involved	More Involved	Total
Gender	Male	Count	55	29	10	94
		Expected Count	55.5	27.7	10.8	94.0
		% within Gender	58.5%	30.9%	10.6%	100.0%
		% within Level of Involvement	32.4%	34.1%	30.3%	32.6%
		% of Total	19.1%	10.1%	3.5%	32.6%
	Female	Count	115	56	23	194
		Expected Count	114.5	57.3	22.2	194.0
		% within Gender	59.3%	28.9%	11.9%	100.0%
		% within Level of Involvement	67.6%	65.9%	69.7%	67.4%
		% of Total	39.9%	19.4%	8.0%	67.4%
Total		Count	170	85	33	288
		Expected Count	170.0	85.0	33.0	288.0
		% within Gender	59.0%	29.5%	11.5%	100.0%
		% within Level of Involvement	100.0%	100.0%	100.0%	100.0%
		% of Total	59.0%	29.5%	11.5%	100.0%

Race/Ethnicity

Table 21 provides the analytical data for levels of student involvement by race/ethnicity. There were 288 of 296 valid responses (97.3%) for the assessment of these variables. Data transformation (recoding) reduced the number of low expected frequencies within the chi-square test. This resulted in student reclassification into dichotomous groups (“White” and “Non-white”). White students comprised 77.4% (223) of total involvement among the three involvement levels, 75.9% (129) of the Uninvolved level, 82.4% (70) of the Involved level, and 72.7% (24) of the More Involved level. Non-white students made up 22.6% (65) of total involvement among the three levels, 24.1% (41) of the Uninvolved level, 17.6% (15) of the Involved level, and 27.3% (9) of the More Involved level. Thus, the frequency rates for both groups (Whites and Non-whites) decreased with each heightened level of involvement.

A chi-square test of independence was performed to examine the relation between race/ethnicity and levels of student involvement. Pearson’s test was used since less than 20% of expected counts were less than 5. The relation between these variables was not significant, X^2 (2) = 1.83, p = .401. An additional appraisal of all six racial/ethnic classifications (without the data transformation) also lacked significant outcomes. Therefore, neither racial/ethnic group was more likely than the other to be classified into any particular level of involvement. This suggests that levels of student involvement are independent of racial or ethnic makeup.

Table 21

Crosstabulation of Student Involvement Level Per Race/Ethnicity

			Level of Involvement			
			Uninvolved	Involved	More Involved	Total
Race/Ethnicity	White	Count	129	70	24	223
		Expected Count	131.6	65.8	25.6	223.0
		% within Race/Ethnicity	57.8%	31.4%	10.8%	100.0%
		% within Level of Involvement	75.9%	82.4%	72.7%	77.4%
		% of Total	44.8%	24.3%	8.3%	77.4%
	Non-white	Count	41	15	9	65
		Expected Count	38.4	19.2	7.4	65.0
		% within Race/Ethnicity	63.1%	23.1%	13.8%	100.0%
		% within Level of Involvement	24.1%	17.6%	27.3%	22.6%
		% of Total	14.2%	5.2%	3.1%	22.6%
Total		Count	170	85	33	288
		Expected Count	170.0	85.0	33.0	288.0
		% within Race/Ethnicity	59.0%	29.5%	11.5%	100.0%
		% within Level of Involvement	100.0%	100.0%	100.0%	100.0%
		% of Total	59.0%	29.5%	11.5%	100.0%

Program of Study

Table 22 provides the analytical data for levels of student involvement by program of study. There were 290 of 296 valid responses (98.0%) for the assessment of these variables. University Transfer students comprised 40.3% (117) of total involvement among the three levels, 30.2% (52) of the Uninvolved level, 45.9% (39) of the Involved level, and 78.8% (26) of the

More Involved level. Career and Technical students made up 30.0% (87) of total involvement among the three levels, 39.5% (68) of the Uninvolved level, 20.0% (17) of the Involved level, and 6.1% (2) of the More Involved level. Health Sciences students made up 29.7% (86) of total involvement among the three levels, 30.2% (52) of the Uninvolved level, 34.1% (29) of the Involved level, and 15.2% (5) of the More Involved level.

A chi-square test of independence was performed to examine the relation between program of study and levels of student involvement. The Pearson test was used since less than 20% of expected counts were fewer than 5. The relation between these variables was significant, X^2 (4) = 34.37, $p < .001$. The effect size for this finding, Cramer's *V*, is moderate, .243. The adjusted residuals show associations that significantly exceeded the expected frequencies in the Uninvolved level (Career and Technical, 4.3), and More Involved level (University Transfer, 4.8). Associations were significantly lower than the expected frequencies in the Uninvolved level (University Transfer, -4.2), Involved level (Career and Technical, -2.4), and More Involved level (Career and Technical, -3.2). There were no significant detections among Health Sciences students. Therefore, two of the three programs of study were significantly associated with particular levels of involvement. This suggests that types of student involvement are dependent of program of study.

Table 22

Crosstabulation of Student Involvement Level Per Program of Study

			Level of Involvement			
			Uninvolved	Involved	More Involved	Total
Program of Study	University Transfer	Count	52	39	26	117
		Expected Count	69.4	34.3	13.3	117.0
		% within Program of Study	44.4%	33.3%	22.2%	100.0%
		% within Level of Involvement	30.2%	45.9%	78.8%	40.3%
		% of Total	17.9%	13.4%	9.0%	40.3%
		Standardized Residual	-2.1	.8	3.5	
		Adjusted Residual	-4.2	1.2	4.8	
	Career and Technical	Count	68	17	2	87
		Expected Count	51.6	25.5	9.9	87.0
		% within Program of Study	78.2%	19.5%	2.3%	100.0%
		% within Level of Involvement	39.5%	20.0%	6.1%	30.0%
		% of Total	23.4%	5.9%	0.7%	30.0%
		Standardized Residual	2.3	-1.7	-2.5	
		Adjusted Residual	4.3	-2.4	-3.2	

Table 22 (continued)

		Level of Involvement			
		Uninvolved	Involved	More Involved	Total
Health Sciences	Count	52	29	5	86
	Expected Count	51.0	25.2	9.8	86.0
	% within Program of Study	60.5%	33.7%	5.8%	100.0%
	% within Level of Involvement	30.2%	34.1%	15.2%	29.7%
	% of Total	17.9%	10.0%	1.7%	29.7%
	Standardized Residual	.1	.8	-1.5	
	Adjusted Residual	.3	1.1	-1.9	
Total	Count	172	85	33	290
	Expected Count	172.0	85.0	33.0	290.0
	% within Program of Study	59.3%	29.3%	11.4%	100.0%
	% within Level of Involvement	100.0%	100.0%	100.0%	100.0%
	% of Total	59.3%	29.3%	11.4%	100.0%

Note: Significant values are indicated by adjusted residuals that exceed ±1.96

Residential Status

Table 23 provides the analytical data for levels of student involvement by residential status. There were 288 of 296 valid responses (97.3%) for the assessment of these variables. Students living on campus comprised 32.6% (94) of total involvement among the three levels, 18.2% (31) of the Uninvolved level, 50.6% (43) of the Involved level, and 60.6% (20) of the More Involved level. Students living within 20 miles of campus made up 33.3% (96) of total involvement among the three levels, 34.7% (59) of the Uninvolved level, 35.3% (30) of the Involved level, and 21.2% (7) of the More Involved level. Students living further than 20 miles from campus made up 34.0% (98) of total involvement among the three levels, 47.1% (80) of the Uninvolved level, 14.1% (12) of the Involved level, and 18.2% (6) of the More Involved level.

A chi-square test of independence was performed to examine the relation between student residence and levels of student involvement. The Pearson's test was used since less than 20% of expected counts were fewer than 5. The relation between these variables was significant, X^2 (4) = 49.57, $p < .001$. The effect size for this finding, Cramer's *V*, is moderate, .293. The adjusted residuals show associations that significantly exceeded the expected frequencies in the Uninvolved level (Further than 20 miles, 5.6), Involved level (On Campus, 4.2), and More Involved level (On Campus 3.6). Associations were significantly lower than the expected frequencies in the Uninvolved level (On Campus, -6.3), Involved level (Further Than 20 Miles, -4.6), and More Involved level (Further Than 20 Miles, -2.0). There were no significant detections among students who lived Within 20 Miles of campus. Therefore, two of the three residential statuses were significantly associated with levels of involvement. This suggests that levels of student involvement are dependent of residential status.

Table 23

Crosstabulation of Student Involvement Level Per Residential Category

			Level of Involvement			
			Uninvolved	Involved	More Involved	Total
Residential Status	On campus	Count	31	43	20	94
		Expected Count	55.5	27.7	10.8	94.0
		% within Residential Status	33.0%	45.7%	21.3%	100.0%
		% within Level of Involvement	18.2%	50.6%	60.6%	32.6%
		% of Total	10.8%	14.9%	6.9%	32.6%
		Standardized Residual	-3.3	2.9	2.8	
		Adjusted Residual	-6.3	4.2	3.6	
	Within 20 miles	Count	59	30	7	96
		Expected Count	56.7	28.3	11.0	96.0
		% within Residential Status	61.5%	31.3%	7.3%	100.0%
		% within Level of Involvement	34.7%	35.3%	21.2%	33.3%
		% of Total	20.5%	10.4%	2.4%	33.3%
		Standardized Residual	.3	.3	-1.2	
		Adjusted Residual	.6	.5	-1.6	
	Further than 20 miles	Count	80	12	6	98
		Expected Count	57.8	28.9	11.2	98.0
		% within Residential Status	81.6%	12.2%	6.1%	100.0%
		% within Level of Involvement	47.1%	14.1%	18.2%	34.0%
		% of Total	27.8%	4.2%	2.1%	34.0%
		Standardized Residual	2.9	-3.1	-1.6	
		Adjusted Residual	5.6	-4.6	-2.0	

Table 23 (continued)

		Level of Involvement			
		Uninvolved	Involved	More Involved	Total
Total	Count	170	85	33	288
	Expected Count	170.0	85.0	33.0	288.0
	% within Residential Status	59.0%	29.5%	11.5%	100.0%
	% within Level of Involvement	100.0%	100.0%	100.0%	100.0%
	% of Total	59.0%	29.5%	11.5%	100.0%

Note: Significant values are indicated by adjusted residuals that exceed ±1.96

Employment

Tables 24-25 provides the analytical data for levels of student involvement by employment status. There were 289 of 296 valid responses (97.6%) for the assessment of these variables. Unemployed students comprised 34.3% (99) of total involvement among the three levels, 30.4% (52) of the Uninvolved level, 45.9% (39) of the Involved level, and 24.2% (8) of the More Involved level. Students working 1-30 hours per week made up 48.8% (141) of total involvement among the three levels, 44.4% (76) of the Uninvolved level, 49.4% (42) of the Involved level, and 69.7% (23) of the More Involved level. Students working 31-40+ hours per week made up 17.0% (49) of total involvement among the three levels, 25.1% (43) of the Uninvolved level, 4.7% (4) of the Involved level, and 6.1% (2) of the More Involved level.

A chi-square test of independence was performed to examine the relation between employment status and levels of student involvement. The Pearson's test was used since less than 20% of expected counts were fewer than 5. The relation between these variables was significant, X^2 (4) = 25.28, p < .001. The effect size for this finding, Cramer's V, is moderate, .209. The adjusted residuals show associations that significantly exceeded the expected frequencies in the Uninvolved level (31-40+ hours/week, 4.5), Involved level (unemployed students, 2.7), and More Involved level (1-30 hrs/week, 2.6). Associations were significantly lower than the expected frequencies in the Involved level (31-40+ hrs/week, -3.6).

An additional assessment of all six employment classifications (without the data transformation) also produced significant outcome, X^2 (10) = 48.7, p <.001 with a moderate effect size (.290). The adjusted residuals show associations that significantly exceeded the expected frequencies in the Uninvolved level (21-30 hrs/week, 2.7; 31-39/hrs week, 2.4; 40+ hrs/week, 3.6), the Involved level (unemployed, 2.9; 10-20 hrs/week, 2.3), and the More Involved level (1-9 hours/week, 3.5). Associations were significantly lower than the expected frequencies in the Uninvolved level (1-9 hrs/week, -2.7; 10-20 hrs week, -2.9) and Involved level (21-30 hrs/week, -2.7; 31-39 hrs/week, -2.1; 40+ hrs/week, -2.7). Therefore, employment statuses were significantly associated with levels of involvement. This suggests that levels of student involvement are dependent of employment status.

Table 24

Crosstabulation of Student Involvement Levels Per Condensed Employment Status

			Level of Involvement			
			Uninvolved	Involved	More Involved	Total
Employment Groups	None	Count	52	39	8	99
		Expected Count	58.6	29.1	11.3	99.0
		% within Employment Groups	52.5%	39.4%	8.1%	100.0%
		% within Level of Involvement	30.4%	45.9%	24.2%	34.3%
		% of Total	18.0%	13.5%	2.8%	34.3%
		Standardized Residual	-.9	1.8	-1.0	
		Adjusted Residual	-1.7	2.7	-1.3	
	1-30	Count	76	42	23	141
		Expected Count	83.4	41.5	16.1	141.0
		% within Employment Groups	53.9%	29.8%	16.3%	100.0%
		% within Level of Involvement	44.4%	49.4%	69.7%	48.8%
		% of Total	26.3%	14.5%	8.0%	48.8%
		Standardized Residual	-.8	.1	1.7	
		Adjusted Residual	-1.8	.1	2.6	
	31-40+	Count	43	4	2	49
		Expected Count	29.0	14.4	5.6	49.0
		% within Employment Groups	87.8%	8.2%	4.1%	100.0%
		% within Level of Involvement	25.1%	4.7%	6.1%	17.0%
		% of Total	14.9%	1.4%	0.7%	17.0%
		Standardized Residual	2.6	-2.7	-1.5	
		Adjusted Residual	4.5	-3.6	-1.8	

Table 24 (continued)

		Level of Involvement			
		Uninvolved	Involved	More Involved	Total
Total	Count	171	85	33	289
	Expected Count	171.0	85.0	33.0	289.0
	% within Employment Groups	59.2%	29.4%	11.4%	100.0%
	% within Level of Involvement	100.0%	100.0%	100.0%	100.0%
	% of Total	59.2%	29.4%	11.4%	100.0%

Note: Significant values are indicated by adjusted residuals that exceed ±1.96

Table 25

Crosstabulation of Student Involvement Levels Per Employment Status

			Level of Involvement			
			Uninvolved	Involved	More Involved	Total
Employment Status	None	Count	52	40	8	100
		Expected Count	59.2	29.4	11.4	100.0
		% within Employment Status	52.0%	40.0%	8.0%	100.0%
		% within Level of Involvement	30.4%	47.1%	24.2%	34.6%
		% of Total	18.0%	13.8%	2.8%	34.6%
		Adjusted Residual	-1.8	2.9	-1.3	
	1-9 hours/week	Count	8	8	8	24
		Expected Count	14.2	7.1	2.7	24.0
		% within Employment Status	33.3%	33.3%	33.3%	100.0%
		% within Level of Involvement	4.7%	9.4%	24.2%	8.3%
		% of Total	2.8%	2.8%	2.8%	8.3%
		Adjusted Residual	-2.7	.4	3.5	

Table 25 (continued)

		Level of Involvement			
		Uninvolved	Involved	More Involved	Total
10-20 hours/week	Count	24	24	9	57
	Expected Count	33.7	16.8	6.5	57.0
	% within Employment Status	42.1%	42.1%	15.8%	100.0%
	% within Level of Involvement	14.0%	28.2%	27.3%	19.7%
	% of Total	8.3%	8.3%	3.1%	19.7%
	Adjusted Residual	-2.9	2.3	1.2	
21-30 hours/week	Count	44	9	6	59
	Expected Count	34.9	17.4	6.7	59.0
	% within Employment Status	74.6%	15.3%	10.2%	100.0%
	% within Level of Involvement	25.7%	10.6%	18.2%	20.4%
	% of Total	15.2%	3.1%	2.1%	20.4%
	Adjusted Residual	2.7	-2.7	-.3	
31-39 hours/week	Count	14	1	1	16
	Expected Count	9.5	4.7	1.8	16.0
	% within Employment Status	87.5%	6.3%	6.3%	100.0%
	% within Level of Involvement	8.2%	1.2%	3.0%	5.5%
	% of Total	4.8%	0.3%	0.3%	5.5%
	Adjusted Residual	2.4	-2.1	-.7	
40+ hours/week	Count	29	3	1	33
	Expected Count	19.5	9.7	3.8	33.0
	% within Employment Status	87.9%	9.1%	3.0%	100.0%
	% within Level of Involvement	17.0%	3.5%	3.0%	11.4%
	% of Total	10.0%	1.0%	0.3%	11.4%
	Adjusted Residual	3.6	-2.7	-1.6	

Table 25 (continued)

		Level of Involvement			
		Uninvolved	Involved	More Involved	Total
Total	Count	171	85	33	289
	Expected Count	171.0	85.0	33.0	289.0
	% within Employment Status	59.2%	29.4%	11.4%	100.0%
	% within Level of Involvement	100.0%	100.0%	100.0%	100.0%
	% of Total	59.2%	29.4%	11.4%	100.0%

Note: Significant values are indicated by adjusted residuals that exceed ±1.96

Parental Education

Table 26 provides the analytical data for levels of student involvement by parental education. There were 288 of 296 valid responses (97.3%) for the assessment of these variables. Students with both parents having a college degree comprised 22.5% (62) of total involvement among the three levels, 14.2% (23) of the Uninvolved level, 34.9% (29) of the Involved level, and 33.3% (10) of the More Involved level. Students with one parent having a college degree made up 32.7% (90) of total involvement among the three levels, 29.6% (48) of the Uninvolved level, 34.9% (29) of the Involved level, and 43.3% (13) of the More Involved level. Students with neither parent having a college degree made up 44.7% (123) of total involvement among the three levels, 56.2% (91) of the Uninvolved level, 30.1% (25) of the Involved level, and 23.3% (7) of the More Involved level.

A chi-square test of independence was performed to examine the relation between parental education and levels of student involvement. The Pearson's test was used since less than 20% of expected counts were fewer than 5. The relation between these variables was significant, X^2 (4) = 25.62, $p < .001$. The effect size for this finding, Cramer's V, is moderate, .216. The adjusted residuals show associations that significantly exceeded the expected frequencies in the Uninvolved level (Neither Parent, 4.6) and Involved level (Both Parents, 3.2). Associations were significantly lower than the expected frequencies in the Uninvolved level (Both Parents, -4.0), Involved level (Neither Parent, -3.2), and More Involved level (Neither Parent, -2.5). There were no significant detections among students who had one parent with a degree. Therefore, parental education is significantly associated with levels of involvement. This suggests that levels of student involvement are dependent of parental education.

Table 26 *Crosstabulation of Student Involvement Levels Per Parental Education Category*

			Level of Involvement			
			Uninvolved	Involved	More Involved	Total
Parental College Degree	Yes, both did	Count	23	29	10	62
		Expected Count	36.5	18.7	6.8	62.0
		% within Parental College Degree	37.1%	46.8%	16.1%	100.0%
		% within Level of Involvement	14.2%	34.9%	33.3%	22.5%
		% of Total	8.4%	10.5%	3.6%	22.5%
		Standardized Residual	-2.2	2.4	1.2	
		Adjusted Residual	-4.0	3.2	1.5	
	One did, but the other did not	Count	48	29	13	90
		Expected Count	53.0	27.2	9.8	90.0
		% within Parental College Degree	53.3%	32.2%	14.4%	100.0%
		% within Level of Involvement	29.6%	34.9%	43.3%	32.7%
		% of Total	17.5%	10.5%	4.7%	32.7%
		Standardized Residual	-.7	.4	1.0	
		Adjusted Residual	-1.3	.5	1.3	
	Neither did	Count	91	25	7	123
		Expected Count	72.5	37.1	13.4	123.0
		% within Parental College Degree	74.0%	20.3%	5.7%	100.0%
		% within Level of Involvement	56.2%	30.1%	23.3%	44.7%
		% of Total	33.1%	9.1%	2.5%	44.7%
		Standardized Residual	2.2	-2.0	-1.8	
		Adjusted Residual	4.6	-3.2	-2.5	

Table 26 (continued)

		Level of Involvement			
		Uninvolved	Involved	More Involved	Total
Total	Count	162	83	30	275
	Expected Count	162.0	83.0	30.0	275.0
	% within Parental College Degree	58.9%	30.2%	10.9%	100.0%
	% within Level of Involvement	100.0%	100.0%	100.0%	100.0%
	% of Total	58.9%	30.2%	10.9%	100.0%

Note: Significant values are indicated by adjusted residuals that exceed ±1.96

Volume of Online Classes

Table 27 provides the analytical data for levels of student involvement by volume of online courses. There were 289 of 296 valid responses (97.6%) for the assessment of these variables. Students with no online classes comprised 19.4% (56) of total involvement among the three levels, 19.2% (33) of the Uninvolved level, 20.0% (17) of the Involved level, and 18.8% (6) of the More Involved level. Students with less than half of their course load being online made up 47.1% (136) of total involvement among the three levels, 37.8% (65) of the Uninvolved level, 58.8% (50) of the Involved level, and 65.6% (21) of the More Involved level. Students with half of their course load being online made up 8.0% (23) of total involvement among the three levels, 7.6% (13) of the Uninvolved level, 7.1% (6) of the Involved level, and 12.5% (4) of the More Involved level. Students with more than half, but not all, of their course load being online made up 6.9% (20) of total involvement among the three levels, 6.4% (11) of the Uninvolved level, 9.4% (8) of the Involved level, and 3.1% (1) of the More Involved level. Students with all their course load being online made up 18.7% (54) of total involvement among the three levels, 29.1% (50) of the Uninvolved level, 4.7% (4) of the Involved level, and 0.0% (0) of the More Involved level.

A chi-square test of independence was performed to examine the relation between the volume of online classes and levels of student involvement. The Pearson's test was used since less than 20% of expected counts were fewer than 5. The relation between these variables was significant, X^2 (8) = 35.25, $p < .001$. The effect size for this finding, Cramer's *V*, is moderate, .247. The adjusted residuals show associations that significantly exceeded the expected frequencies in the Uninvolved level (All online, 5.5), Involved level (Less Than Half, 2.6), and More Involved level (Less Than Half, 2.2). Associations were significantly lower than the expected frequencies in the Uninvolved level (Less Than Half, -3.8), Involved level (All online, -3.9), and More Involved level (All online, -2.9). There were no significant detections among students with no online classes, students whose course load was half online, or students whose course load was more than half (but not all) online. Therefore, the volume of online courses, in some instances, is significantly associated with levels of involvement. This suggests that levels of student involvement are dependent of the volume of online courses.

Table 27

Crosstabulation of Student Involvement Level Per Online Volume Category

			Level of Involvement			
			Uninvolved	Involved	More Involved	Total
Online classes	None	Count	33	17	6	56
		Expected Count	33.3	16.5	6.2	56.0
		% within Online classes	58.9%	30.4%	10.7%	100.0%
		% within Level of Involvement	19.2%	20.0%	18.8%	19.4%
		% of Total	11.4%	5.9%	2.1%	19.4%
		Standardized Residual	-.1	.1	-.1	
		Adjusted Residual	-.1	.2	-.1	
	Less than half	Count	65	50	21	136
		Expected Count	80.9	40.0	15.1	136.0
		% within Online classes	47.8%	36.8%	15.4%	100.0%
		% within Level of Involvement	37.8%	58.8%	65.6%	47.1%
		% of Total	22.5%	17.3%	7.3%	47.1%
		Standardized Residual	-1.8	1.6	1.5	
		Adjusted Residual	-3.8	2.6	2.2	
	Half	Count	13	6	4	23
		Expected Count	13.7	6.8	2.5	23.0
		% within Online classes	56.5%	26.1%	17.4%	100.0%
		% within Level of Involvement	7.6%	7.1%	12.5%	8.0%
		% of Total	4.5%	2.1%	1.4%	8.0%
		Standardized Residual	-.2	-.3	.9	
		Adjusted Residual	-.3	-.4	1.0	

Table 27 (continued)

			Level of Involvement			
			Uninvolved	Involved	More Involved	Total
	More than half, but not all	Count	11	8	1	20
		Expected Count	11.9	5.9	2.2	20.0
		% within Online classes	55.0%	40.0%	5.0%	100.0%
		% within Level of Involvement	6.4%	9.4%	3.1%	6.9%
		% of Total	3.8%	2.8%	0.3%	6.9%
		Standardized Residual	-.3	.9	-.8	
		Adjusted Residual	-.4	1.1	-.9	
	All	Count	50	4	0	54
		Expected Count	32.1	15.9	6.0	54.0
		% within Online classes	92.6%	7.4%	0.0%	100.0%
		% within Level of Involvement	29.1%	4.7%	0.0%	18.7%
		% of Total	17.3%	1.4%	0.0%	18.7%
		Standardized Residual	3.2	-3.0	-2.4	
		Adjusted Residual	5.5	-3.9	-2.9	
Total		Count	172	85	32	289
		Expected Count	172.0	85.0	32.0	289.0
		% within Online classes	59.5%	29.4%	11.1%	100.0%
		% within Level of Involvement	100.0%	100.0%	100.0%	100.0%
		% of Total	59.5%	29.4%	11.1%	100.0%

Note: Significant values are indicated by adjusted residuals that exceed ±1.96

Intent to Return

Table 28 provides the analytical data for levels of student involvement by intent to return, based on responses to Question 27 of the survey instrument. There were 288 of 296 valid responses (97.3%) for the assessment of these variables. Students were reclassified into dichotomous groups ("Somewhat and Very Likely" and "Less Than Likely") to reduce the frequency of expected counts falling below 5 for cells within the matrix. Students grouped as "Somewhat and Very Likely" to return comprised 91.7% (264) of total involvement among the three levels, 91.8% (157) of the Uninvolved level, 91.7% (77) of the Involved level, and 90.9% (30) of the More Involved level. Students grouped as "Less Than Likely" to return made up 8.3% (24) of total involvement among the three levels, 8.2% (14) of the Uninvolved level, 8.3% (7) of the Involved level, and 9.1% (3) of the More Involved level.

A chi-square test of independence was performed to examine the relation between intent to return and levels of student involvement. The Pearson's test was used since less than 20% of expected counts were fewer than 5. The relation between these variables was not significant, X^2 (2) = .030, p = .985. An additional appraisal that included all five response options for Question 27 (without the data transformation) also lacked significant outcomes. Therefore, students' self-described intent to return to the college is not significantly associated with levels of involvement. This suggests that levels of student involvement are independent of students' intent to return.

Table 28

Crosstabulation of Student Involvement Level Per Intent Category

			Level of Involvement			
			Uninvolved	Involved	More Involved	Total
Recoded Intent to Return	Less Than Likely	Count	14	7	3	24
		Expected Count	14.3	7.0	2.8	24.0
		% within Intent to Return	58.3%	29.2%	12.5%	100.0%
		% within Level of Involvement	8.2%	8.3%	9.1%	8.3%
		% of Total	4.9%	2.4%	1.0%	8.3%
	Somewhat and Very Likely	Count	157	77	30	264
		Expected Count	156.8	77.0	30.3	264.0
		% within Intent to Return	59.5%	29.2%	11.4%	100.0%
		% within Level of Involvement	91.8%	91.7%	90.9%	91.7%
		% of Total	54.5%	26.7%	10.4%	91.7%
Total		Count	171	84	33	288
		Expected Count	171.0	84.0	33.0	288.0
		% within Intent to Return	59.4%	29.2%	11.5%	100.0%
		% within Level of Involvement	100.0%	100.0%	100.0%	100.0%
		% of Total	59.4%	29.2%	11.5%	100.0%

Research Question 2

Research Question 2 asked "To what extent are there significant associations between the type of student involvement and student attributes as measured by the survey instrument for rural, full- time freshmen community college students?" Questions 3-9 of the research instrument contained survey items that collected students' attributes and demographic information while

Questions 10-12 related to students' non-classroom involvement. Question 27 was used to measure students' intent to return to the college.

Gender

Table 29 provides the analytical data for types of student involvement by gender. There were 118 of 296 valid responses (39.9%) for the assessment of these variables. Male students comprised 33.1% (39) of total involvement among the four groupings, 45.5% (5) of athletic participation, 30.2% (16) of cocurricular participation, 40.7% (11) of extracurricular participation, and 25.9% (7) of participation in 2 or more involvement types. Female students made up 66.9% (79) of total involvement among the four groupings, 54.5% (6) of athletic participation, 69.8% (37) of cocurricular participation, 59.3% (16) of extracurricular participation, and 74.1% (20) of participation in 2 or more involvement types.

A chi-square test of independence was performed to examine the relation between gender and types of student involvement. Pearson's test was used since less than 20% of expected counts were fewer than 5. The relation between these variables was not significant, X^2 (3) = 2.30, p = .512. Therefore, neither gender was more likely than the other to be involved in any certain type of involvement. This suggests that types of student involvement are independent of gender.

Table 29

Crosstabulation of Student Involvement Types Per Gender

			Involvement Type				
			Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Gender	Male	Count	5	16	11	7	39
		Expected Count	3.6	17.5	8.9	8.9	39.0
		% within Gender	12.8%	41.0%	28.2%	17.9%	100.0%
		% within Involvement Type	45.5%	30.2%	40.7%	25.9%	33.1%
		% of Total	4.2%	13.6%	9.3%	5.9%	33.1%
	Female	Count	6	37	16	20	79
		Expected Count	7.4	35.5	18.1	18.1	79.0
		% within Gender	7.6%	46.8%	20.3%	25.3%	100.0%
		% within Involvement Type	54.5%	69.8%	59.3%	74.1%	66.9%
		% of Total	5.1%	31.4%	13.6%	16.9%	66.9%
Total		Count	11	53	27	27	118
		Expected Count	11.0	53.0	27.0	27.0	118.0
		% within Gender	9.3%	44.9%	22.9%	22.9%	100.0%
		% within Involvement Type	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	9.3%	44.9%	22.9%	22.9%	100.0%

Race/Ethnicity

Table 30 provides the analytical data for types of student involvement by race/ethnicity. There were 118 of 296 valid responses (39.9%) for the assessment of these variables. Data transformation (recoding) occurred to reduce the number of low expected frequencies within the chi-square test. This resulted in student reclassification into dichotomous groups (“White” and “Non-white”). White students comprised 79.7% (94) of total involvement among the four groupings, 72.7% (8) of athletic participation, 86.8% (46) of cocurricular participation, 74.1%

(20) of extracurricular participation, and 74.1% (20) of participation in 2 or more involvement types. Non-white students made up 20.3% (24) of total involvement among the four groupings, 27.3% (3) of athletic participation, 13.2% (7) of cocurricular participation, 25.9% (7) of extracurricular participation, and 29.5% (7) of participation in 2 or more involvement types.

A chi-square test of independence was performed to examine the relation between race/ethnicity and types of student involvement. Pearson's test was used since less than 20% of expected counts were less than 5. The relation between these variables was not significant, X^2 (3) = 3.03, p = .387. An additional appraisal of all six racial/ethnic classifications (without the data transformation) also lacked significant outcomes. Therefore, neither racial/ethnic group was more likely than the other to be involved in any certain type of involvement. This suggests that types of student involvement are independent of racial or ethnic makeup.

Table 30

Crosstabulation of Student Involvement Types Per Race/Ethnicity

			Involvement Type				
			Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Race/Ethnic.	White	Count	8	46	20	20	94
		Expected Count	8.8	42.2	21.5	21.5	94.0
		% within Race/Ethnic.	8.5%	48.9%	21.3%	21.3%	100.0%
		% within Involvement Type	72.7%	86.8%	74.1%	74.1%	79.7%
		% of Total	6.8%	39.0%	16.9%	16.9%	79.7%
	Non-white	Count	3	7	7	7	24
		Expected Count	2.2	10.8	5.5	5.5	24.0
		% within Race/Ethnic.	12.5%	29.2%	29.2%	29.2%	100.0%
		% within Involvement Type	27.3%	13.2%	25.9%	25.9%	20.3%
		% of Total	2.5%	5.9%	5.9%	5.9%	20.3%
Total		Count	11	53	27	27	118
		Expected Count	11.0	53.0	27.0	27.0	118.0
		% within Race/Ethnic.	9.3%	44.9%	22.9%	22.9%	100.0%
		% within Involvement Type	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	9.3%	44.9%	22.9%	22.9%	100.0%

Program of Study

Table 31 provides the analytical data for types of student involvement by program of study. There were 118 of 296 valid responses (39.9%) for the assessment of these variables. University Transfer students comprised 55.1% (65) of total involvement among the four groupings, 27.3% (3) of athletic participation, 52.8% (28) of cocurricular participation, 51.9% (14) of extracurricular participation, and 74.1% (20) of participation in 2 or more involvement types. Career and Technical students made up 16.1% (19) of total involvement among the four groupings, 18.2% (2) of athletic participation, 20.8% (11) of cocurricular participation, 14.8% (4) of extracurricular participation, and 7.4% (2) of participation in 2 or more involvement types. Health Sciences students made up 28.8% (34) of total involvement among the four groupings, 54.5% (6) of athletic participation, 26.4% (14) of cocurricular participation, 33.3% (9) of extracurricular participation, and 18.5% (5) of participation in 2 or more involvement types.

A chi-square test of independence was performed to examine the relation between program of study and types of student involvement. The Fisher-Freeman-Halton Exact test was used since more than 20% of expected counts were less than 5. The relation between these variables was not significant, $p = .162$ (two-sided). Therefore, programs of study were no more likely than others to be involved in any certain type of involvement. This suggests that types of student involvement are independent of program of study.

Table 31

Crosstabulation for Student Involvement Types Per Program of Study

			Involvement Type				
			Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Program of Study	University Transfer	Count	3	28	14	20	65
		Expected Count	6.1	29.2	14.9	14.9	65.0
		% within Program of Study	4.6%	43.1%	21.5%	30.8%	100.0%
		% within Involvement Type	27.3%	52.8%	51.9%	74.1%	55.1%
		% of Total	2.5%	23.7%	11.9%	16.9%	55.1%
	Career and Technical	Count	2	11	4	2	19
		Expected Count	1.8	8.5	4.3	4.3	19.0
		% within Program of Study	10.5%	57.9%	21.1%	10.5%	100.0%
		% within Involvement Type	18.2%	20.8%	14.8%	7.4%	16.1%
		% of Total	1.7%	9.3%	3.4%	1.7%	16.1%
	Health Sciences	Count	6	14	9	5	34
		Expected Count	3.2	15.3	7.8	7.8	34.0
		% within Program of Study	17.6%	41.2%	26.5%	14.7%	100.0%
		% within Involvement Type	54.5%	26.4%	33.3%	18.5%	28.8%
		% of Total	5.1%	11.9%	7.6%	4.2%	28.8%

Table 31 (continued)

		Involvement Type				
		Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Total	Count	11	53	27	27	118
	Expected Count	11.0	53.0	27.0	27.0	118.0
	% within Program of Study	9.3%	44.9%	22.9%	22.9%	100.0%
	% within Involvement Type	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	9.3%	44.9%	22.9%	22.9%	100.0%

Residential Status

Table 32 provides the analytical data for types of student involvement by residential status. There were 118 of 296 valid responses (39.9%) for the assessment of these variables. Students living on campus comprised 53.4% (63) of total involvement among the four groupings, 90.9% (10) of athletic participation, 32.1% (17) of cocurricular participation, 55.6% (15) of extracurricular participation, and 77.8% (21) of participation in 2 or more involvement types. Students living within 20 miles of campus made up 31.4% (37) of total involvement among the four groupings, 0.0% (0) of athletic participation, 49.1% (26) of cocurricular participation, 25.9% (7) of extracurricular participation, and 14.8% (4) of participation in 2 or more involvement types. Students living further than 20 miles from campus made up 15.3% (18) of total involvement among the four groupings, 9.1% (1) of athletic participation, 18.9% (10) of cocurricular participation, 18.5% (5) of extracurricular participation, and 7.4% (2) of participation in 2 or more involvement types.

A chi-square test of independence was performed to examine the relation between student residence and types of student involvement. The Fisher-Freeman-Halton Exact test was used since more than 20% of expected counts were less than 5. The relation between these variables was significant, p = <.001. The effect size for this finding, Cramer's V, is moderate, .32. The adjusted residuals show associations that significantly exceeded the expected frequencies in athletics (On Campus, 2.6), cocurriculars (Within 20 Miles of Campus, 3.7), and the 2+ Types of Involvement category (On Campus, 2.9). Associations were significantly lower than the expected frequencies in athletics (Within 20 Miles of Campus, -2.4), cocurriculars (On Campus, -4.2), and the 2+ Types of Involvement category (Within 20 Miles of Campus, -2.1). There were no significant detections among students who lived further than 20 miles from campus. This suggests that, in some instances, types of student involvement are dependent of student residence.

Table 32

Crosstabulation for Student Involvement Types Per Residential Status

			Involvement Types				
			Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Residential Status	On campus	Count	10	17	15	21	63
		Expected Count	5.9	28.3	14.4	14.4	63.0
		% within Residential Status	15.9%	27.0%	23.8%	33.3%	100.0%
		% within Involvement Types	90.9%	32.1%	55.6%	77.8%	53.4%
		% of Total	8.5%	14.4%	12.7%	17.8%	53.4%
		Standardized Residual	1.7	-2.1	.2	1.7	
		Adjusted Residual	2.6	-4.2	.3	2.9	
	Within 20 miles	Count	0	26	7	4	37
		Expected Count	3.4	16.6	8.5	8.5	37.0
		% within Residential Status	0.0%	70.3%	18.9%	10.8%	100.0%
		% within Involvement Types	0.0%	49.1%	25.9%	14.8%	31.4%
		% of Total	0.0%	22.0%	5.9%	3.4%	31.4%

Table 32 (continued)

		Involvement Types				
		Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
	Standardized Residual	-1.9	2.3	-.5	-1.5	
	Adjusted Residual	-2.4	3.7	-.7	-2.1	
Further than 20 miles	Count	1	10	5	2	18
	Expected Count	1.7	8.1	4.1	4.1	18.0
	% within Residential Status	5.6%	55.6%	27.8%	11.1%	100.0%
	% within Involvement Types	9.1%	18.9%	18.5%	7.4%	15.3%
	% of Total	0.8%	8.5%	4.2%	1.7%	15.3%
	Standardized Residual	-.5	.7	.4	-1.0	
	Adjusted Residual	-.6	1.0	.5	-1.3	
Total	Count	11	53	27	27	118
	Expected Count	11.0	53.0	27.0	27.0	118.0
	% within Residential Status	9.3%	44.9%	22.9%	22.9%	100.0%
	% within Involvement Types	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	9.3%	44.9%	22.9%	22.9%	100.0%

Note: Significant values are indicated by adjusted residuals that exceed ±1.96

Employment Status

Table 33 provides the analytical data for types of student involvement by employment status. There were 118 of 296 valid responses (39.9%) for the assessment of these variables. Students were reclassified from six groups to three (“None,” 1-30 hours per week,” and “31-40+ hours per week”) to reduce the frequency of expected counts falling below 5 for cells within the matrix. Students with no employment comprised 39.8% of total involvement among the four groupings, 63.6% (7) of athletic participation, 37.7% (20) of cocurricular participation, 44.4% (12) of extracurricular participation, and 29.6% (8) of participation in 2 or more involvement types. Students working 1-30 hours per week made up 55.1% of total involvement among the four groupings, 36.4% (4) of athletic participation, 52.8% (28) of cocurricular participation, 55.6% (15) of extracurricular participation, and 66.7% (18) of participation in 2 or more involvement types. Students working 31-40+ hours per week made up 5.1% of total involvement among the four groupings, 0.0% (0) of athletic participation, 9.4% (5) of cocurricular participation, 0.0% (0) of extracurricular participation, and 3.7% (1) of participation in 2 or more involvement types.

A chi-square test of independence was performed to examine the relation between employment status and types of student involvement. The Fisher-Freeman-Halton Exact test was used since more than 20% of expected counts were less than 5. The relation between these variables was not significant, $p = .328$ (two-sided). An additional appraisal of all six employment classifications (without the data transformation) also lacked significant outcomes. Therefore, students' employment status was no more likely than others in determining their type of involvement. This suggests that types of student involvement are independent of employment status.

Table 33

Crosstabulation of Student Involvement Type Per Employment Group

			Involvement Types				
			Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Employment Groups	None	Count	7	20	12	8	47
		Expected Count	4.4	21.1	10.8	10.8	47.0
		% within Employment Groups	14.9%	42.6%	25.5%	17.0%	100.0%
		% within Involvement Types	63.6%	37.7%	44.4%	29.6%	39.8%
		% of Total	5.9%	16.9%	10.2%	6.8%	39.8%
	1-30	Count	4	28	15	18	65
		Expected Count	6.1	29.2	14.9	14.9	65.0
		% within Employment Groups	6.2%	43.1%	23.1%	27.7%	100.0%
		% within Involvement Types	36.4%	52.8%	55.6%	66.7%	55.1%
		% of Total	3.4%	23.7%	12.7%	15.3%	55.1%
	31-40+	Count	0	5	0	1	6
		Expected Count	.6	2.7	1.4	1.4	6.0
		% within Employment Groups	0.0%	83.3%	0.0%	16.7%	100.0%
		% within Involvement Types	0.0%	9.4%	0.0%	3.7%	5.1%
		% of Total	0.0%	4.2%	0.0%	0.8%	5.1%

Table 33 (continued)

		Involvement Type				
		Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Total	Count	11	53	27	27	118
	Expected Count	11.0	53.0	27.0	27.0	118.0
	% within Employment Groups	9.3%	44.9%	22.9%	22.9%	100.0%
	% within Involvement Types	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	9.3%	44.9%	22.9%	22.9%	100.0%

Parental Education

Table 34 provides the analytical data for types of student involvement by parental education groupings. There were 113 of 296 valid responses (38.2%) for the assessment of these variables. Students with both parents having a college degree comprised 34.5% (39) of total involvement among the four groupings, 30.0% (3) of athletic participation, 32.7% (17) of cocurricular participation, 25.9% (7) of extracurricular participation, and 50.0% (12) of participation in 2 or more involvement types. Students with one parent having a college degree made up 37.2% (42) of total involvement among the four groupings, 60.0% (6) of athletic participation, 34.6% (18) of cocurricular participation, 33.3% (9) of extracurricular participation, and 37.5% (9) of participation in 2 or more involvement types. Students with no parent having a college degree made up 28.3% (32) of total involvement among the four groupings, 10.0% (1) of athletic participation, 32.7% (17) of cocurricular participation, 40.7% (11) of extracurricular participation, and 12.5% (3) of participation in 2 or more involvement types.

A chi-square test of independence was performed to examine the relation between parents' educational background and types of student involvement. The Fisher-Freeman-Halton Exact test was used since more than 20% of expected counts were less than 5. The relation between these variables was not significant, $p = .184$ (two-sided). Therefore, parental education was not a significant factor in determining students' type of involvement. This suggests that types of student involvement are independent of parental education.

Table 34

Crosstabulation of Student Involvement Type Per Parental Education Category

			Involvement Type				
			Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Parental College Degree	Yes, both did	Count	3	17	7	12	39
		Expected Count	3.5	17.9	9.3	8.3	39.0
		% within Parental College Degree	7.7%	43.6%	17.9%	30.8%	100.0%
		% within Involvement Type	30.0%	32.7%	25.9%	50.0%	34.5%
		% of Total	2.7%	15.0%	6.2%	10.6%	34.5%
	One did, but the other did not	Count	6	18	9	9	42
		Expected Count	3.7	19.3	10.0	8.9	42.0
		% within Parental College Degree	14.3%	42.9%	21.4%	21.4%	100.0%
		% within Involvement Type	60.0%	34.6%	33.3%	37.5%	37.2%
		% of Total	5.3%	15.9%	8.0%	8.0%	37.2%

Table 34 (continued)

		Involvement Type				
		Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Neither did	Count	1	17	11	3	32
	Expected Count	2.8	14.7	7.6	6.8	32.0
	% within Parental College Degree	3.1%	53.1%	34.4%	9.4%	100.0%
	% within Involvement Type	10.0%	32.7%	40.7%	12.5%	28.3%
	% of Total	0.9%	15.0%	9.7%	2.7%	28.3%
Total	Count	10	52	27	24	113
	Expected Count	10.0	52.0	27.0	24.0	113.0
	% within Parental College Degree	8.8%	46.0%	23.9%	21.2%	100.0%
	% within Involvement Type	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	8.8%	46.0%	23.9%	21.2%	100.0%

Volume of Online Classes

Table 35 provides the analytical data for types of student involvement by volume of online classes. There were 117 of 296 valid responses (39.5%) for the assessment of these variables. Students with no online classes comprised 19.7% (23) of total involvement among the four groupings, 36.4% (4) of athletic participation, 24.5% (13) of cocurricular participation, 11.1% (3) of extracurricular participation, and 11.5% (3) of participation in 2 or more involvement types. Students with less than half of their course load being online made up 60.7% (71) of total involvement among the four groupings, 63.6% (7) of athletic participation, 50.9% (27) of cocurricular participation, 70.4% (19) of extracurricular participation, and 69.2% (18) of participation in 2 or more involvement types. Students with half of their course load being online made up 8.5% (10) of total involvement among the four groupings, 0.0% (0) of athletic participation, 7.5% (4) of cocurricular participation, 11.1% (3) of extracurricular participation, and 11.5% (3) of participation in 2 or more involvement types. Students with more than half of their course load being online, but not all, made up 7.7% (9) of total involvement among the four groupings, 0.0% (0) of athletic participation, 11.3% (6) of cocurricular participation, 3.7% (1) of extracurricular participation, and 7.7% (2) of participation in 2 or more involvement types. Students with all online courses made up 3.4% (4) of total involvement among the four groupings, 0.0% (0) of athletic participation, 5.7% (3) of cocurricular participation, 3.7% (1) of extracurricular participation, and 0.0% (0) of participation in 2 or more involvement types.

A chi-square test of independence was performed to examine the relation between the volume of online classes and types of student involvement. The Fisher-Freeman-Halton Exact test was used since more than 20% of expected counts were less than 5. The relation between these variables was not significant, p = .600 (two-sided). Therefore, students' volume of online classes was not a significant factor in determining their type of involvement. This suggests that types of student involvement are independent of the volume of online classes.

Table 35

Crosstabulation of Student Involvement Type Per Online Volume Category

			Involvement Type				
			Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Online classes	None	Count	4	13	3	3	23
		Expected Count	2.2	10.4	5.3	5.1	23.0
		% within Online classes	17.4%	56.5%	13.0%	13.0%	100.0%
		% within Involvement Types	36.4%	24.5%	11.1%	11.5%	19.7%
		% of Total	3.4%	11.1%	2.6%	2.6%	19.7%
	Less than half	Count	7	27	19	18	71
		Expected Count	6.7	32.2	16.4	15.8	71.0
		% within Online classes	9.9%	38.0%	26.8%	25.4%	100.0%
		% within Involvement Types	63.6%	50.9%	70.4%	69.2%	60.7%
		% of Total	6.0%	23.1%	16.2%	15.4%	60.7%
	Half	Count	0	4	3	3	10
		Expected Count	.9	4.5	2.3	2.2	10.0
		% within Online classes	0.0%	40.0%	30.0%	30.0%	100.0%
		% within Involvement Types	0.0%	7.5%	11.1%	11.5%	8.5%
		% of Total	0.0%	3.4%	2.6%	2.6%	8.5%

Table 35 (continued)

			Involvement Type				
			Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
	More than half, but not all	Count	0	6	1	2	9
		Expected Count	.8	4.1	2.1	2.0	9.0
		% within Online classes	0.0%	66.7%	11.1%	22.2%	100.0%
		% within Involvement Types	0.0%	11.3%	3.7%	7.7%	7.7%
		% of Total	0.0%	5.1%	0.9%	1.7%	7.7%
	All	Count	0	3	1	0	4
		Expected Count	.4	1.8	.9	.9	4.0
		% within Online classes	0.0%	75.0%	25.0%	0.0%	100.0%
		% within Involvement Types	0.0%	5.7%	3.7%	0.0%	3.4%
		% of Total	0.0%	2.6%	0.9%	0.0%	3.4%
Total		Count	11	53	27	26	117
		Expected Count	11.0	53.0	27.0	26.0	117.0
		% within Online classes	9.4%	45.3%	23.1%	22.2%	100.0%
		% within Involvement Types	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	9.4%	45.3%	23.1%	22.2%	100.0%

Intent to Return

Table 36 provides the analytical data for types of student involvement by intent to return, based on responses to Question 27 of the survey instrument ("How likely is it that you will re-enroll here next semester?"). Students were reclassified into dichotomous groups ("Somewhat and Very Likely" and "Less Than Likely") to reduce the frequency of expected counts falling below 5 for cells within the matrix. There were 117 of 296 valid responses (39.5%) for the assessment of these variables. Students who stated they were Very Likely or Somewhat Likely to return comprised 91.5% (107) of total involvement among the four groupings, 81.8% (9) of athletic participation, 90.6% (48) of cocurricular participation, 92.3% (24) of extracurricular participation, and 96.3% (26) of participation in 2 or more involvement types. Students who stated they are Less Than Likely to return made up 8.5% (10) of total involvement among the four groupings, 1.8% (2) of athletic participation, 9.4% (5) of cocurricular participation, 7.7% (2) of extracurricular participation, and 3.7% (1) of participation in 2 or more involvement types.

A chi-square test of independence was performed to examine the relation between students' intent to return and types of student involvement. The Fisher-Freeman-Halton Exact test was used since more than 20% of expected counts were less than 5. The relation between these variables was not significant, $p = .495$. An additional appraisal of all five response options for Question 27 (without the data transformation) also lacked significant outcomes. Therefore, students' self-described intent to return to the college was not a significant factor in determining their type of involvement. This suggests that types of student involvement are independent of students' intent to return.

Table 36

Crosstabulation of Student Involvement Type Per Condensed Student Intent Category

			Involvement Types				
			Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Recoded Intent to Return	Less Than Likely	Count	2	5	2	1	10
		Expected Count	.9	4.5	2.2	2.3	10.0
		% within Intent to Return	20.0%	50.0%	20.0%	10.0%	100.0%
		% within Involvement Types Condensed	18.2%	9.4%	7.7%	3.7%	8.5%
		% of Total	1.7%	4.3%	1.7%	0.9%	8.5%
	Somewhat and Very Likely	Count	9	48	24	26	107
		Expected Count	10.1	48.5	23.8	24.7	107.0
		% within Intent to Return	8.4%	44.9%	22.4%	24.3%	100.0%
		% within Involvement Types Condensed	81.8%	90.6%	92.3%	96.3%	91.5%
		% of Total	7.7%	41.0%	20.5%	22.2%	91.5%

Table 36 (continued)

		Involvement Type				
		Athletics	Cocurricular	Extracurricular	2+ types of inv	Total
Total	Count	11	53	26	27	117
	Expected Count	11.0	53.0	26.0	27.0	117.0
	% within Recoded Intent to Return	9.4%	45.3%	22.2%	23.1%	100.0%
	% within Involvement Types Condensed	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	9.4%	45.3%	22.2%	23.1%	100.0%

Research Question 3

Research Question 3 asked "Does a significant difference exist among the levels of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the College Persistence Questionnaire for rural, full-time freshmen community college students?"
Table 37 presents the range, mean, standard deviation, variance, and total count for the results that pertain to the level of student involvement among the five persistence factors. Categorical means were calculated based on responses provided for the Likert items for Questions 13-40. Pursuant to the pairwise exclusion method (IBM, 2020), survey participants who did not respond to every item within a factor's question set were omitted from that factor's analysis.

Academic Integration was measured among students categorized as Uninvolved (N = 163, M = 3.89, SD = .629), Involved (N = 85, M = 3.85, SD = .657), and More Involved (N = 31, M = 4.0, SD = .687). Social Integration was measured among students categorized as

Uninvolved (N = 169, M = 2.86, SD = .915), Involved (N = 83, M = 3.29, SD = .748), and More Involved (N = 32, M = 3.73, SD = .702). Degree Commitment was measured among students categorized as Uninvolved (N = 170, M = 4.26, SD = .589), Involved (N = 85, M = 4.44, SD = .469), and More Involved (N = 32, M = 4.52, SD = .567). Collegiate Stress was measured among students categorized as Uninvolved (N = 169, M = 3.41, SD = .847), Involved (N = 85, M = 3.34, SD = .829), and More Involved (N = 32, M = 3.48, SD = .704). Institutional Commitment was measured among students categorized as Uninvolved (N = 169, M = 4.01, SD = .481), Involved (N = 83, M = 3.98, SD = .58), and More Involved (N = 33, M = 4.07, SD = .439).

Table 37

Descriptive data for Student Involvement Levels in Each Persistence Factor

Level of Involvement		Academic Integration	Social Integration	Degree Commitment	Collegiate Stress	Institutional Commitment
Uninvolved	N	163	169	170	169	169
	Range	2.86	4.43	2.83	4.00	3.25
	Mean	3.8900	2.8563	4.2602	3.4098	4.0118
	Std. Deviation	.62896	.91501	.58866	.84713	.48089
	Variance	.396	.837	.347	.718	.231
Involved	N	85	83	85	85	83
	Range	2.71	3.57	2.33	4.00	2.50
	Mean	3.8458	3.2910	4.4386	3.3382	3.9849
	Std. Deviation	.65667	.74777	.46884	.82889	.57957
	Variance	.431	.559	.220	.687	.336
More Involved	N	31	32	32	32	33
	Range	3.43	3.43	2.67	3.50	2.25
	Mean	4.0035	3.7325	4.5200	3.4844	4.0682
	Std. Deviation	.68749	.70217	.56663	.70407	.43872
	Variance	.473	.493	.321	.496	.192
Total	N	279	284	287	286	285
	Range	3.57	4.57	2.83	4.00	3.25
	Mean	3.8891	3.0820	4.3420	3.3969	4.0105
	Std. Deviation	.64332	.89673	.56073	.82549	.50601
	Variance	.414	.804	.314	.681	.256

A one-way ANOVA with post hoc comparisons was conducted to determine if there is a significant difference in the mean persistence factors scores among the three levels of student involvement. An alpha level of .05 was used for analysis. Table 38 provides the tests of normality that were employed using the Shapiro-Wilk test for each persistence factor to determine whether the ANOVA assumption of normal distribution was met. However, results can still be interpreted if normality is not met due to the robustness of ANOVA. The Levene's Test was used to verify that variances among the student levels are assumed to be equal. If variances among the student levels were not assumed to be equal, the Welch's adjusted *F* ratio test was used. Post-hoc tests (Table 39) were used as needed to determine where significant relationships existed between levels. The Bonferroni post-hoc test was used when homogeneity of variances was established, while the Games-Howell post-hoc test was used when homogeneity was not detected.

Table 38

Tests of Normality for Persistence Factors and Levels of Student Involvement

		Shapiro-Wilk		
	Level of Involvement	Statistic	Df	Sig.
Academic Integration	Uninvolved	.973	159	.003*
	Involved	.970	81	.054
	More Involved	.849	31	<.001*
Social Integration	Uninvolved	.988	159	.174
	Involved	.976	81	.127
	More Involved	.952	31	.175
Degree Commitment	Uninvolved	.906	159	<.001*
	Involved	.900	81	<.001*
	More Involved	.745	31	<.001*
Collegiate Stress	Uninvolved	.976	159	.007*
	Involved	.984	81	.395
	More Involved	.945	31	.115
Institutional Commitment	Uninvolved	.942	159	<.001*
	Involved	.886	81	<.001*
	More Involved	.938	31	.072

*. Indicates a value < .05 alpha level

Analysis was conducted on the Academic Integration persistence factor to determine if there is a significant difference in the mean scores among the three student involvement levels. Tests for normality found significant levels for the Uninvolved (p = .003) and More Involved (p < .001) levels, meaning the ANOVA assumption of normal distribution was not met. However, the results can still be interpreted due to the robustness of ANOVA. The results of Levene's Test, p = .711, indicate that the variances among the three levels are assumed to be equal. The ANOVA analysis indicates there is not a significant difference in the mean scores for student involvement levels, $F(2, 276) = .682$, p = .506. This suggests there is no significant relationship between the level of student involvement and students' sense of academic integration.

Analysis was then conducted on the Social Integration persistence factor to determine if there is a significant difference in the mean scores among the three student involvement levels. Tests for normality determined the ANOVA assumption of normal distribution was met. The results of Levene's Test, p = .013, indicate that the variances among the three levels are not assumed to be equal. The ANOVA analysis indicates there is a significant difference in the mean scores for student involvement levels, *Welch's* $F(2, 90.19) = 21.04$, $p < .001$, est. $\omega^2 = .124$. Since the Welch's F test was used, an adjusted omega squared formula (est. ω^2) was used to calculate the measure of association (rather than using the partial eta squared value), which is calculated by the formula (Northern Arizona University, n.d.):

$$\frac{dfbet(F-1)}{dfbet(F-1)+N}$$

The Games-Howell post-hoc test indicates a statistically significant mean difference when comparing the Uninvolved level (M = 2.86, SD = .915) with the Involved level (M = 3.29, SD =

.748) ($p < .001$), the Uninvolved level (M = 2.86, SD = .915) with the More Involved level (M = 3.73, SD = .702) ($p < .001$), and the Involved level (M = 3.29, SD = .748) with the More Involved level (M = 3.73, SD = .702) ($p = .012$). This suggests there is a significant relationship between the level of student involvement and students' sense of social integration.

Analysis was then conducted on the Degree Commitment persistence factor to determine if there is a significant difference in the mean scores among the three student involvement levels. Tests for normality determined the ANOVA assumption of normal distribution was not met. However, the results can still be interpreted due to the robustness of ANOVA. The results of Levene's Test, $p = .150$, indicate that the variances among the three levels are assumed to be equal. The ANOVA analysis indicates there is a significant difference in the mean scores for student involvement levels, $F(2, 284) = 4.81$, $p = .009$, with a small effect size, partial $\eta_p^2 = .033$. The Bonferroni post-hoc test indicates a statistically significant mean difference when comparing the Uninvolved level (M = 4.26, SD = .589) with the Involved level (M = 4.44, SD = .469) ($p = .048$) and the Uninvolved (M = 4.26, SD = .589) level with the More Involved level (M = 4.52, SD = .567) ($p = .046$). This suggests there is a significant relationship between the level of student involvement and students' sense of degree commitment.

Analysis was then conducted on the Collegiate Stress persistence factor to determine if there is a significant difference in the mean scores among the three student involvement levels. The tests for normality found significant levels for the Uninvolved ($p = .007$) level, meaning the ANOVA assumption of normal distribution was not met. However, the results can still be interpreted due to the robustness of ANOVA. The results of Levene's Test, $p = .186$, indicate that the variances among the three levels are assumed to be equal. The ANOVA analysis indicates there is no significant difference in the mean scores for student involvement levels, *F*(2,

283) = .413, $p = .662$. This suggests there is no significant relationship between the level of student involvement and students' sense of collegiate stress.

Analysis was then conducted on the Institutional Commitment persistence factor to determine if there is a significant difference in the mean scores among the three student involvement levels. The tests for normality found significant levels for the Uninvolved ($p < .001$) and Involved ($p < .001$) levels, meaning the ANOVA assumption of normal distribution was not met. However, the results can still be interpreted due to the robustness of ANOVA. The results of Levene's Test, $p = .326$, indicate that the variances among the three levels are assumed to be equal. The ANOVA analysis indicates there is no significant difference in the mean scores for student involvement levels, $F(2, 282) = .319$, $p = .727$. This suggests there is no significant relationship between the level of student involvement and students' sense of institutional commitment.

Table 39

Post-Hoc Results for Student Involvement Levels Within Social Integration and Degree Commitment Factors

Dependent Variable		(I) Level of Involvement	(J) Level of Involvement	Mean Dif (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Social Integration	Games-Howell	Uninvolved	Involved	-.43469*	.10812	<.001	-.6901	-.1793
			More Involved	-.87623*	.14269	<.001	-1.220	-.5322
		Involved	Uninvolved	.43469*	.10812	<.001	.1793	.6901
			More Involved	-.44154*	.14881	.012	-.7992	-.0839
		More Involved	Uninvolved	.87623*	.14269	<.001	.5322	1.220
			Involved	.44154*	.14881	.012	.0839	.7992
Degree Commitment	Bonferroni	Uninvolved	Involved	-.17841*	.07352	.048	-.3555	-.0014
			More Involved	-.25982*	.10664	.046	-.5166	-.0030
		Involved	Uninvolved	.17841*	.07352	.048	.0014	.3555
			More Involved	-.08141	.11478	1.000	-.3578	.1950
		More Involved	Uninvolved	.25982*	.10664	.046	.0030	.5166
			Involved	.08141	.11478	1.000	-.1950	.3578

*. The mean difference is significant at the .05 level

Research Question 4

Research Question 4 asked “Does a significant difference exist among the types of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the College Persistence Questionnaire for rural, full-time freshmen community college students?” Table 40 presents the range, mean, standard deviation, variance, and total count for the results that pertain to the type of student involvement among the five persistence factors. Categorical means were calculated based on responses provided for the Likert scale items for Questions 13-40. Pursuant to the pairwise exclusion method (IBM, 2020), survey participants who did not respond to every item within a factor's question set were omitted from that factor's analysis.

Academic Integration was measured among students who identified involvement in Athletics (N = 11, M = 3.51, SD = .507), Cocurricular activities (N = 52, M = 3.9, SD = .655), Extracurricular activities (N = 27, M = 3.83, SD = .813), and 2 or more types of involvement (N = 26, M = 4.09, SD = .511). Social Integration was measured among students who identified involvement in Athletics (N = 11, M = 3.51, SD = .497), Cocurricular activities (N = 50, M = 3.23, SD = .718), Extracurricular activities (N = 27, M = 3.34, SD = .906), and 2 or more types of involvement (N = 27, M = 3.79, SD = .645). Degree Commitment was measured among students who identified involvement in Athletics (N = 11, M = 4.3, SD = .482), Cocurricular activities (N = 52, M = 4.48, SD = .497), Extracurricular activities (N = 27, M = 4.35, SD = .571), and 2 or more types of involvement (N = 27, M = 4.6, SD = .396). Collegiate Stress was measured among students who identified involvement in Athletics (N = 11, M = 3.61, SD = .606), Cocurricular activities (N = 52, M = 3.32, SD = .814), Extracurricular activities (N = 27, M = 3.25, SD = .961), and 2 or more types of involvement (N = 27, M = 3.53, SD = .629). Institutional Commitment was measured among students who identified involvement in Athletics (N = 10, M = 3.9, SD = .603), Cocurricular activities (N = 53, M = 3.98, SD = .609), Extracurricular activities (N = 26, M = 4.02, SD = .519), and 2 or more types of involvement (N = 27, M = 4.1, SD = .4). The "2+ types of involvement" classification was retained from Research Question 2 to maintain analytical consistency and meet the ANOVA assumption of independent frequencies.

Table 40

Descriptive Data for Student Involvement Types Within Each Persistence Factor

Involvement Type		Academic Integration	Social Integration	Degree Commitment	Collegiate Stress	Institutional Commitment
Athletics	N	11	11	11	11	10
	Range	1.85	1.57	1.33	2.25	1.75
	Mean	3.5064	3.5064	4.3036	3.6136	3.9000
	Std. Deviation	.50682	.49710	.48159	.60584	.60323
	Variance	.257	.247	.232	.367	.364
Cocurricular	N	52	50	52	52	53
	Range	2.57	2.71	2.33	4.00	2.50
	Mean	3.8960	3.2288	4.4804	3.3173	3.9764
	Std. Deviation	.65530	.71847	.49664	.81366	.60896
	Variance	.429	.516	.247	.662	.371
Extracurricular	N	27	27	27	27	26
	Range	3.57	3.57	2.67	3.50	2.25
	Mean	3.8311	3.3441	4.3504	3.2500	4.0192
	Std. Deviation	.81325	.90552	.57088	.96077	.51925
	Variance	.661	.820	.326	.923	.270
2+ types of inv	N	26	27	27	27	27
	Range	1.72	3.14	1.17	2.25	2.25
	Mean	4.0923	3.7885	4.5978	3.5278	4.1019
	Std. Deviation	.51083	.64526	.39575	.62915	.39988
	Variance	.261	.416	.157	.396	.160
Total	N	116	115	117	117	116
	Range	3.57	3.57	2.67	4.00	2.75
	Mean	3.8879	3.4138	4.4609	3.3782	4.0086
	Std. Deviation	.66572	.75879	.49629	.79642	.54267
	Variance	.443	.576	.246	.634	.294

A one-way ANOVA with post hoc comparisons was conducted to determine if there is a significant difference in the mean persistence factors scores among the four types of student involvement. An alpha level of .05 was used for analysis. Table 41 provides the tests of normality that were employed using the Shapiro-Wilk test for each of the persistence factors to determine whether the ANOVA assumption of normal distribution was met. However, results can still be interpreted if normality is not met due to the robustness of ANOVA. The Levene's Test was used to verify that variances among the student types are assumed to be equal. If variances among the student types were not assumed to be equal, the Welch's adjusted *F* ratio test was used. Post-hoc tests (Table 42) were used as needed to determine where significant relationships existed between involvement types. The Bonferroni post-hoc test was used when homogeneity of variances was established, while the Games-Howell post-hoc test was used when homogeneity was not detected.

Table 41

Tests of Normality for Student Involvement Type for Each Persistence Factor

		Shapiro-Wilk		
	Involvement Type	Statistic	df	Sig.
Academic Integration	Athletics	.899	10	.216
	Cocurricular	.963	50	.118
	Extracurricular	.922	26	.049*
	2+ types of inv	.938	26	.119
Social Integration	Athletics	.855	10	.066
	Cocurricular	.961	50	.095
	Extracurricular	.972	26	.689
	2+ types of inv	.944	26	.164
Degree Commitment	Athletics	.910	10	.284
	Cocurricular	.873	50	<.001*
	Extracurricular	.822	26	<.001*
	2+ types of inv	.811	26	<.001*
Collegiate Stress	Athletics	.926	10	.409
	Cocurricular	.977	50	.441
	Extracurricular	.961	26	.412
	2+ types of inv	.895	26	.012*
Institutional Commitment	Athletics	.924	10	.392
	Cocurricular	.875	50	<.001*
	Extracurricular	.905	26	.021*
	2+ types of inv	.857	26	.002*

*. Indicates a value < .05 alpha level

Analysis was conducted on the Academic Integration persistence factor to determine if there is a significant difference in the mean scores among the four student involvement types. Tests for normality found significant levels for the Extracurricular ($p < .049$) group, meaning the ANOVA assumption of normal distribution was not met. However, the results can still be interpreted due to the robustness of ANOVA. The results of Levene's Test, $p = .185$, indicate that the variances among the four involvement types are assumed to be equal. The ANOVA analysis indicates there is not a significant difference in the mean scores for student involvement types, $F(3, 112) = 2.15$, $p = .098$. This suggests there is no significant relationship between the types of student involvement and students' sense of academic integration.

Analysis was then conducted on the Social Integration persistence factor to determine if there is a significant difference in the mean scores among the four student involvement types. Tests for normality determined that the ANOVA assumption of normal distribution was met. The results of Levene's Test, $p = .206$, indicate that the variances among the four involvement types are assumed to be equal. The ANOVA analysis indicates there is a significant difference in the mean scores for student involvement types, $F(3, 111) = 3.54$, $p = .017$, with a medium effect size, partial $\eta_p^2 = .087$. The Bonferroni post-hoc test indicates a statistically significant mean difference when comparing the Cocurricular type of involvement (M = 3.23, SD = .718) with the 2+ types of involvement group (M = 3.41, SD = .759) ($p = .011$). This suggests there is a significant relationship between the types of student involvement and students' sense of social integration.

Analysis was then conducted on the Degree Commitment persistence factor to determine if there is a significant difference in the mean scores among the four student involvement types. Tests for normality found significant levels for the Cocurricular ($p < .001$), Extracurricular ($p < .001$), and 2+ Types of Involvement ($p < .001$) groups, meaning the ANOVA assumption of normal distribution was not met. However, the results can still be interpreted due to the robustness of ANOVA. The results of Levene's Test, $p = .605$, indicate that the variances among the four involvement types are assumed to be equal. The ANOVA analysis indicates there is not a significant difference in the mean scores for student involvement types, $F(3, 113) = 1.55$, $p =$

.206. This suggests there is no significant relationship between the types of student involvement and students' sense of degree commitment.

Analysis was then conducted on the Collegiate Stress persistence factor to determine if there is a significant difference in the mean scores among the four student involvement types. Tests for normality found significant levels for the 2+ Types of Involvement (p = .012) group, meaning the ANOVA assumption of normal distribution was not met. However, the results can still be interpreted due to the robustness of ANOVA. The results of Levene's Test, p = .074, indicate that the variances among the four involvement types are assumed to be equal. The ANOVA analysis indicates there is not a significant difference in the mean scores for student involvement types, $F(3, 113) = .972$, p = .409. This suggests there is no significant relationship between the types of student involvement and students' sense of collegiate stress.

Analysis was then conducted on the Institutional Commitment persistence factor to determine if there is a significant difference in the mean scores among the four student involvement types. Tests for normality found significant levels for the Cocurricular (p < .001), Extracurricular (p = .021), and 2+ Types of Involvement (p = .002) groups, meaning the ANOVA assumption of normal distribution was not met. However, the results can still be interpreted due to the robustness of ANOVA. The results of Levene's Test, p = .280, indicate that the variances among the four involvement types are assumed to be equal. The ANOVA analysis indicates there is not a significant difference in the mean scores for student involvement types, $F(3, 112) = .458$, p = .712. This suggests there is no significant relationship between the types of student involvement and students' sense of institutional commitment.

Table 42

Post-Hoc Test Results for Student Involvement Types Within Social Integration Factor

Dependent Variable		(I) Involvement Type	(J) Involvement Type	Mean Diff (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Social Integration	Bonferroni	Athletics	Cocurricular	.27756	.24466	1.00	-.3797	.9348
			Extracurricular	.16229	.26278	1.00	-.5436	.8682
			2+ types of inv	-.28215	.26278	1.00	-.9881	.4238
		Cocurricular	Athletics	-.27756	.24466	1.00	-.9348	.3797
			Extracurricular	-.11527	.17545	1.00	-.5866	.3561
			2+ types of inv	-.55972*	.17545	.011	-1.031	-.0884
		Extracurricular	Athletics	-.16229	.26278	1.00	-.8682	.5436
			Cocurricular	.11527	.17545	1.00	-.3561	.5866
			2+ types of inv	-.44444	.19995	.170	-.9816	.0927
		2+ types of inv	Athletics	.28215	.26278	1.00	-.4238	.9881
			Cocurricular	.55972*	.17545	.011	.0884	1.0311
			Extracurricular	.44444	.19995	.170	-.0927	.9816

*. The mean difference is significant at the .05 level.

Supplementary Analysis (Factorial ANOVA)

The four research questions within this study did not integrate the three variable classifications (student attributes, student involvement, persistence factors) into one assessment. Thus, interactions among variables toward any of the five persistence factor scores were not revealed. Therefore, factorial ANOVA was employed to determine if the five persistence factors were significantly different among students' attributes and their levels/types of student involvement. An alpha level of .05 was used for each analysis, with the results of Levene's Test indicating whether the variances among groups are assumed to be equal. All previous recoding

(Race/Ethnicity, Employment, Intent to Return) was retained. For the sake of brevity and the fact that this is a supplemental assessment, only the observations related to significant main effects and interactions between variables will be noted within this section (rather than including all descriptive statistics). Tables for the mean score comparisons for between- and within-groups are provided in Appendixes F-J. References to specific means are made in Chapter 5 where applicable. As a result of listwise deletion, each set of findings are based on the total number of students who provided responses to each of the three measured variables (attribute, student involvement, and persistence factor score) within the survey. Students who did not contribute toward an item within the three measured variables were excluded from that individual factorial ANOVA test.

Academic Integration

A significant main effect of Intent to Return ($F(1, 272) = 21.36$, $p < .001$), with a medium effect size of .073, was detected when factored with levels of involvement. Variances were not assumed to be equal, $p = .004$; however, ANOVA is a robust test. In addition, a significant main effect of Intent to Return ($F(1, 108) = 9.37$, $p = .003$), with a medium effect size, $p = .08$, when factored with involvement types. Therefore, students' sense of academic integration was affected differently by their intent to return but was not affected differently when factoring other student attributes with their level or type of involvement.

Social Integration

The students' sense of social integration was affected differently by residential status, volume of online classes, and intent to return. However, it was not affected differently when factoring other student attributes with their level or type of involvement. Three significant main effects on Social Integration were detected when factored with levels of involvement. First, Residential Status had a main effect ($F(2, 273) = 4.78$, $p = .009$) with a small effect size of .034. The Bonferroni post hoc analysis indicated that on campus students (M = 3.47, SD = .844) statistically differed from those who lived within 20 miles from campus (M = 3.0, SD = .893), $p < .001$, and those who lived further than 20 miles from campus (M = 2.79, SD = .826), $p < .001$. Second, the Volume of Online Classes had a main effect ($F(4, 269) = 3.56$, $p = .007$) with a small effect size of .05. The Bonferroni post hoc analysis indicated that students with All online classes (M = 2.29, SD = .890) statistically differed from students with no online classes (M = 3.31, SD = .859), $p < .001$, Less Than Half online (M = 3.23, SD = .789), $p < .001$, Half online (M = 3.20, SD = .823), $p < .001$, and More Than Half but Not All (M = 3.38, SD = .649), $p < .001$. Third, Intent to Return had a main effect ($F(1, 277) = 4.6$, $p = .033$) with a small effect size of .016. The variances for the third item (Intent to Return) were not assumed to be equal, $p = .043$; however, ANOVA is a robust test.

Degree Commitment

There was a significant main effect of Intent to Return ($F(1, 280) = 18.88$, p < .001), with a small effect size of .063, when factored with involvement levels. Variances were not assumed to be equal, p < .001; however, ANOVA is a robust test. In addition, a significant main effect of Intent to Return ($F(1, 109) = 7.96$, $p = .006$), with a medium effect size of .068, was detected when factored with involvement types.

Two significant interactions were detected with student's type of involvement on Degree Commitment means. The first involved Volume of Online Classes ($F(8, 100) = 2.64$, $p = .011$), with a large effect size of .175. However, it should be noted that these findings were based on only 27 students within the Extracurricular group (19 in the Less Than Half category) and the assumption of equal variances was not met, p = 004. Figure 4 provides the post-hoc plot illustrating the reported interaction. The second significant interaction involved Intent to Return ($F(3, 109) = 5.06$, $p = .003$), with a large effect size of .122. Again, it should be noted that these findings are based on only 10 students within the Less Than Likely classification and the assumption of equal variances was not met, $p = .004$. Figure 5 provides the post-hoc plot illustrating the reported interaction. Overall, the students' sense of degree commitment was affected differently across their Intent to Return, as well as their type of involvement when factored with (1) the volume of online classes and (2) intent to return.

Figure 4.

Interaction Effect of Involvement Type and Volume of Online Classes on Degree Commitment Means

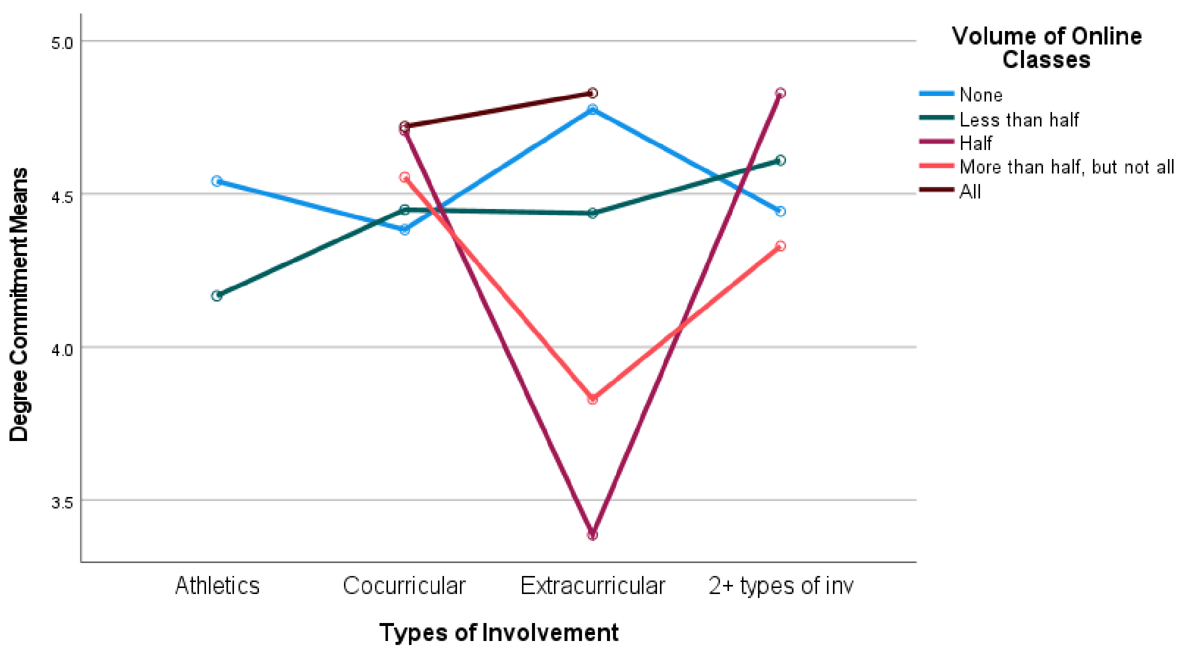
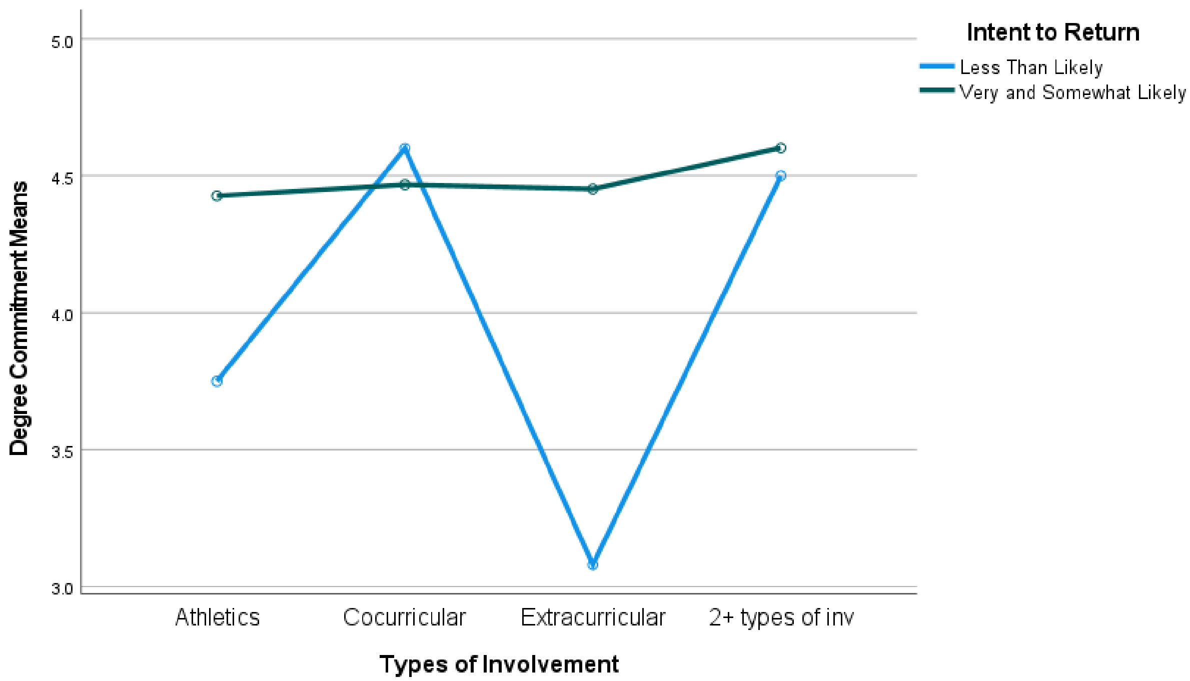


Figure 5.

Interaction Effect of Involvement Types and Students' Intent to Return on Degree Commitment Means

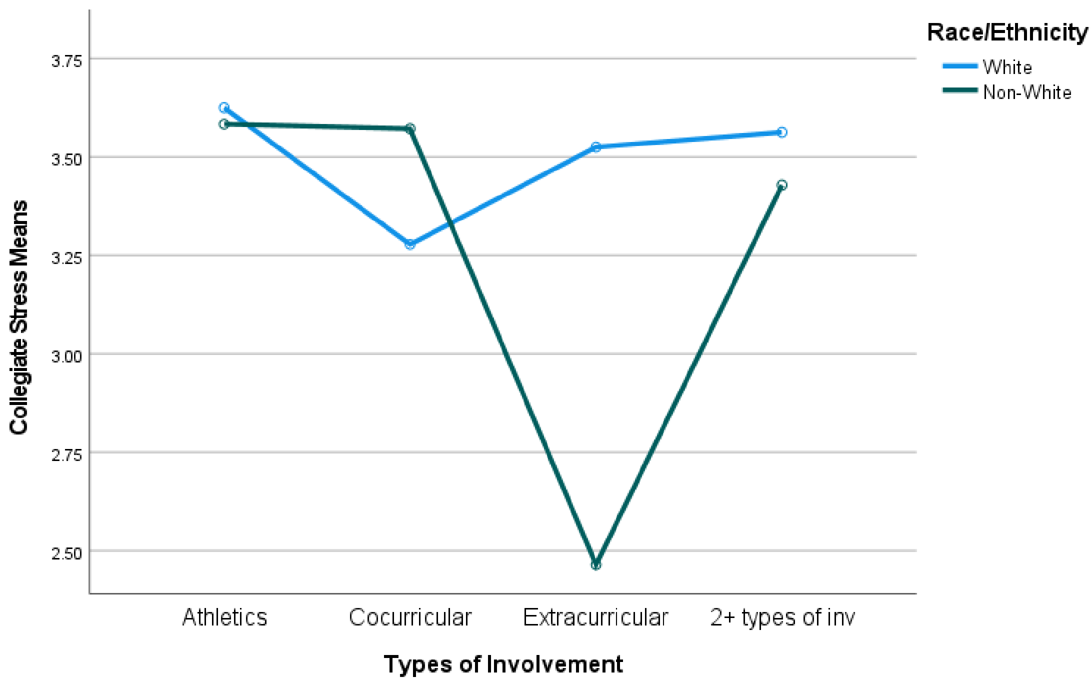


Collegiate Stress

Two significant main effects were detected when factored with involvement levels. The first involved Gender ($F(1, 278) = 4.76$, $p = .030$) with a small effect size of .017. The second involved Volume of Online Classes ($F(4, 271) = 2.88$, $p = .023$) with a small effect size of .041. In addition, a significant interaction was revealed between students' type of involvement and Race/Ethnicity ($F(3, 109) = 2.99$, p = .034), with a large effect size of .076. Figure 6 provides the post-hoc plot illustrating the reported interaction. Overall, the students' sense of collegiate stress was affected differently across Gender and Volume of Online Classes, as well as their type of involvement when factored with Race/Ethnicity.

Figure 6.

Interaction Effect of Involvement Types and Students' Race/Ethnicity on Collegiate Stress Means

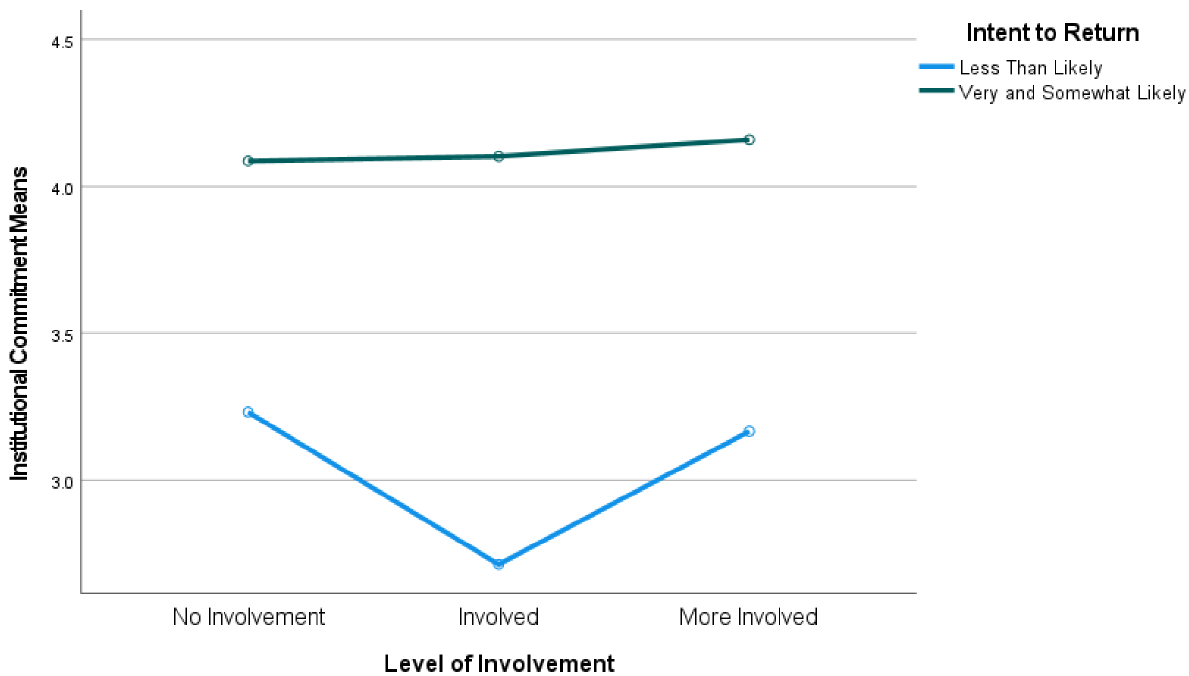


Institutional Commitment

One significant main effect was detected with factored with levels of involvement, involving Intent to Return ($F(1, 278) = 101.0$, $p < .001$), with a large effect size of .266. In addition, a significant interaction was detected between students' level of involvement and their Intent to Return ($F(2, 278) = 3.55$, $p = .037$), with a small effect size of .025. Figure 7 provides the post-hoc plot illustrating the reported interaction. Therefore, students' sense of institutional commitment was affected differently across Intent to Return, as well as their level of involvement when factored with Intent to Return.

Figure 7.

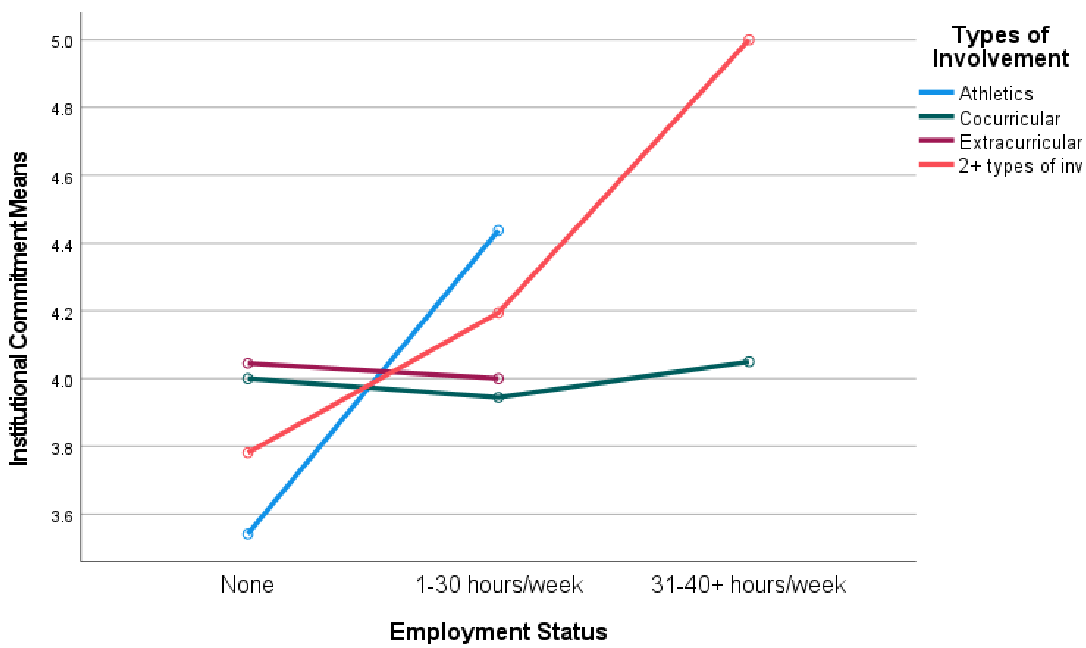
Interaction Effect of Involvement Levels and Students' Intent to Return on Institutional Commitment Means



Two significant main effects were observed when factored with types of involvement. The first involved Employment ($F(2, 106) = 4.61$, $p = .012$), with a medium effect size of .80. The second involved Intent to Return ($F(1, 108) = 58.34$, $p < .001$), with a large effect size of .351. In addition, a significant interaction was detected between students' type of involvement and Employment ($F(4, 106) = 2.73$, $p = .033$), with a medium effect size of .093. Figure 8 provides the post-hoc plot illustrating the reported interaction. Therefore, students' sense of institutional commitment was affected differently across Employment and Intent to Return, but not across other student attributes when factored with their type of involvement.

Figure 8.

Interaction Effect of Involvement Types and Students' Employment on Institutional Commitment Means



Summary

This chapter presented the descriptive and analytical findings from the variables included within a survey-based research instrument. Data was collected to determine whether differences exist among full-time freshmen community college students regarding their involvement in non-classroom activities. Statistical associations using the chi-square test of independence were found between students' level of involvement and their program of study, residency, employment status, parental education, and volume of online classes. Significant findings were also observed between students' involvement type and their residency. No significant associations during the chi-square analyses were found to involve students' gender or race/ethnicity. Statistical relationships using one-way ANOVA were observed between students' level of involvement and their self-reported sense of social integration and degree commitment. A significant relationship was also found between students' involvement type and their sense of social integration. Significant findings indicate that associations and relationships are not due to chance (Check & Schutt, 2012). These results suggest that some students differ among various outcomes based on their level and/or type of non-classroom involvement. Chapter 5 will present a summary of the findings, as well as identify the study's limitations and recommendations for practitioners and future research.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Overview of Chapter

The purpose of this comparative study was to determine whether freshmen, full-time rural community college students who participate in non-classroom activities differ from nonparticipants in self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. The research instrument utilized for this study was divided into three segments. The first section collected demographic information and asked participants about their college involvement in non-classroom activities. The second section used an adapted form of Davidson et al.'s (2015) CPQ-V2. The last section pertained to the target members' interest in entering a randomized drawing for their participation. Students were analyzed according to their respective demographic/attribute group, their level of involvement (Uninvolved, Involved, More Involved), and type of involvement (Athletic, Cocurricular, Extracurricular, 2+ Types). Survey results were analyzed – depending on the research question – with the chi-square test of independence and one-way ANOVA to determine any significant differences among student groups.

This study used quantitative data to identify intergroup and intragroup relationships within a rural community college setting. Four research questions were developed to assess any existing differences among students.

- RQ1) To what extent are there significant associations between the level of student involvement and student attributes as measured by the survey instrument for rural, full-time freshmen community college students?
- RQ2) To what extent are there significant associations between the type of student involvement and student attributes as measured by the survey instrument for rural, full-time freshmen community college students?
- RQ3) Does a significant difference exist among the levels of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the College Persistence Questionnaire for rural, full-time freshmen community college students?
- RQ4) Does a significant difference exist among the types of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the College Persistence Questionnaire for rural, full-time freshmen community college students?

The composition of independent and dependent variables differed according to the research question. This chapter includes a summary and discussion of the research findings, research limitations, recommendations for practitioners (implications), and recommendations for future research.

Summary of Findings

The research instrument was electronically distributed to the target audience at a rural community college in Mississippi (HCCC) over a 3-week period during the fall 2021 semester.

The study site's software, EvaluationKIT, also collected participants' responses, whereupon the data was analyzed using SPSS, Version 28.0. The application of Astin and Tinto's models accentuate both the level (amount) and type of student engagement in non-classroom activities and their association among various student groups. The current study also applied two features related to students' academic decisions (program of study and volume of online courses), which are not as common within Astin or Tinto's models.

Tables 43-44 illustrate the analytical results for the four research questions. There were significant associations involving students' level of involvement and their program of study, residency, employment, parental education, and volume of online classes. Students' type of involvement was also found to have a significant association with residency. Thus, these findings relate to Astin and Tinto's models in that they demonstrate certain student traits ("inputs," characteristics) to correlate with campus behaviors on campus (the "environment"). Gender and race/ethnicity were not found to be significantly associated with either form of involvement. Furthermore, the results detected significant relationships between students' level of involvement and their self-reported sense of social integration and degree commitment, along with statistical findings between students' type of involvement and their self-reported sense of social integration. Such findings relate to Astin and Tinto's models by demonstrating that on-campus behaviors (involvement in activities offered within the "environment") correlate with certain student outcomes ("outputs"). The additional statistical analyses used within the study – factorial ANOVA and other mean comparisons – reveal that certain interactions between student "inputs" and their on-campus behaviors are also statistically related to student outcomes. These are illustrated in Table 45.

Table 43

Statistically Significant Associations Between Students' Attributes and Level / Type of Involvement

	Gender	Race/Ethnicity	Program of Study	Residency	Employment	Parental Education	Volume of Online Classes	Intent to Return
Level of Involvement			●	●	●	●	●	
Type of Involvement				●				

Note. Results are based on the chi-square test of independence, with outputs produced by SPSS, Version 28.0.

Table 44

Statistically Significant Relationships Between Students' Level / Type of Involvement and Persistence Factor Mean Scores

	Academic Integration	Social Integration	Degree Commitment	Collegiate Stress	Institutional Commitment
Level of Involvement		●	●		
Type of Involvement		●			

Note. Results are based on the one-way ANOVA test, with outputs produced by SPSS, Version 28.0.

Table 45

Significant Effects Between Students' Attributes, Non-Classroom Involvement (NCI), and Persistent Factor Mean Scores

Student Attribute	NCI	Academic Integration		Social Integration		Degree Commitment		Collegiate Stress		Institutional Commitment	
		Main Effect	Interaction Effect	Main Effect	Interaction Effect	Main Effect	Interaction Effect	Main Effect	Interaction Effect	Main Effect	Interaction Effect
Gender	Level							□			
	Type										
Race/Ethnicity	Level										
	Type								◆		
Program of Study	Level										
	Type										
Residency	Level			□							
	Type										
Employment	Level										

	Type									□	◆
Parental Education	Level										
	Type										
Volume of Online Classes	Level			□				□			
	Type						◆				
Intent to Return	Level	□		□		□				□	◆
	Type	□				□	◆				

□: denotes a significant main effect of students’ attribute on persistence factor’s mean scores
◆: denotes a significant interaction effect between variables on persistence factor’s mean scores

Discussion of Findings and Conclusions

This study extends the available research on persistence-related traits and outcomes among rural community college students. A scarcity of research exists regarding non-classroom involvement within rural community college settings, with most of the current research on student engagement being directed at 4-year institutions (Gibson & Slate, 2010; Martin et al., 2014; Sáenz et al., 2011). Thus, the study addresses the acknowledged shortage of information regarding non-classroom engagement (Billingsley & Hurd, 2019) and the associations between specific activities and student outcomes (Kuh, 2016). It also applies the CPQ-V2 to assess student involvement, which extends its use into the sub-baccalaureate context.

The integration of Tinto and Astin's models employs the fundamental elements that contribute to student persistence, such as student traits at the time of college entry and their on-campus behaviors. This served as the basis for the survey instrument's November timeframe: to allocate sufficient time to record HCCC's formal non-classroom opportunities and their participation. The observed data in this study (59.3% Uninvolved students) is reflective of previous assertions (Astin, 1993; Donaldson et al., 2000; Marti, 2009) that non-classroom involvement is lacking among community college students. However, it should be noted that this study did not include campus occasions that were strictly social in nature. This was because, during the Fall 2021 semester, most college-sponsored social activities at HCCC took place during its homecoming week. Consequently, these events were concentrated within a narrower timeframe than other types of student involvement. As a result, data analysis did not consider associations among the study's variables and student activities that were socially driven.

Any results and conclusions derived from this study shall not be misconstrued to imply causation, given that a different set of findings could be attained elsewhere. Furthermore, it is possible that results and significant findings among variables would differ if socially based activities were included. The reported Social Integration means, for instance, would likely have been altered for some students. A different set of findings may also result if the study took place at other campuses, involved additional student populations (i.e., part-time) and/or identified additional student classifications (i.e., non-traditional, adult students). If so, this would further demonstrate that differences among variables can reflect an institution's student composition and the available non-classroom opportunities. Moreover, insight concerning the barriers to non-classroom participation was beyond the scope of this study. Future studies can continue to discern any significant differences between variables and their non-classroom behaviors. Such findings from additional rural community college locations may prove to be beneficial, given that less is known about their students' campus involvement.

As an additional consideration, it should be clarified that this study transpired during a global pandemic. The coronavirus and its recurrent variants severely affected educational institutions, the activities that typically occur during an academic year, and students' academic and social experiences (Chang et al., 2021; Lederer et al., 2021). Some faculty advisors of student organizations at HCCC reported suspended activities due to concerns about overcrowding and viral transmission. Thus, the pandemic affected not only the amount of non-classroom opportunities available to HCCC's students during the fall 2021 semester but also the quantity of students who would have ordinarily participated. Consequently, the study participants' mean scores for Academic Integration, Social Integration, and Institutional

Commitment may have been affected by the pandemic's impact on students' preferred method of instruction (i.e., shifts to online learning) and/or students' feelings of loneliness (Arslan, 2021). The latter component, loneliness (or isolation), has previously been demonstrated to influence student persistence or persistence-related outcomes (Karp et al., 2010). Therefore, the findings pertinent to each of the study's four research questions may have differed if the study had occurred during a typical ("normal") semester.

Research Question 1

Research Question 1 asks "To what extent are there significant associations between the level of student involvement and student attributes as measured by the survey instrument for rural, full- time freshmen community college students?" This inquiry was addressed in part by analyzing Questions 3-9 of the survey instrument, which asked students about their gender, race/ethnicity, program of study, residential status, employment status, parental education, proportion of online classes. Question 27 ("How likely is it that you will re-enroll here next semester?") was also used to gauge students' intent to return. These responses were compared to the responses given to Questions 10-12, which asked students about their participation in various athletic, cocurricular, and extracurricular opportunities at HCCC during the fall 2021 semester. The responses provided by each student categorized them into one of the following labels: Uninvolved, Involved, and More Involved.

The chi-square test of independence was used to evaluate any significant association between students' attributes and their level of involvement. Significant associations were observed concerning students' program of study, residency, employment, parental education, and volume of online classes. The number of students included in each analysis was provided in Chapter IV. Specific mentions of the factorial ANOVA results will be offered intermittently. Each variable within this research question, whether identified as significant or not, is further discussed below.

Gender

Both genders within this study followed the same trend, with the Uninvolved level containing the largest concentration of student involvement followed by reduced totals for each subsequent level. Female students were found to possess a higher between-group proportion of involvement in non-classroom activities than their male counterparts, comprising no less than 65% of campus involvement for each of the three levels. Within-group comparisons also showed females to have a marginally higher proportion within the Uninvolved level (59.3% among females compared to 58.5% among males). Although female students had a higher concentration of students within the More Involved level, the differences between genders within each of the three involvement levels were small. There were no within-group disparities between the two genders that exceeded two percentage points.

The results across all three involvement levels do not fully reflect Sáenz et al. (2011) or Patton et al.'s (2016) findings that demonstrate gender to be an influential factor in how students engage in campus life. Moreover, the lack of significant outcomes within the Involved and More Involved levels are inconsistent with Sontam and Gabrial's (2012) study that found female students within a suburban community college to exhibit higher engagement than males. Yet, further evaluation of HCCC's sample population can underscore the gender composition within certain academic programs. For instance, 79.5% of survey participants within the Health Sciences program were female, yet only two students indicated their involvement in any of the program's three cocurricular groups. Therefore, it should not be assumed that programs (or institutions) with a female-majority population will intrinsically result in heightened involvement levels beyond of the classroom. Regardless of HCCC's student composition across programs of study, these findings are inconsistent with prior studies, which further demonstrates that gender differences can vary across institutions. This point is revisited when the discussion turns to gender differences in Collegiate Stress.

Race/Ethnicity

A large percentage of survey respondents were white. However, this is not an overrepresentation of the college's demographic, given that HCCC is a predominately white college in a predominately white rural region. As seen with gender, the frequencies among race/ethnicity followed the same trend, with the Uninvolved level containing the largest concentration of student involvement followed by reduced totals for each heightened level of involvement. Yet, the differences between white and non-white students were larger among each level compared to the gender-oriented differences. Within-group comparisons showed that compared to white students, non-white students had higher rates within the Uninvolved and More Involved levels. White students had a higher within-group proportion for the Involved level, which was the narrowest margin among the three levels (31.4% compared to 23.1% among Non-white students). Therefore, these findings produce conflicting relations to Sontam and

Gabrial (2012) and Sáenz et al.'s (2011) observations that non-white students exhibit more engagement in educationally enriching activities.

Whether the racial/ethnic variable was analyzed dichotomously or across all six classifications (as presented in the survey instrument), no significant associations were indicated between students' race/ethnicity and their level of non-classroom involvement. Therefore, the collective degree of involvement did not reflect one's racial/ethnic background. Consequently, this finding does not uphold Fischer's (2007) contention that "race and ethnicity have a fundamental impact on how college is experienced" (p. 128). An extended use of factorial ANOVA can further differentiate any variations among student groups. Such expanded results from a rural community college setting can be compared to Wood et al.'s (2011) conclusion, for example, that the combination of race and gender influences students' level of engagement. Any revelation of such relationships and how they impact campus involvement among students, particularly those concerning minority groups, would be beneficial within rural community college settings that seek to enrich the experiences for all students. Yet, as will be discussed in further portions of this chapter, the quality of non-classroom opportunities (rather than just the quantity) must also be assessed.

Program of Study

Most survey respondents indicated they were enrolled in a University Transfer program (40.3%), followed by the Career and Technical (30%) and Health Sciences (29.7%) programs. Within-group comparisons showed that the University Transfer program had a lower Uninvolved rate (44.4%) than Career and Technical (78.2%) and Health Sciences (60.5%). The Health

Sciences program had a slightly higher inner-group concentration of Involved (33.7%) students compared to University Transfer (33.3%), but much higher than the Career and Technical program (19.5%). The University Transfer program had a noticeably higher percentage of More Involved students (22.2%) than Career and Technical (2.3%) and Health Sciences (5.8).

Additional insight is gained when comparing the chi-square significant values. For instance, the chi-square results revealed significant values for all three involvement levels among Career and Technical students: the observed count exceeded the expected count for Uninvolved students (68 to 51.6), while the observed counts were lower than the expected counts for Involved (17 to 25.5) and More Involved (2 to 9.9) students. The reasons for these disparities may relate to the residency and employment among the students within this program. An assessment across all six employment classifications found Career and Technical students to have the highest mean average for employment (M = 3.16) and residential status (M = 2.15). Therefore, these students were more likely to be employed (and work more hours) and commute further distances to campus. This contrasts to the University Transfer students, who had the smallest employment means (M = 2.77) and residential status (M = 1.92). With higher rates of commuter and employed students, it is plausible that Career and Technical students did not have the additional time to remain on campus to participate in non-classroom opportunities. If this were the case, it coincides with previous findings on the impact of residency (Gellin, 2003; Pike & Kuh, 2005; Reason, 2007; Witkow et al., 2012) and employment (Martin et al., 2014; Moschetti & Hudley, 2015) on campus behaviors.

Unlike Witkow et al. (2012), this study differentiated among programs of study. However, conclusive explanations for the differences among programs and their levels of student involvement extend beyond the intent of this study. A qualitative study, or one that collects additional quantitative data, would be better equipped to make such conclusions. Furthermore, these findings invite additional inquiries regarding institutional assessment and how programs self-evaluate the broader aspects of the student experience.

Residential Status

The majority of survey respondents were commuters (67.4%). Within-group comparisons showed that students living on campus had the lowest percentage within the Uninvolved classification (18.2%) and the highest percentage of students in the Involved (50.6%) and More Involved (60.6%) levels. Accordingly, the chi-square results detected significant values for all three involvement levels among on-campus residents. The observed count was under the expected count for Uninvolved students (31 to 55.5), while the observed counts were higher than expected counts for Involved (43 to 27.7) and More Involved (20 to 10.8) students. Therefore, while Astin (1993) asserts that community colleges endure lower levels of involvement due to their “hodge podge” of students (e.g., part-time, adult, and commuter students), this was not entirely supported by the data from HCCC’s full-time freshman sample. While HCCC offers residential housing and is a full-time majority student population, the majority of these students still indicated no involvement in the non-classroom opportunities during the fall 2021 semester.

The chi-square test also revealed significant values for all three involvement levels among those who lived further than 20 miles from campus. Within this group, the observed count was higher than the expected count for Uninvolved students (80 to 57.8), while the observed counts were lower than expected counts for Involved (12 to 28.9) and More Involved (6 to 11.2) students. The statistical results did not detect significant values (either above or below the expected counts) across any level for students who lived within 20 miles of campus. This finding suggests that participation in non-classroom activities largely depends on the offerings available to the student. Stated another way, while students with longer commutes are not as likely to stay on campus for non-classroom activities, those with shorter commutes may choose to remain on campus (or return) if the involvement appeals to their interests.

Of the independent variables discussed thus far, residential status presents the most logical explanation for such disparate results for levels of non-classroom involvement. The findings maintain the notion presented by others (Glass & Hodgin, 1977; Tinto 1998; Reason, 2007) that commuting students are less likely to return to campus for non-classroom purposes. Commuting students were also more likely to be employed, with the furthest distance commuters having the highest mean calculation (M = 3.44 compared to the on-campus employment mean of 2.06). This suggests that commuting students also had external demands that may have impeded their ability to participate in campus activities.

Employment

Employment among HCCC students (65.8%) was a higher rate than what was collectively reported by two-year institutions (50%) in 2020 (Perna & Odle, 2020). However, the hours worked per week differ. 38.3% of HCCC students reported working more than 20 hours per week, compared to Perna and Odle’s (2020) national comparison showing 72% of students working 20 or more hours per week. In addition, 12.5% of HCCC students indicated having full-time jobs (40+ hours/week).

Within-group comparisons among employment statuses revealed that students working more than 31 hours per week had its highest percentage within the Uninvolved level (87.8%), which was much higher than unemployed (52.5%) students and those working between 1-30 hours per week (53.9%). These ranks vary, though, when observing the Involved and More Involved categories. 39.4% of unemployed students were classified as Involved, which was higher than the students who worked between 1-30 hours per week (29.8%) and those who worked more than 31 hours per week (8.2%). For the More Involved group, students working between 1-30 hours ranked higher (16.3%) than unemployed students (8.1%) and those working over 31 hours per week (4.1%).

A portion of these findings appear to reflect the concept that external demands such as employment hinder the opportunities afforded to students outside of the classroom (Bowman and Trolian, 2017; Moschetti & Hudley, 2015; Perna & Odle, 2020; Soria, 2015). Yet, universal assumptions of this notion are not accurate, given that the chi-square results revealed that students who worked between 1-30 hours per week significantly exceeded their expected frequency within the More Involved level (23 to 16.1) and even surpassed the rate shown for unemployed students. While these results are consistent with Tinto's (1993) findings that high levels of employment have a negative effect on student outcomes, it fails to maintain Astin's (1984) position on the positive impacts of part-time, on-campus employment (by keeping them on campus). While this may in fact be true for HCCC's student sample, the current study did not distinguish on-campus from off-campus employment. Nor did it seek to specifically identify the challenges or competing commitments that restrict student involvement in non-classroom activities, as conducted by Howley et al. (2013). Such details can be obtained through a qualitative study or one that utilizes a different quantitative instrument.

Parents' education

Pascarella et al. (2004) observed that first-generation students tend to benefit more than others from extracurricular and noncourse-related peer interactions. Yet, while exposure to college-related experiences is particularly valuable to first-generation students and those with lower academic ability (Cohen et al., 2014), these at-risk students are among the least likely to participate (Moschetti & Hudley, 2015). The current study found lower levels of involvement among first-generation students, which is consistent with Moschetti and Hudley's (2015) qualitative findings from Nevada community college students. While most HCCC students did not have a parent who had earned a college degree (44.7%), this group also had the highest proportion within the Uninvolved level (74.0%) and the smallest proportion in the More Involved (5.7%) level. Conversely, students with both parents having a degree made up the smallest proportion of HCCC's student sample (22.5%) but had the highest within-group concentration of Involved (46.8%) and More Involved (16.1%) students. Thus, these findings are consistent with previous literature (Gupton et al., 2015; Kuh, 2016; McConnell, 2000; Sandoval-Lucero et al., 2017; Scott et al., 2015) that discuss or demonstrate parental education to be an influential factor in the college experience.

Explanations for such disproportionate involvement rates among HCCC's first-generation students can vary. For instance, it is possible that they lack the social capital that is more common among their peers (Kuh, 2016; Moschetti & Hudley, 2015; Perna, 2015; Pike & Kuh, 2005). It is also possible that, referring to McConnell's (2000) previous work, they place less emphasis on college or lack support from family for attending college. Further examination of the survey results can demonstrate the reality of these suppositions. For instance, HCCC's first-generation students had a lower overall mean score for Academic Integration (M = 3.89) than students with both parents earning a degree (M = 3.96), and essentially the same mean score as students with one parent having a degree (M = 3.87). In response to Question 25 ("When you think of people who mean the most to you, how disappointed do you think they would be if you quit school?"), first-generation students had the lowest rating (M = 4.24) among the three Parental Education statuses with students with both parents having a degree displaying the highest (M = 4.59). Thus, a more comprehensive view provides rationale for the statistically significant outcome between levels of student involvement and Parental Education.

Volume of Online Classes

Online courses provide options that accommodate students' scheduling preferences and daily lives (i.e., external demands away from the college). Their popularity has increased over recent years (Blau et al., 2018; Chen, 2018; Bailey et al., 2015; Britto & Rush, 2013), especially during the ongoing coronavirus pandemic (Chang et al., 2021; Lederer et al., 2021). However, questions already existed about the quality and effectiveness of online courses (Chang et al., 2021; Fike & Fike, 2008). For instance, large online course loads are among the traits that isolate students from their peers (in addition to commuting and working off-campus). This is a concern, given that Astin (1993) refers to isolation from peer groups as the single most influential factor on growth and development during one's college years.

The largest concentration of HCCC's sample consisted of students whose course load contained an online course(s) but did not meet or exceed half of their credit hours (47.1%). Within-group comparisons show that All Online students (18.7% of the sample) had their largest concentration in the Uninvolved group (92.6%), with the smallest overall concentration of Involved (7.4%) and More Involved (0.0%) students. The chi-square results showed significant associations (moderate effect) that revealed the All online group to exceed its expected frequency for Uninvolved students (50 to 32.1) and had fewer than expected students in the Involved (4 to 15.9) and More Involved levels (0 to 6). This trend is reversed when observing the Less Than Half group, who exceeded its expected frequency for the Involved (50 to 40) and More Involved (21 to 15.1) levels and had fewer than expected students in the Uninvolved level (65 to 80.9).

These collective and categorial results would have differed if part-time students had been included in the study. Also, the timeframe in which the current study was conducted is presumed to have an impact on the data collected. HCCC, like other colleges and universities, have experienced a shift to online instruction (Office of Institutional Research at [redacted], personal communication, January 3, 2022). Therefore, when gauging the extent of association between the volume of online courses and student involvement in non-classroom activities, the sample provided frequencies that may run counter to previous assumptions about campus involvement among online-heavy students. For instance, within-group comparisons showed that the More Than Half online group held the highest concentration of Involved students (40.0%) while the Half online group was the most represented of More Involved students (17.4%). A logical suggestion derived from this data is that – based on national trends and reflective of HCCC's instructional options during the Fall 2021 semester – many students were blending online courses with traditional classroom courses, no matter their residential status. As more on-campus residents increased their online credit hours (Office of Institutional Research at [redacted], personal communication, January 3, 2022), they were still on campus to participate in campus activities. Thus, the data are not reflective of pre-pandemic norms.

Intent to Return

Previous research has shown that students are more likely to benefit and persist when they are engaged in purposeful activities (Kuh, 2016; Tinto, 1998). More specific to persistence, additional studies have found that students are more likely to return to the same college when they are satisfied with peer and/or faculty interactions and involvements (Astin, 1993; Turner & Thompson, 2014). Yet, the findings within the current study did not match these outcomes, given that both intent classifications ("Somewhat or Very Likely" and "Less Than Likely") had very similar student concentrations among all three involvement levels. Most students within the dichotomous classifications had their highest proportions of students in the Uninvolved level with the least proportions in the More Involved level. Therefore, there was no statistical difference among student's intent to return based on their self-reported amount of campus involvement.

The Intent to Return component of this study is the only independent variable within Research Questions 1-2 that was not expected to be present (an "input") among students at the beginning of the Fall 2021 semester. Rather, it was more perceivable when the survey instrument was distributed in November. Nevertheless, the additional use of factorial ANOVA detected

Intent to Return (when factored with students' involvement levels) to have a significant main effect on four of the five *CPQ-V2* factors (Collegiate Stress was the exception). Furthermore, a significant interaction effect was detected between Intent to Return and Level of Involvement on students' sense of institutional commitment. Therefore, this variable lacked a direct categorical relationship with involvement levels but was significantly correlated in other measures. While it may be a logical association that students intend to return to their college if they possess higher levels of academic/social integration and degree/institutional commitment, these results are theoretically consistent with Astin and Tinto. The use of this research instrument also produced results that community college researchers can further expand.

Research Question 2

Research Question 2 asks, "To what extent are there significant associations between the type of student involvement and student attributes as measured by the survey instrument for rural, full- time freshmen community college students?" This inquiry was addressed in part by analyzing Questions 3-9 of the survey instrument, which asked students about their gender, race/ethnicity, program of study, residential status, employment status, parental education, proportion of online classes. Question 27 ("How likely is it that you will re-enroll here next semester?") was also used to gauge students' intent to return. These responses were compared to the responses given to Questions 10-12, which asked students about their participation in various athletic, cocurricular, and extracurricular opportunities at HCCC during the fall 2021 semester. The responses provided by students (of those who indicated involvement) placed them into one of the following four classifications: Athletic, Cocurricular, Extracurricular, and 2+Types of

Involvement. The last classification, 2+ Types of Involvement, was created as a fourth exclusive category to uphold the chi-square assumption of independent frequencies.

The chi-square test of independence was used to evaluate any significant associations between students' attributes and their type of involvement. A significant association was observed concerning students' residency. The number of students included in each analysis was provided in Chapter IV. Specific mentions of the factorial ANOVA results will be offered intermittently. Each variable within this research question, whether identified as significant or not, is further discussed below.

Gender

Similar to what was observed in the involvement level frequencies, there was a higher overall concentration of female survey participants (66.9%) compared to male participants. Thus, each of the four involvement types revealed more participation among females with the largest between-group gap occurring within the 2+ Types of Involvement group (48.2 percentage points). No significant relationships were detected between gender and their involvement type. This outcome is different from Astin and Antonio's (2004) longitudinal study, which compared multiple four-year institutions and found female students to be more engaged in activities that develop personal character (thus, exhibiting greater gains after four years). However, while Astin and Antonio's (2004) study also analyzed the *types* of campus engagement that students were involved in, it was primarily aimed at the development at civic and social qualities. By comparison, the current study more reflects Kinzie et al.'s (2007) observation that engagement differences between genders are slight.

Within-group comparisons showed that both genders had the largest proportion of involvement in cocurricular activities (41.0% for males and 46.8% for females). It also revealed that male students had more involvement in extracurricular activities (28.2% to 20.3%) while female students had a higher concentration in the 2+ Types of Involvement category (25.3% to 17.9%). Despite the lack of significant associations among these variables, the results showed that female respondents at HCCC were more likely to be involved in non-classroom activities, while also displaying higher self-ratings. Individual analyses of survey items further exhibit these differences among involvement types. For instance, responses to Question 19 ("How much have your interactions with other students had an impact on your personal growth, attitudes, and values?") had an overall mean of 3.39 (SD = 1.23). Respondents within the 2+ Types of Involvement grouping displayed the highest mean for both genders (3.71 for males, 3.90 for females), with females (N =78) having higher mean scores than males (N = 39) across all involvement types except for Athletics. However, as previously stated, there was an underrepresentation of male athletes. A more representative sample of student-athletes would likely produce a different set of results.

While female students comprised 69.8% of Cocurricular involvement, an assessment of the opportunities offered at HCCC during the fall 2021 semester suggest that some cocurricular options were more inclined to have female participation. The Hospitality Management Chapter of DECA, for example, is affiliated with a program that had a female-majority enrollment. In contrast, there were no cocurricular offerings that one may associate with being a predominantly male-oriented group. One such group, The Drafters (associated with the college's drafting and design program), was not active during the fall 2021 semester. Therefore, the options for non-classroom involvement within a campus environment – and the students they are likely to appeal to – must be considered when evaluating various student groups or characteristics.

Race/Ethnicity

A higher concentration of white students indicated a type of campus involvement (94 compared to 24 non-white students). However, the overrepresentation of white athletes generated a disparity within the Athletic category. Be that as it may, all four involvement types showed more participation among white students. The largest between-group gap involving the two racial classifications was observed in the Cocurricular category, where white students outnumbered non-white students by 73.6 percentage points (86.8% to 13.2%).

Within-group comparisons revealed that white students had their largest proportion of involvement in the Cocurricular group (48.9%), while non-whites had an equal proportion of involvement in all groups (29.2%) except Athletics. The equal proportion across these three involvement types was likely a result of the lower participation rate among non-white students. Nevertheless, these racial/ethnic comparisons among HCCC students conflict with Sáenz et al. (2011), who found non-whites to participate in educationally enriching activities at a higher proportion than white students. It also runs counter to Maxwell’s (2000) finding that non-white students were far less likely to be involved in extracurricular activities compared to more informal, academically minded pursuits (though his study site possessed a non-white majority population).

As seen with the results concerning race/ethnicity and involvement levels, there were no substantial associations among the types of involvement. However, the factorial ANOVA test found a significant interaction between race/ethnicity and involvement type when assessing Collegiate Stress scores. White students who were involved in extracurriculars had a higher mean score for Collegiate Stress ($M = 3.53$) than non-white students ($M = 2.46$). While there are various other factors that could have generated lower Collegiate Stress scores among non-white students based on their involvement type, this finding reflects previous studies that show underrepresented students to experience greater outcomes with certain types of involvement compared to their majority peers (Kim et al., 2015; Kitchen & Williams, 2019; Strayhorn, 2008).

While the campus environment and its opportunities matter to students (Astin, 1993; Kuh, 1995; Kuh, 2016; Schuh et al., 2016; Tinto, 1999), it is possible that the current study's methodology would generate a different set of findings under different circumstances. For instance, had intramural sports been offered at HCCC during the Fall 2021 semester, extracurricular involvement among non-whites may have increased. If that were the case, and since HCCC is a white-majority institution, comparisons could be made to Billingsley and Hurd's (2019) assessment that extracurricular activities help collegiate integration among students who are at risk of marginalization. On the other hand, evaluations could also be made with regard to Stuart et al.'s (2011) finding that minority students are less likely to participate in campus activities due to feelings of alienation.

Program of Study

More survey participants were enrolled in the University Transfer program (55.1%) than the other two programs combined. This is reflective of the fact that HCCC's majority student population is enrolled in academic courses ([redacted], 2021). Within-group comparisons showed that all three programs had their largest proportion of involvement in the Cocurricular group, with the highest percentage among Career and Technical students (57.9%). This is suggestive of the notion that, overall, students had more cocurricular opportunities that matched their interests.

Two of the three programs displayed the least engagement in the category that comprised multiple types of involvement (2+ Types of Involvement). The exception was University Transfer students. As previously mentioned, the Career and Technical and Health Sciences programs had higher proportions of students who were commuters and employed. Thus, a collective appraisal of the data suggests that students within these two programs had external demands that potentially impacted their ability to participate in multiple types of non-classroom opportunities. Moreover, many activities during the Fall 2021 semester occurred during the latter half of HCCC's operating hours which could impede those with other obligations after the conclusion of daily classes (this is also a consideration regarding the high concentration of Uninvolved students). Still, despite the lower quantities of students within the 2+ Types of Involvement group, it is not certain that this classification automatically resulted in heightened time commitments compared to the other three involvement types.

While the current study detected a significant relationship between Program of Study and students' levels of involvement, the same result did not occur when assessing involvement types. This can be compared to Trolian (2019), who used the Wabash National Study of Liberal Arts Education longitudinal study to assess student involvement (across 46 institutions) during students' first year. Her analysis led to suggestions that career attitudes influence how students choose to engage college opportunities. Trolian's (2019) study, however, was limited to academic majors (i.e., STEM, Social Sciences, Arts) and did not include the other programs used in the current study (Health Sciences, Career and Technical). The continued analysis of student involvement relative to program of study can prove useful to community colleges, whether it applies a broad multi-program or an inner-departmental approach.

Residential Status

Survey participants were more likely to live on campus (53.4%) than the other two residential statuses combined. Within-group comparisons revealed that commuting students had their largest proportion of involvement in the Cocurricular group. The three remaining involvement groups (Athletics, Extracurricular, and 2+ Types of Involvement) were most concentrated among students who lived on campus. While Athletics was the least proportioned involvement type among survey participants, it was largely comprised of on-campus residents. A primary factor to this is presumably the housing requirements for athletes at HCCC.

One source of criticism toward Tinto's model is that it presents an inadequate reflection of community college students because it "assumes disconnection from a home community must occur before integration into a college community can happen" (Deil-Amen, 2011, p. 57). Yet, the survey results showed that students who lived Within 20 Miles of campus had an observed count that significantly exceeded the expected count for Cocurricular involvement (26 to 16.6). Students who lived Further Than 20 Miles did not exhibit significant values among the types of involvement. Thus, at least from this sample, disconnection was seemingly unnecessary for students with the shorter commutes (and apparently failed to negatively affect those with longer commutes).

Additional criticism toward Tinto's model is directed at how it represents minority students in predominately white institutions, due to the same assumption of disconnection (Deil-Amen, 2011). With consideration to the trends listed above and the fact that 53.7% of non-white students at HCCC were commuters, additional research can relate to Billingsley and Hurd's (2019) assessment that non-classroom activities help integrate marginalized students. However, to maintain a familiar theme within this chapter, attention must be directed at the potential and unintended consequences of non-classroom involvement. For instance, Crispin and Nikolaou (2018) utilized the American Time Use Survey to determine that extracurricular activities had a counteracting effect on the time commuting college and university students directed toward homework. While the current study did not detect significant differences between the levels or types of involvement and students' Collegiate Stress, it did find a significant interaction involving Race/Ethnicity. Therefore, reflective of Bowman and Trolian (2017) and Crispin and Nikolaou's (2018) work, further studies should adopt methodological approaches to assess the counteracting affects that non-classroom engagement has on other outcomes within a community college environment. Such concerns are not limited to commuting students, but also working students and those with other external demands (i.e., dependent children).

Employment

As previously stated, using 30 hours as the threshold to separate employment statuses was consistent with prior observations that working over this amount is a key predictor of community college student persistence (Fike & Fike 2008; Kuh et al., 2010; Moschetti & Hudley, 2015). On the other hand, a different set of findings may have resulted if another threshold had been used. Nevertheless, the survey results showed a higher concentration of survey participants who worked 1-30 hours per week (55.1%) than those who were unemployed (39.8%) or worked over 31 hours per week (5.1%). Within-group comparisons showed all three employment statuses (condensed from the original six employment groups) had their largest proportion of involvement in the Cocurricular type. Students who worked more than 30 hours per week did not indicate Athletic or Extracurricular involvement; therefore, it appears that students with this external demand were more likely to stay on campus (or return) if activities were related to their degree or academic work. Furthermore, the time within the academic year in which the survey was distributed likely impacted the recorded frequencies for some students. For instance, eleven of the nineteen athletes were employed, with four indicating participation with the football team. With football being a fall sport, the quantity of employed players may increase during the spring semester. Therefore, a different set of findings may have resulted if the study occurred during a spring semester.

A full comparison of cocurricular and extracurricular activities (also using data entries from the 2+ Types of Involvement classification) showed that cocurricular offerings were more frequented. Despite the lack of significant associations for this particular assessment, these results present two potential explanations. First, the scheduling of cocurricular activities may have been the more accommodating option for employed students. This logic may also relate to commuter students, of whom 71.7% were employed. Second, the survey participants may have found that cocurricular options matched their interests to a greater degree than the extracurricular options. Accordingly, if this reasoning holds true, both the *scheduling* and *relevance* of non-classroom opportunities can influence the overall results.

Parental Education

Within-group comparisons show that all three parental education groups had their largest proportion of involvement in Cocurriculars. Students with neither parent having a degree were less likely to be involved in multiple types of involvement (2+ Types of Involvement) (9.4%) than the those with one (21.4%) or both parents having a degree (30.8%). Although this is suggestive of the notion that first-generation students lack the social or cultural capital to be involved in a wide range of campus offerings, the data cannot make such a definitive conclusion. After all, first-generation students had the largest proportion of participants in the Cocurricular (53.1%) and Extracurricular (34.4%) types.

Hlinka (2017) found social capital in the form of family support to be a significant factor among traditional-age students at a rural Kentucky community college. However, in recognizing the needs of first-generation students, her qualitative study did not relate to engagement beyond the classroom or the impact of such behaviors. While the current study's survey responses showed that first-generation students were more likely to be exclusively involved in one type of involvement, the factorial ANOVA test did not reveal any significant relationship with the five persistence factors. This is inconsistent with Pascarella et al.'s (2004) finding that first-generation students were less engaged in non-classroom activities but benefited more from them than other students. In consideration of this and the gap in Hlinka's study, additional research with different methodologies may further delineate the impact of non-classroom involvement on first-generation students' transition to college.

While the data shows that second-generation students are more likely to be involved in multiple types of involvement while first-generation students are more likely to be involved in one (if any), this either-or situation among the latter leaves a gap in the findings that the data cannot directly respond to. Whether this is related to Moschetti and Hudley's (2015) claim that white first-generation students are underrepresented in the research is also unclear. It is possible that first-generation students had external demands that limited any further involvement, given that 65.9% were employed with 50% working over 21 hours per week. Such perceptions would be consistent with research that demonstrates the academic and social barriers often faced by this category of students (Moschetti & Hudley, 2015). Yet, it is not conclusive that involvement in the 2+ Types category required more time commitments compared to other available options. Additional research methods can ascertain the influential factors behind the various types of non-classroom involvement that students participate in, particularly among first- and second-generation students.

Volume of Online Classes

All five online classifications had the highest proportion of students involved in Cocurriculars, with almost half of all student involvement within this category (45.3%). The within-group percentages revealed that most student involved in cocurriculars were students with online course loads that totaled less than half of their credit hours (including no online classes) (75.4%). Students with Half of their classes being online had the highest proportion of those involved in the Extracurricular (40%) and 2+ Types of Involvement (30%) categories. However, it should be noted that after the Less Than Half classification, the amount of involvement decreased with each higher volume of online coarse load. There were no students who had Half, More Than Half, or All of their course load online to indicate Athletic involvement, which may be indicative of team-related restrictions on online registration (M. Jones, personal communication, January 25, 2022).

Previous studies have suggested that, compared to traditional face-to-face classes, online courses do a poor job in supporting student motivation and success (Baily et al., 2015; Fike & Fike, 2008). Yet, while extracurricular participation has been demonstrated to benefit students who are least connected to their campus (Montelongo, 2002), the current study can neither support/refute this finding based on participation frequencies nor verify student gains from such engagement. Moreover, Harrell and Bower (2011) identified isolation and separation from the instructor as factors that can affect online student persistence, with basic computer skills and an auditory learning style recognized as predictors of their success. While they did not limit their study to students whose entire course load was online (like the current study), they focused wholly on academic support and did not assess student relationships within the campus environment, involvement activities, or other non-academic factors. With the recent shift to higher volumes of online course loads, additional insight on students' campus behaviors is needed.

Intent to Return

As previously stated, students' Intent to Return was the only independent variable within Research Questions 1-2 that was not expected to be present (an "input") among students at the beginning of the fall 2021 semester. Nevertheless, students who identified as being Somewhat and Very Likely to Return were more involved in Cocurricular activities (44.9%). At the same time, students categorized as Less Than Likely to Return indicated 50% involvement in cocurriculars (although this was based only on 10 total students). However, there was no statistical difference among student's intent to return based on their self-reported type of campus involvement.

The correlation between HCCC students' Intent to Return and their majority involvement type is different from Buckley and Lee's (2018) findings, which noted a significance between students and their extracurricular involvement. The additional use of factorial ANOVA detected Intent to Return (when factored with students' involvement types) to have a significant main effect on students' Academic Integration and Degree Commitment, with a significant interaction effect on Degree Commitment. Therefore, as previously observed, this variable lacked a direct categorical relationship with involvement types but was significantly correlated in other measures. As a result, besides being theoretically consistent with Astin and Tinto, these findings (while not verifiable in the current study) offer an additional method of using the CPQ instrument to connect the associations among students "inputs," their "environment," and outcomes.

Research Question 3

Research Question 3 asks "Does a significant difference exist among the levels of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the CPQ for rural, full-time freshmen community college students?" This inquiry was addressed in part by analyzing Questions 13-40 of the survey instrument, which employed the adapted form of

Davidson et al.'s (2015) CPQ-V2. Each survey item was designated to one of the five persistence factors, which allowed for categorical means to be calculated and compared among the levels of involvement. The number of students included in each analysis was provided in Table 37. Table 46 summarizes the mean factor scores for each level of involvement.

Table 46

Mean Factor Scores for Levels of Involvement

Level of Involvement	Academic Integration	Social Integration	Degree Commitment	Collegiate Stress	Institutional Commitment
Uninvolved	3.89	2.86	4.26	3.41	4.01
Involved	3.85	3.29	4.44	3.34	3.98
More Involved	4.0	3.73	4.52	3.48	4.07

The one-way ANOVA test was used to evaluate any significant relationships between students' level of involvement and the five persistence factors. Significant relationships were observed between students' level of involvement and their sense of social integration and degree commitment. While previous research has shown first-generational status and employment (especially that exceeds 30 hours per week) to have negative impacts on student persistence (Kuh, 2016; Moschetti and Hudley (2015), the additional application of factorial ANOVA did not detect a relationship involving parental education on the five CPQ-V2 factors. However, employment was found to have a main effect on students' Integrational Commitment with an interaction effect with students' involvement levels on their Institutional Commitment. References to these and other significant factorial ANOVA results will be presented intermittently. Each variable within this research question, whether identified as significant or not, is further discussed below.

Academic Integration

The statistical analysis (one-way ANOVA) did not detect significant differences between students' level of involvement in non-classroom activities and their sense of academic integration. Within this context, the results do not reflect Astin or Tinto's conceptions that student effort and time in educationally purposeful activities result in positive outcomes. These findings also fail to replicate previous studies that link campus engagement with academic gains (Berger & Milem, 2002; Gellin, 2003; Pascarella et al. (2004). However, the current study's methodology was not designed to measure change over time. Its cross-sectional nature, unlike studies from Arum and Roksa (2011), Berger and Milem (2002), and Gellin (2003), did not quantify cognitive or intellectual growth among students since entering college.

A closer within-group analysis of survey items revealed non-linear findings. For instance, Question 28 ("How satisfied are you with the extent of your intellectual growth and interest in ideas since coming here?") had an overall mean of 4.15 (N = 286) (Table K1), with More Involved students having a slightly higher mean (M = 4.27) than Uninvolved students (M = 4.21). Uninvolved students, however, had a higher mean than Involved students (M = 3.99). Yet, results of a similar item within the Social Integration question set, Question 34 ("How much have your interactions with other students had an impact on your intellectual growth and interest in ideas?"), exhibited an overall mean of 3.90 (N = 293; Table K2). Here, Uninvolved students had the highest mean (M = 2.6) compared to Involved (M = 3.01) and More Involved (3.56) students. These patterns illustrate that mean differences varied according to the question asked (related to academics or intellectual growth), which resulted in the non-linear overall means among the three involvement levels (Table 46).

The overall results of the current study exhibited more significant findings pertinent to students' social integration. As previously stated, it failed to demonstrate that increased effort is linked to enhanced academic-minded perceptions and/or gains. This outcome differs from Lundberg (2014), who focused on faculty-student engagement and found these interactions to be a stronger factor than peer interactions in the self-reported learning among students at twelve community colleges. While several campus offerings at HCCC were sponsored/led by faculty, the faculty-specific component identified in Lundberg's (2014) research was not built into the design of the current study. Furthermore, Lundberg (2014) assessed students who were involved in multicultural organizations, which was an engagement type not offered at HCCC during the Fall 2021 semester. Nevertheless, there are doubts regarding the tangible benefits of non-classroom engagement on academic outcomes, with previous research citing limited benefits of these activities outside of personal and social development (Stirling & Kerr, 2015). Therefore, additional research is needed within the community college context to determine the role of non-classroom involvement in helping students adjust to academic settings, which is a concern identified in Hlinka's (2017) study on rural community college students.

Social Integration

The statistical analysis (ANOVA) detected a significant relationship between students' level of involvement in non-classroom activities and their sense of social integration. The mean scores exhibited a linear relationship with increasing values for each level (Table 46). This outcome supports Tinto's theory that student involvement promotes integration and enhances the social aspects of college life. It is also consistent with Witkow et al. (2012) and Vetter et al.'s

(2019) findings that demonstrate the positive influence that interaction within a campus environment has on student outcomes. Yet, the current study's use of factorial ANOVA did not reveal significant interactions involving gender on students' sense of social integration, which is inconsistent with Mertes' (2015) application of Tinto's model in a midwestern community college environment. Akin to Mertes' (2015) findings, however, no significant differences were found related to race or program of study.

Social integration has been linked to students' sense of belonging (Kitchen & Williams, 2019; Witkow et al, 2012), which can influence persistence decisions (Tinto, 2012; Witkow et al., 2012). This sentiment was observed in the responses provided to Question 37 ("How much do you think you have in common with other students here?"). Here, there was an overall mean of 2.89 (N = 296) (Table K2) with More Involved students scoring higher (M = 3.73) than the other two levels. Results of a similar question, Question 19 ("How much have your interactions with other students had an impact on your personal growth, attitudes, and values?"), display an overall mean of 2.89 (N = 294) (Table K2). The same trend continued with More Involved students exhibiting the highest mean (M = 3.94), followed by decreasing scores with each lower level of involvement. The overall mean scores for Question 19 and Question 37 were among the lowest of all CPQ-V2 questions, which is indicative of the fact that most survey participants were labeled as Uninvolved. Yet, higher self-rated values were observed with involved students, further maintaining that increased levels of involvement correlate with student perceptions (Astin, 1999; Tinto, 2012).

Degree Commitment

Tinto (1999) identifies “intention” and “commitment” to be among the leading personal attributes to student departure. ANOVA detected a significant difference in means scores among the three involvement levels and students’ sense of degree commitment (small effect size), with the post-hoc test indicating two significant relationships. Essentially, both levels that contained a degree of student engagement in non-classroom activities were statistically different from the Uninvolved level. Although the current study cannot prove that non-classroom involvement generated the higher mean scores for Degree Commitment, these results are consistent with Tinto’s (1993) view that campus integration coincides with other academic-minded outcomes. It also compares to Foubert and Grainger’s (2006) quantitative, longitudinal findings that “more involved’ students exhibited greater psychosocial outcomes (i.e., clarifying purpose) than uninvolved students. However, their study was conducted at a highly selective university in the southeast and, unlike the current study, did not differentiate the types of engagement that students were involved in.

Comparing survey items within the Degree Commitment question set to others can assist in differentiating student motivations. For example, it is possible that students who provided a Less Than Likely response to Question 27 (“How likely is it that you will re-enroll here next semester?”) intended to either transfer to another institution or return to HCCC at a later point in time. Here, Uninvolved students displayed lower scores (M = 4.76) than More Involved students (M = 4.76). By comparison, responses to Question 20 (“At this moment in time, how strong would you say your commitment is to earning a college degree, here or elsewhere?”) revealed additional linear results between Uninvolved scores (M = 4.52) and More Involved scores (M =

4.85). This demonstrates that Uninvolved students measured lower in Degree Commitment whether the degree is obtained from HCCC or elsewhere.

Related to this factor, many students will weigh their college experience against the cost. These self-evaluations relate to Stuart et al.'s (2014) cost-benefit model and how it influences students' decision to persist. In accordance with their model, students will determine whether the human and/or career capital gained from the college experience will benefit them within the job market. Thus, an individual's options (e.g., current job market, financial condition) will impact decisions, as also exhibited in Mowrer & Davidson's (2011) study. However, this concept is not reflected in the student responses provided to Question 40 ("When you consider the benefits of having a college degree and the costs of earning it, how much would you say that the benefits outweigh the costs, if at all?"). With an overall mean of 4.11 (N = 290), students did not indicate any significant difference across levels of involvement (Uninvolved, M = 4.10; Involved, M = 4.09; More Involved, M = 4.18). Thus, while ANOVA detected significant mean differences across this variable/category, not all survey items exemplify this.

The survey instrument used for this study did not ask students about their household background (e.g., marital status, dependent children); therefore, it was unable to identify students' extrinsic motivations as Liao et al. (2014) did at an urban community college. Nor could it identify intrinsic motivations as Martin et al. (2014) did. Such motivations run slightly counter to Astin (1984), who, while not discrediting personal motivation as an influential factor of college involvement, focuses on the student's actual behaviors (time and effort) directed at activities and goals. Nevertheless, whether it is influenced by students' intent to improve their current situation or other motives, HCCC students' Degree Commitment was associated with their involvement in non-classroom opportunities.

Collegiate Stress

Collegiate Stress was included as the fifth persistence factor in this study due to Davidson et al.'s (2015) observation of a negative association between Collegiate Stress and Social Integration variables during their CPQ-V2 analysis (higher levels of stress were associated with increased social integration). They rightfully claim this outcome can vary by institution and/or student group. In the current study, students classified in the More Involved level had the highest mean score for the Collegiate Stress factor (M = 3.48), followed by Uninvolved (M = 3.41) and Involved (M = 3.34) students. However, the statistical analysis (ANOVA) did not detect a significant relationship between students' level of involvement in non-classroom activities and their sense of collegiate stress. This result is partially consistent with Davidson et al.'s (2015) finding, yet inconsistent with Witkow et al. (2012) and Vetter et al. (2019), who found interactions within a campus environment to be a positive influence on student outcomes such as psychological health.

Feeling overwhelmed is often associated with time pressures (Astin, 1993). Yet, this study cannot prove that students' collegiate stress increased due to the increased involvement. Nor can it demonstrate an inverse relationship to the point of diminishing returns akin to Bowman and Trolian (2017), thus exemplifying the "threshold model" (Seow & Pan, 2014). However, the factorial ANOVA results indicated a significant main effect of gender on students' Collegiate Stress, with female students displaying a higher mean score (M = 3.47) than male students (M = 3.18). As mentioned in Chapter II, studies may overlook gender differences when analyzing campus subgroups. The main effect result found in the current study resembles Sax et al.'s (2004) finding that, when using Astin's model to evaluate the impact of a college environment on students' emotional health, female first-year students experienced higher scores. A main difference between these two studies, however, is that the current research was cross-sectional while Sax et al.'s (2004) was longitudinal.

Further assessment using the factorial ANOVA test revealed that the volume of online courses (when assessed across the three involvement levels) also had a significant main effect on students' Collegiate Stress. HCCC students whose course load was more than half of their credit hours displayed higher mean scores. This matches Britto and Rush (2013), who found that students struggled with online courses when taken in larger quantities. Given that students had already demonstrated struggles with the transition to college and feelings of isolation (Elkins et al., 2011), legitimate concerns have continued due to the influx of online students during the ongoing coronavirus pandemic (Arslan, 2021; Lederer et al., 2021). This is exhibited in Question 24 of the survey instrument ("How strong is your sense of connectedness with others on this campus?"), where All online students had significantly lower self-ratings (M = 2.83) than students without online courses (M = 3.40). This is consistent with the notion that online students are generally at a higher risk of isolation and feel less connected to the campus (Young et al., 2019), thus underscoring the importance of evaluating the options for online students to connect with their campus beyond the (virtual) classroom. Other studies have recognized the limited amount of research on community college student persistence in online courses (Harrell and Bower, 2011). However, with consideration of the study's timeframe occurring during an abnormal (pandemically affected) semester, further observation is needed to document the impact of the global pandemic on community college outcomes, as well as the potential long-term shift toward online education and its effects on the student experience.

Institutional Commitment

The Institutional Commitment factor was the second highest ranked mean score across the levels of student involvement (Table 46). More Involved students had the highest mean score (M = 3.07), followed by Uninvolved (M = 4.01) and Involved students (M = 3.98). However, the one-way ANOVA test did not detect a significant difference in mean scores among the three involvement levels and students' sense of institutional commitment.

Beck and Milligan's (2014) use of the CPQ on students entirely or primarily enrolled in online courses observed that institutional commitment was determined more by students' interactions within an academic and social environment than by variables that students possessed at the time of college entry (i.e., student background). The current study differed from Beck and Milligan (2014) not only in methodology but also its focus on freshmen students as opposed to university students across all enrollment classifications (less than one-fourth of students in their study were freshmen). When using factorial ANOVA to compare Institutional Commitment means across students' volume of online courses, the results showed non-linear, insignificant relationships. This result was similar to Blau et al.'s (2018) findings that instructional modes of delivery (face-to-face, online, or hybrid) were not significantly different in terms of students' institutional commitment. However, unlike the current study, Blau et al. (2018) did not differentiate the volume of online courses that students were enrolled in.

Prior research has also exhibited community college outcomes that are stratified according to race/ethnicity (Kitchen & Williams, 2019; Lin et al., 2020). For instance, Kitchen and Williams (2019) found campus engagement to be a significant factor among Black and Hispanic students' sense of institutional belonging. Such a conclusion suggests that campus involvement may have compensatory effects for the systematic educational disparities faced by many minority students (Kitchen & Williams, 2019; Xu & Jaggars, 2013). Given that HCCC is a white-majority institution in a southeastern state, an evaluation of racial/ethnic differences toward institutional commitment would add to the existing literature on community college students. Mean comparisons showed similar outcomes at HCCC, with White students having a marginally higher mean (M = 4.01) than Non-white students (M = 4.0). Thus, significant results were not observed. Except for the interaction involving Collegiate Stress and types of involvement, race/ethnicity did not prove to be a significant component in this study.

Research Question 4

Research Question 4 asks, "Does a significant difference exist among the types of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the CPQ for rural, full-time freshmen community college students?" This inquiry was addressed in part by analyzing Questions 13-40 of the survey instrument, which employed the adapted form of Davidson et al.'s (2015) CPQ-V2. Each survey item was designated to one of the five persistence factors, which allowed for categorical means to be calculated and compared among the levels of involvement. The number of students included in each analysis was provided in Table 40. Table 47 summarizes the mean factor scores for each type of involvement.

Table 47

Mean Factor Scores for Types of Involvement

Type of Involvement	Academic Integration	Social Integration	Degree Commitment	Collegiate Stress	Institutional Commitment
Athletics	3.51	3.51	4.3	3.61	3.9
Cocurricular	3.9	3.22	4.5	3.32	3.98
Extracurricular	3.83	3.34	4.35	3.25	4.02
2+ Types of Involvement	4.09	3.79	4.6	3.53	4.1

The one-way ANOVA test was used to evaluate any significant relationships between students' type of involvement and the five persistence factors. Significant relationships were observed between students' type of involvement and their sense of social integration. Two items deserve mentioning, however. First, the results presented in this study should not be misconstrued to imply causation. Second, discussion will be limited as it relates to athletic involvement, given that the results produced limited quantifiable value given the low samples size and underrepresentation of male and non-white participants. Specific references to the factorial ANOVA results will be offered intermittently. Each variable within this research question, whether identified as significant or not, is further discussed below.

Academic Integration

Mayhew et al. (2016) states that "rather than question if college-going has an influence on students, scholars assume that the relationship exists and subsequently focus on investigating the specific practices…responsible for student change" (p. 6). Comparisons between HCCC students' type of involvement and their sense of Academic Integration showed that the 2+ Types of Involvement category produced the highest mean average, followed by the Cocurricular, Extracurricular, and Athletics categories. However, as seen with levels of involvement, ANOVA did not detect significant differences between students' type of involvement in non-classroom activities and their sense of academic integration. Thus, the current study did not replicate college impact studies that have demonstrated gains in students' cognitive, intellectual, or psychosocial development (Berger & Milem, 2002; Deil-Amen, 2011; Foubert & Grainer, 2006; Mayhew et al., 2016; Pascarella et al., 2004). However, unlike Deil-Amen's (2011) qualitative research that reflects Tinto's views by demonstrating academic integration to be more significant than social integration among community college students, the current study's methodology is not structured in a fashion that can make sure distinctions. It did, however, show that overall Academic Integration mean scores across all four involvement types were higher than those for Social Integration.

Researchers have directed much attention toward student outcomes from the perspective of what occurs in the classroom (Kuh, 2016; Tinto, 2012), whether it relates to classroom interaction (Tinto, 1998) or specific pedagogical techniques (Astin, 2001). The current study evaluated student behaviors that occur beyond those means. Furthermore, it evaluated the types of involvement available within a rural community college setting, unlike Foubert and Grainger's (2006) study that did not distinguish among types at their selective four-year institution study site. As previously mentioned, despite the doubts regarding the benefits of non-classroom engagement on academic outcomes, additional consideration should be directed at the role of non-classroom involvement in helping students adjust to the community college environment.

Social Integration

A statistically significant relationship was found between students' type of involvement in non-classroom activities and their sense of social integration (medium effect size). As a result, Social Integration was the sole persistence factor out of five to display significant findings for Research Question 4. Comparisons between students' type of involvement and their sense of social integration showed that the 2+ Types of Involvement category produced the highest mean average (M = 3.79), followed by the Athletics, Extracurricular, and Cocurricular categories (Table 47). Seeing that students in Athletics ranked second in mean scores partially supports Astin's (1993) claim that participating in college sports is positively correlated with satisfaction outcomes (e.g., student life).

The Bonferroni post-hoc test indicated a statistically significant mean difference between the Cocurricular (M = 3.23) and 2+ Types of Involvement groups (M = 3.79). This suggests that students who were involved in more than one type of non-classroom engagement were more socially integrated at HCCC than students who were exclusively involved in one type. Nevertheless, a narrower assessment among student groups did not display significant results. For instance, previous research (Patton et al., 2016; Sáenz et al., 2011; Strayhorn, 2008) found female students to be more likely than male students to benefit from campus engagement, with Jones (2010) also finding that females benefit more from social engagement. However, among the students who indicated a form of campus involvement at HCCC, the results of the current study found female students to have a slightly higher overall mean average (M = 3.43) than males (M = 3.38), though male students had the higher means for Athletics and Extracurriculars. In addition, unlike the Academic Integration factor, the factorial ANOVA results did not reveal students' employment to have a significant main effect or interaction on students' sense of Social Integration. This result does not mirror previous research that illustrate the negative affect of employment on the social aspects of college (Soria, 2015; Moschetti & Hudley, 2015).

With regard to racial/ethnic differences, the current study did not detect significant differences with regard to Social Integration among White and Non-white students. This was dissimilar to Billingsley & Hurd's (2019) longitudinal evaluation of involvement in extracurricular activities among underrepresented students at a predominately white institution in Southeast, where they found such involvement by minority students to assist social identity and integration. In addition, while Strayhorn (2008) found minority students to benefit more from campus engagement experiences than white students, the current study found non-white students to have higher mean scores for three of the four involvement types (all but the 2+ Types category) but not to any significant degree. Moreover, the current study can neither support nor refute Stuart et al.'s (2011) assertion that ethnic minority students spent less time in campus-based activities due to their possible feelings of alienation. Due to the research design differences between the current study and Billingsley and Hurd (2019), Strayhorn (2008), and Stuart et al.'s (2011), further insight is needed in the impact of non-classroom activities for minority students (or other underrepresented groups) within predominately white community colleges such as HCCC.

Regardless of the significant outcome between involvement types and Social Integration, the Academic Integration factor had higher overall mean scores across almost every level and type of involvement (Tables 46-47). The only exception was the equal scores within the Athletics group (Table 47). Nevertheless, unlike previous research (Davidson & Wilson, 2013; Deil-Amen (2011), the current study cannot verify social integration to be either more or less significant than academic integration. Even so, Tinto (1993) states that "the social rewards accruing from integration in the social system of the college may not offset the inability and/or failure of the person to become integrated in the academic system of the college" (p. 120). Additional research methods can make such comparative determinations across the community college landscape to further gauge whether these two factors differ among student groups and/or institutional settings.

Degree Commitment

Comparisons between students' type of involvement and their sense of Degree Commitment showed that the 2+ Types of Involvement category produced the highest mean average (M = 4.6), followed by the Cocurricular, Extracurricular, and Athletics categories (Table 47). The statistical analysis (ANOVA) did not detect a significant relationship between students' type of involvement in non-classroom activities and their sense of degree commitment. This differs from the outcome related to students' sense of degree commitment and their level of involvement. It is also inconsistent with Pascarella et al.'s (2004) finding that extracurricular involvement had significant positive effects on students' degree plans.

Prior research has also revealed instances where community college outcomes (e.g., college completion) are stratified according to race/ethnicity (Lin et al., 2020). Additional studies have found that historically underrepresented students experience greater gains with certain types of involvement compared to their majority peers (Kim et al., 2015). The current study found that overall Degree Commitment means, when compared across racial/ethnic groups and their type of involvement, were practically equal for White (M = 4.35) and Non-white (M = 4.34) students. Thus, the racial stratification observed in previous research was not detected here.

Despite the statistically insignificant relationship between students' involvement type and their sense of degree commitment, the factorial ANOVA test detected two significant interactions. One interaction involved students' Intent to Return, which is discussed within its own discussion segment. The second interaction involved students' Volume of Online Classes. This suggests that Degree Commitment is associated not only of personal intentions (e.g., Intent to Return) but also students' course delivery inclinations.

Collegiate Stress

Comparisons between students' type of involvement and Collegiate Stress found that the Athletics category produced the highest mean average (M = 3.61), followed by the 2+ Types of Involvement, Cocurricular, and Extracurricular categories (Table 47). This is the only persistence factor where the Athletics involvement type tallied the highest mean score. The finding presents further inquiries that may not relate to the other involvement types. For example, Athletics participants scored higher to Question 16 ("Overall, how much stress would you say that you have experienced while attending this institution?") and Question 26 ("How often do you feel overwhelmed by the academic workload here?") than students involved in cocurricular, extracurricular, or those involved in 2 or more types of involvement. It is possible that this was a byproduct of time dedicated to practice and away from academic-oriented tasks. If this were true, it would reflect Bowman and Trolian's (2017) conclusion that external activities can negatively affect academic outcomes.

Overall, ANOVA did not detect a significant relationship between students' type of involvement in non-classroom activities and their sense of collegiate stress. However, the cross-sectional nature of the current study restricted the capacity to gauge the impact that these types of involvement had on students' collegiate stress. For instance, it is possible that mean scores improved over the course of the fall 2021 semester due to their involvement in one (or more) types of non-classroom involvement. Bowman (2010) found that positive interactions with other students promoted psychological well-being, while Buckley and Lee (2018) found that some students within their study acknowledged extracurricular involvement as an aid to managing their stress during the transition to higher education. Similar results may apply to HCCC students given that the Extracurricular involvement type had the lowest Collegiate Stress mean score. Yet, the current study can neither support nor challenge these findings.

This evaluation differs from the results pertaining to Collegiate Stress in Research Question #3, which observed significant main effects involving students' gender and volume of online courses. However, when assessing types of involvement, a significant interaction effect of Race/Ethnicity was revealed. Billingsley and Hurd (2019) were also suggestive of the role of extracurricular activities in aiding psychological well-being (stress) among underrepresented students. Therefore, while a statistically significant relationship was not found between students' involvement types and Collegiate Stress, this significant interaction further exhibits new usage of the CPQ-V2 and consequently adds to the existing knowledge on community college students.

Institutional Commitment

Comparisons between students' type of involvement and Institutional Commitment showed that the 2+ Types of Involvement category produced the highest mean average (M = 4.1), followed by Extracurricular, Cocurricular, and Athletics (Table 47). Overall, the 2+ Types of Involvement category ranked highest among the four involvement types in four of the five CPQ-V2 factors (Collegiate Stress was the exception). However, the ANOVA test did not detect a significant relationship between students' type of involvement in non-classroom activities and their sense of institutional commitment. This leaves Social Integration as the only persistence factor to display a significant relationship when considering students' type of involvement. These overall results may have differed if, similar to Schuetz's (2008) mixed-methods research on campus engagement, the current study had distinguished between traditional and adult students.

Students who lived Within 20 Miles of campus had the highest overall Institutional Commitment mean (M = 4.05), followed by on-campus residents (M = 4.03) and student who lived Further Than 20 Mile (M = 3.83). To an extent, this finding relates to previous research that highlights the significance of living on campus (Astin, 1984; Gellin, 2003; Mayhew et al., 2016; Pike & Kuh, 2005; Witkow et al., 2012). However, while Astin (1984) claims that residential students are more likely than commuter students to develop a "strong identification and attachment to undergraduate life," (p. 523) HCCC students with the shorter commute displayed a higher Institutional Commitment mean than on-campus residents.

Additional comparisons illuminate the fact that correlations can differ across studies. For instance, Witkow et al. (2012) found that female students reported higher levels of school identification than male students, while white students reported higher levels than minority students. Jones' (2010) repeated measures study also found that institutional commitment was conditional on gender, based on the nature of social integration and campus involvement among students at eight private denominational institutions. The current study did not detect significant differences among gender or race. The overall mean for Institutional Commitment was practically equal among male ($M = 3.97$) and female ($M = 4.03$) students who were involved in at least one type of campus involvement. This was also true when assessing White ($M = 3.99$) and Non-white ($M = 4.09$) students. Jones' (2010) study, however, included broader social aspects of college life rather than just the formal opportunities provided by the college. Also, Witkow et al.'s (2012) survey instrument included only one question (with Yes/No response options) specific to involvement in campus activities. Moreover, unlike Witkow et al.'s (2012) research, this study distinguished among students' program of study (even if involvement types were not found to be significantly associated).

Other than academic problems within the classroom, Tinto proposes that among the sources of student departure is a low level of commitment to the college (Long, 2012). The factorial ANOVA results revealed a significant main effect of Intent to Return on students' Institutional Commitment. The overall responses to Question 27 ("How likely is it that you will re-enroll here next semester?") showed that students who indicated they were Less Than Likely to Return had a lower Institutional Commitment mean score than students who indicated they were Very Likely or Somewhat Likely to Return. Applying Question 27 to students who were involved in at least one type of involvement shows that students in the 2+ Types of Involvement ranked first (M = 4.89), followed by the Extracurricular (M = 4.73), Cocurricular (M = 4.72) and Athletics (M = 4.45) groups. Yet, these results do not clarify why students differed among involvement types. Therefore, while Capps (2012) notes that college may exert only a secondary influence on student persistence due to external circumstances, the current study is unable to infer student motives.

Limitations

There are limitations of this study that must be acknowledged, most of which may affect the finding's external validity and generalization. For instance, the research was conducted within one rural-based community college in a southeastern state. It's total full-time enrollment during the Fall 2021 semester was under 2,500. The opportunities for campus involvement within this college may be narrow compared to larger institutions. Thus, the significant relationships observed at HCCC may not be repeated at other institutions. Moreover, and as previously mentioned, this study occurred during the coronavirus pandemic which impacted the amount of non-classroom activities offered during the Fall 2021 semester. As a result, it is unknown how the study's results would have differed if instrumentation had occurred during a less disruptive period.

Another limitation pertains to the research site's relative lack of racial and ethnic diversity. The total student body of this rural community college (full-time and part-time) was

75.4% white and 24.6% nonwhite during the fall 2021 semester ([redacted], 2021). This is noteworthy, given that "variables that prominently influence the persistence decision of one student or one group of students may be weakly related or unrelated to the persistence of other undergraduates" (Davidson et al., 2009, p. 374). Furthermore, pertaining to other facets of HCCC's population, this study did not distinguish between traditional and non-traditional students. Between 16-20% of the research site's overall population was within the nontraditional 24+ age category ([redacted], 2021). Research that includes a more diverse population can make additional observations and extend external validity to other institutions.

This study relied on cross-sectional data from one freshman class, which do not determine causation or allow for a longitudinal evaluation. As a result, any significant findings related to the *CPQ-V2* factors may not have been directly influenced by students' involvement in non-classroom activities. The study does not demonstrate the impact of students' involvement in non-classroom behaviors on their college persistence decisions, with is a key feature of Tinto's theory of student departure. Therefore, it can become difficult to gauge the institution's actual role in producing these outcomes given that some students arrive at college with more advanced levels of learning, experience, and/or involvement (Kisker et al., 2016). Furthermore, due to the cross-sectional nature of the study, it does not gauge a student's actual persistence. Any significant relationship between variables does not serve as confirmation that students completed their degree.

Lastly, the potential for certain predispositions exists within the methodology. For quantitative data collection, there is an awareness of sampling bias and nonresponse bias. Online surveys are occasionally problematic for sampling bias if technical issues limit accessibility for a portion of the sampling population. A higher response rate would reduce the potential for nonresponse bias (Privitera & Ahlgrim-Delzell, 2019). Additionally, the survey instrument relied on self-reported behaviors, attitudes, and opinions. Participant self-reporting can be sensitive to subjectivity and responder bias (Gall et al., 2005).

Recommendations for Practitioners and Policymakers

It is important to offer a set of enriching non-classroom activities that impact large segments of the student body (Kuh et al., 2010). Overall, positive experiences potentially reinforce persistence by impacting student intentions (i.e., college completion) and institutional commitment (Tinto, 1993). However, community colleges generally suffer from insufficient rates of student involvement which present distinct challenges to their capacity to foster connections with their student body. One such challenge is the fact that approximately 65% of nationwide community college enrollment during the fall 2020 semester was on a part-time basis (CCRC, 2022). HCCC's part-time enrollment was 27.7% of its overall student body during the study's timeframe was part-time ([redacted], 2021). Yet, even with this rate below the national average, student involvement is likely impeded for those whose interactions with the campus environment are less than full-time and residential students. Still, while Long (2012) states that "no theory adequately describes the complexity of the college experience" (p. 51), realizing the distinctions among student groups can assist practitioners in forming new approaches to increase campus involvement. This requires intentional action among community college leaders to confront these ongoing trends. The following recommendations can support in this endeavor.

Embrace the institution's role in providing opportunities

While colleges cannot necessarily mandate involvement in non-classroom activities, they should be accountable for designing environments that encourage such occasions (Kuh, 2009; Schuh et al., 2016). These "value-added" opportunities (Kuh, 1995) not only support the attainment of student outcomes but can also further serve an institution's mission to deliver advantageous student resources (Schuh et al., 2016).

Focus on the least-involved students

Conditional factors (e.g., first-generation status) have been recognized to produce gaps in students' social and cultural capital (Kuh, 2016; Moschetti & Hudley, 2015; Perna, 2015; Pike & Kuh, 2005). Due to this, deliberate focus should be directed not only at first-year students but also those considered to be at-risk. This can help deliver the access- and equity-based components that are cited within many institutional missions (Troyer, 2015). Furthermore, based on their findings of a non-linear relationship between high level engagement and other academic outcomes, Bowman and Trolian (2017) posit that focusing on students who are less involved may prove to be more advantageous than encouraging more engagement among those who are already active.

Develop opportunities that matter to students

Astin (1993) and Tinto (2012) both emphasize the institution's role in creating environments that are relevant and meet the needs of students. According to Habley et al. (2012), "The basic tenet of involvement is that students learn more the more they are involved in…the college experience" (p. 11). However, institutions must realize their student composition and the constraints to involvement they may face (Reason, 2019). For minority students in a predominantly white college, for instance, campus leaders need to consider engagement opportunities that will further develop their sense of belonging or other psychosocial factors. Other colleges with high non-traditional and/or part-time enrollment can consider opportunities based on common traits among students (e.g., single parents, military veterans). Such awareness can address the needs that exist among students *within* an institution rather than focus on the differences that exist *between* them (Pike et al., 2011).

Promote non-classroom engagement during the onboarding process

Student orientation sessions not only welcome students to the campus, but also "introduce them to the kinds of educational opportunities available…and describe how to engage more fully in the college experience over time" (Schuetz, 2008, pp. 25-26). Thus, while the level of campus engagement is ultimately dependent on student discretion and/or availability, institutional programing such as orientation sessions can help communicate collegiate expectations and set the tone for student involvement. Accordingly, participation in non-classroom activities may increase based on the heightened level of institutional emphasis and making students more aware of the available options (Schmid & Abell, 2003). While this can extend benefits to all student groups, it can also serve as a foundation for early exposure to the college-related experiences that are particularly valuable to first-generation students (Tinto, 2012).

Create meaningful involvement opportunities that develop career capital

Non-classroom activities are intended to supplement academics in order to develop fully mature, well-rounded individuals (Glass & Hodgin, 1977; Han & Kwon, 2018). It is also in the interests of colleges to deliver career-ready graduates (Stuart et al., 2014). While developing and promoting these opportunities, Trolian (2019) recognizes that institutions need to "consider ways to connect the institutional messages they send about the importance of involvement to students' careers" (p. 126). For instance, campus engagement has the potential to build an attractive resume (Trolian, 2019) and foster teamwork, leadership, and interpersonal skills (Dean, 2015; Han & Kwon, 2018). Potential actions that can help generate these desired outcomes are service-learning initiatives or civic-based projects (Kisker et al. 2016; Pike et al., 2011). Framing such non-classroom opportunities as directly relatable to students' lives and educational/career goals can improve the development of lifelong skills and augment the student experience (Dean, 2015). Likewise, it directs focus on the *quality* of involvement opportunities and not solely on the *quantity* (Tinto, 2012).

Emphasize the Role of Faculty in Shaping the Campus Culture

It is important to instill a value system that utilizes faculty as an influential mode for creating and promoting campus engagement. Hendrickson et al. (2013) assert that shared values among faculty is a distinctive cultural quality of the organization. Several of the co- and extracurricular activities at HCCC were advised/sponsored by a faculty member(s), but this may not reflect all institutions (some may rely on student services personnel to provide such activities). Nevertheless, a concerted administrative effort to further involve faculty in this endeavor can potentially enhance the overall buy-in and merit of non-classroom activities (Kuh, 2009). It can also capitalize on the influential relationships that already exist between students and faculty

(Capps, 2012), and reduce the silos that separate the classroom from non-classroom behaviors (Suskie, 2015; 2018).

Schedule Non-classroom Activities Accordingly

The environment that a college generates through non-classroom activities can be indirectly impacted by how such opportunities are scheduled. When activities are programmed in a manner that creates gaps in students' daily plans, the likelihood that commuting students will remain on campus is seemingly reduced. This is also likely to be true when activities are not associated with students' credit hours or campus requirements. In contrast, activities that are voluntary but hold certain expectations for involvement (i.e., Honors College, student-athletes, band) is likely a mediating factor for such participation. Another consideration that may prove beneficial is to adjust instructional schedules (class times) in a manner that allocates an "activity period" for such purposes.

Measure Success Through Institutional Assessment

Student success has typically been measured by retention, graduation rates, and the achievement of specific learning goals (Dean, 2015). Non-classroom involvement often lacks measurable outcomes, principally because they are not structured the same as academic programs (Busby, 2015). Consequently, the contribution of non-classroom involvement to the student experience and success often goes undocumented (Bowers, 2020; Han & Kwon, 2018). To correct this, institutional assessment can not only evaluate the quality of student involvement (Mitchell et al., 2015), but also determine which programs are more (or less) successful in fostering these opportunities (Kim & Sax, 2014; Tinto, 2012). In addition, ongoing assessment practices can recognize whether the interests of all student groups are met (Gibson & Slate, 2010; Tinto, 2012). By doing so, campus leaders can improve the alignment of student experiences with their institutional goals by expanding assessment practices beyond the classroom (Caudle & Hammons, 2018; Suskie, 2015).

Recommendations for Future Research

The current study found statistically significant results pertaining to student attributes, involvement in non-classroom activities, and five factors that have been proven to influence college persistence. However, according to Davidson et al. (2009), "Persistence theories emphasize the temporal and cause-effect relationships between key variables" (p. 382). The statistical relationships observed using the CPQ-V2 instrument do not directly signify a causal connection between variables. Still, they demonstrate associations which can assist community college leaders in matters concerning their students' continuance to a degree.

Examining the various factors that contribute toward campus engagement can be a multilayered effort. Buckley and Lee (2018) and Kuh (2016) acknowledge the lack of research on broadly-based associations between specific activities and student outcomes. Many studies are narrow in scope and reach conclusions that cannot be applied to all institutions (Maxwell, 2000). More specifically, much of the research on campus engagement relates to students at four-year institutions rather than those at community colleges (Gibson and Slate, 2010; Hendrickson et al., 2013; Sáenz et al., 2011). Even studies that are community college-specific include study samples that do not reflect all campuses. Therefore, further research is needed to fill the literature gap and provide community college administrators with additional insight. Further research can build on this study with the following methods.

Continued Application of the *College Persistence Questionnaire* (CPQ)

While much attention toward student persistence has been directed at what occurs within the classroom (Tinto, 2012), the CPQ is a useful tool for identifying students or student groups who are deficient in certain persistence-oriented factors (remember, this study excluded five factors from the full CPQ-V2). In fact, according to the survey creators, “One of the objectives in designing the CPQ was to provide administrators with information allowing them to concentrate funds and resources on those variables that most need attention at their institutions” (Davidson et al., 2009, p. 383). Because the results are categorized into several components rather than relying purely on academic variables (e.g., current grades, high school test scores), the survey can provide campus leaders with additional data on the comprehensive student experience while also guiding institutional attention in ways that general retention/attrition rates cannot.

Future research should continue to provide institution-specific insight with this instrument, but with more diverse student populations and sub-groups that were not identified in the current study (e.g., adult and/or part-time students). For instance, additional use of the instrument should analyze the student experience from the perspective of non-traditional (adult) students. A more narrowed approach can produce results that can be compared to Gibson and Slate’s (2010) and Stuart et al.’s (2011) conflicting observations on engagement among non-traditional-age students. While the CPQ can be applied to any institutional setting, such a study within a rural community college setting would also address Howley et al.'s (2013) remarks about the limited research on adult students enrolled in these colleges.

Weigh Students Based on Previous High School Involvement

Knowledge gaps are present when assessing the connection(s) between student outcomes and the campus involvement that spurred those outcomes. For instance, did campus involvement during the freshman year have a direct impact on the measurable CPQ-V2 factors, or were some students already influenced by experiences prior to their college enrollment? After all, behaviors prior to college enrollment (i.e., involvement) can predispose students to continue those manners in college (Astin, 1993; Astin & Antonio, 2004). Thus, the contribution of a third criterion creates a spurious relationship. Weighted scales, on the other hand, improve the ability to evaluate nonspurious associations between variables (Check & Schutt, 2012). Future studies should implement controls to better gauge the college's impact on student development.

Measure the Intensity of Student Involvement

Astin (1999) asserts that the extent to which students can reach developmental goals is a direct function of the time and effort they devote to activities that can produce such gains. Hence, it is important to consider the intensity of student involvement. Moreover, Foubert and Grainger (2006) note that less is known about "the effects of increasingly more serious involvement, such as joining or leading an organization versus simply attending a meeting" (p. 167). The current study measured "levels" of involvement based on the number of activities students selected within the survey. However, it did not capture the time commitments for such activities. Additional studies should evaluate differences in student outcomes based on the effort (time) directed at non-classroom engagement. Observed linear effects would further support Astin's theory while nonlinear relationships may replicate the zero-sum framework described by Coleman (1961) and Seow and Pan (2014).

Perform Repeated Measures (Pre- and Post-Tests) Evaluations

A methodology of this variety can produce measurable results that illuminate longitudinal change, thus meeting the *time order* criterion for establishing causal effects (Check & Schutt, 2012). This can be accomplished through fixed-sample panel designs or a cohort design (Check & Schutt, 2012; Krathwohl, 2009). Explanatory research by these means can extend the knowledge about the causal effects of non-classroom involvement in ways that cross-sectional designs cannot. Thus, the current study conducted under this design would be capable of quantifying student change. Future studies should implement the repeated measures approach either during students' first semester or from their freshmen to sophomore year. The CPQ or other related instruments would be ideal for repeated measures evaluations.

Conclusion

The current study pertains to Astin and Tinto's models by demonstrating significant associations/relationships between student groups and their campus behaviors and persistence-related outcomes. An adapted form of the CPQ-V2 was used to determine whether freshmen, full-time rural community college students who participate in non-classroom activities differ from nonparticipants in self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. An electronic survey was issued to full-time freshmen students in a rural Mississippi community college during the fall 2021 semester. Significant associations were observed between students' level of involvement and their program of study, residency, employment, parental education, and volume of online classes. Students' type of involvement was also found to have a significant association with residency. Thus, conditional differences existed in how students participated in non-classroom opportunities. Significant relationships were also observed between students' level of involvement and their self-reported sense of social integration and degree commitment, along with statistical findings between students' type of involvement and their self-reported sense of social integration. This further demonstrates that outcomes differed across campus behaviors.

The challenges encountered by community colleges are markedly different compared to four-year institutions. However, community college administrators, faculty, and staff should evaluate their institutional actions in providing (and encouraging student participation in) enriching non-classroom opportunities. Whether future strategies implement the CPQ or similar methods, the overall objective should be directed at enhancing student experiences and outcomes. As research on campus engagement is continually expanded to include more diversified research settings, greater levels of generalization can result.

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APPENDIX A

REQUEST TO USE RESEARCH SITE

May 11, 2021

Dr. [redacted]
Director of Institutional Research
[redacted]
[redacted] MS [redacted]

RE: Permission to Conduct Research Study

Dear [redacted]

I am writing to request permission to conduct a research study at [redacted]. I am currently enrolled in the Community College Leadership program at Mississippi State University and am in the process of writing my doctoral thesis. The study is entitled "Non-classroom involvement among rural community college students: An application of Tinto and Astin's models."

The purpose of this study is to determine whether freshmen, full-time rural community college students who participate in non-classroom campus activities differ from nonparticipants in self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment. The study will be performed by using an adapted form of Davidson, Beck, and Grisaffe's (2015) College Persistence Questionnaire, Version 2. The study's four research questions are listed below.

> RQ1) To what extent are there significant associations between the level of student involvement and student attributes as measured by the survey instrument for rural, full-time freshmen community college students?
>
> RQ2) To what extent are there significant associations between the type of student involvement and student attributes as measured by the survey instrument for rural, full-time freshmen community college students?
>
> RQ3) Does a significant difference exist among the levels of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the College Persistence Questionnaire for rural, full-time freshmen community college students?
>
> RQ4) Does a significant difference exist among the types of student involvement and their relationship to academic integration, social integration, degree commitment, collegiate stress, and institutional commitment as measured by the College Persistence Questionnaire for rural, full-time freshmen community college students?

I hope that the college's administration will allow me to recruit from its population of freshmen, full-time students during the Fall 2021 semester. Students who volunteer to participate in my study will be provided a consent form (copy enclosed) and will anonymously complete a series of 42 questions (copy enclosed). Participants can complete the survey at a convenient time and location during a three-week period (November 1-21, 2021). A typical completion time should take approximately 20 minutes. No costs will be incurred by either [redacted] or the survey participants.

I also request that [redacted] further assist my efforts by distributing the research instrument and collecting the participant data through its EvaluationKIT software. The survey results will be pooled for the thesis study; therefore, individual responses will remain confidential and anonymous. To further protect the privacy of your students, [redacted] will be given the pseudonym "Hill Country Community College."

Your approval to conduct this study will be greatly appreciated. I will be happy to answer any questions or concerns that you may have. You may contact me at my email address: wjb4@msstate.edu

Sincerely,

Will Bowlin

Enclosures

Page 2 of 2

APPENDIX B

PERMISSION TO USE RESEARCH SITE

Fwd: UPDATED: request to survey [redacted] students

[redacted]@[redacted]edu>
Thu 5/13/2021 1:46 PM
To: William J. Bowlin <wjbowlin@[redacted]edu>
Without the article.

> Begin forwarded message:
>
> **From:** [redacted]u>
> **Subject: Re: UPDATED: request to survey [redacted] students**
> **Date:** May 11, 2021 at 2:15:59 PM CDT
> **To:** [redacted]@[redacted]edu>
> **Cc:** [redacted]@[redacted]edu>
>
> I will approve the research conducted by Mr. Bowlin through [redacted] students.
> Thanks!
>
> [redacted], Ph.D.
> President
> [redacted]
> www.[redacted]edu
> [redacted]
>
> ---
>
> **From:** [redacted]@[redacted]edu>
> **Sent:** Tuesday, May 11, 2021 12:59:21 PM
> **To:** [redacted]@[redacted]edu>
> **Cc:** [redacted]@[redacted]edu>
> **Subject:** Fwd: UPDATED: request to survey [redacted] students
>
> Pres. [redacted]
>
> Will Bowlin is a doctoral student in MSU's Community College Leadership Program, and as part of his degree, he wants to conduct retention research by surveying our first semester freshmen during November. He will be using the second version of the College Persistence Questionnaire (CPQ-V2). With your permission, he will work with [redacted] to set up the survey in EvaluationKIT, our online survey software, and it will go to students November 1-21, 2021. He's submitted a request to do research, his consent form (which would be completed by the students who participate), and the survey questions. For those who participate and are willing to give their email addresses, he's going to draw three students' names for $50 Amazon gift cards.
>
> I think he's asking great questions that can inform future decisions for services and programs we provide.
>
> [redacted]

APPENDIX C

SURVEY INSTRUMENT

Section 1: Participant Background and Involvement

Instructions: Select the following responses that best reflect your personal background and college experience(s). This section should take approximately 10 minutes to complete. Your answers will be handled confidentially.

1. Are you a full-time freshman student?
   - Yes
   - No

2. Are you at least 18 years old?
   - Yes
   - No

3. Please indicate your gender.
   - Male
   - Female
   - Prefer not to answer

4. Please indicate your race/ethnicity.
   - White
   - Black or African American
   - Hispanic or Latino
   - Asian
   - Mixed
   - Other
   - Prefer not to answer

5. Please indicate your program of study.
   - University Transfer
   - Career and Technical
   - Health Sciences

6. Please indicate your residential status.
   - On Campus
   - Within 20 miles
   - Further than 20 miles

7. Please indicate your employment status.
   - None
   - 1-9 hours/week
   - 10-20 hours/week
   - 21-30 hours/week
   - 31-39 hours/week
   - 40+ hours/week

8. Did your parents or legal guardians graduate with any type of college degree?
   - Yes, both did.
   - One did, but the other did not.
   - Neither did.
   - Do not know/prefer not to answer

9. What proportion of your classes this semester have been online?
   - None
   - Less than half
   - Half (equal number of online and face-to-face classes)
   - More than half, but not all
   - All

10. Were you a member of, or associated with, any of the following athletic teams/groups this semester (include yourself if you are a team manager)? Select all that apply.
    - Football
    - Men's Basketball
    - Women's Basketball
    - Baseball
    - Softball
    - Men's Tennis
    - Golf
    - Cheerleader/Pom Squad
    - None of the above

11. Were you a member of, involved in, or did you attend any of the following college-sponsored, co-curricular organizations/groups this semester? Select all that apply.
    - Honors College
    - Phi Theta Kappa
    - Scholars Bowl
    - Hospitality Management Chapter of Collegiate DECA
    - Medical Lab Technology
    - Mississippi Organization for Associate Degree Nursing Students (MOSA)
    - Medical Assisting Student Group
    - Student Success Workshops
    - October 10 – "The Mississippi Melting Pot" guest lecture
    - October 26 – "The Rights and Wrongs of History: The Lost Cause and Confederate Civil War Memory" guest lecture
    - None of the above

12. Were you a member of, or involved in, any of the following college-sponsored, extra-curricular organizations/groups this semester? Select all that apply.
    - Student Government Association
    - Band (including dance squad)
    - Drama Production (Theatre)
    - Baptist Student Union (BSU)
    - Wesley Foundation
    - Chorus/Chamber Choir
    - Private Lessons (Non-music majors)
    - Future Farmers of America (FFA) chapter
    - Quiz Bowl Team
    - 9/11 Day of Service
    - The Voices (Vocal ensemble)
    - Campus Country
    - Jazz Band
    - Scheduled Exercise Class at Burgess Activity Center
    - None of the above

Section 2: College Persistence Questionnaire, Version 2 (Adapted)

Instructions: The college experience will often differ from one student to another. This section of the survey will ask about different aspects of your life at this college. Please consider each of these questions carefully and select the answer that best represents your views and/or beliefs. There are no “right or wrong” responses. This section should take approximately 10 minutes to complete. Your answers will be handled confidentially.

13. On average, across all your courses, how interested are you in the things that are being said during class discussions?
    - Extremely interested
    - Interested
    - Neutral
    - Disinterested
    - Extremely disinterested

14. What is your overall impression of the other students here?
    - Excellent
    - Good
    - Fair
    - Poor
    - Very poor
    - Not applicable

15. How supportive is your family of your pursuit of a college degree, in terms of their encouragement and expectations?
    - Very supportive
    - Somewhat supportive
    - Neutral
    - Somewhat unsupportive
    - Very unsupportive
    - Not applicable

16. Students differ quite a lot in how distressed they get over various aspects of college life. Overall, how much stress would you say that you have experienced while attending this institution?
    - Very much stress
    - Much stress
    - Neutral
    - A little stress
    - Very little stress

17. How confident are you that this is the right college for you?
    - Very confident
    - Somewhat confident
    - Neutral
    - Somewhat unconfident
    - Very confident

18. In general, how satisfied are you with the quality of instruction are you receiving here?
    - Very satisfied
    - Somewhat satisfied
    - Neutral
    - Somewhat dissatisfied
    - Very dissatisfied

19. How much have your interactions with other students had an impact on your personal growth, attitudes, and values?
    - Very much
    - Much
    - Some
    - Little
    - Very little
    - Not applicable

20. At this moment in time, how strong would you say your commitment is to earning a college degree, here or elsewhere?
    - Very strong
    - Somewhat strong
    - Neutral
    - Somewhat weak
    - Very weak

21. How much pressure do you feel when trying to meet deadlines for course assignments?
    - Extreme pressure
    - Much pressure
    - Some pressure
    - A little pressure
    - Hardly any pressure at all

22. How much thought have you given to stopping your education here (perhaps transferring to another college, going to work, or leaving for other reasons)?
    - A lot of thought
    - Some thought
    - Neutral
    - Little thought
    - Very little thought

23. How well do you understand the thinking of your instructors when they lecture or ask students to answer questions in class?
    - Very well
    - Well
    - Neutral
    - Not well
    - Not at all well
    - Not applicable

24. How strong is your sense of connectedness with others (faculty, students, staff) on this campus?
    - Very strong
    - Somewhat strong
    - Neutral
    - Somewhat weak
    - Very weak

25. When you think of people who mean the most to you (friends and family), how disappointed do you think they would be if you quit school?
    - Very disappointed
    - Somewhat disappointed
    - Neutral
    - Not very disappointed
    - Not at all disappointed

26. How often do you feel overwhelmed by the academic workload here?
    - Very often
    - Somewhat often
    - Sometimes
    - Rarely
    - Very rarely

27. How likely is it that you will re-enroll here next semester?
    - Very likely
    - Somewhat likely
    - Neutral
    - Somewhat unlikely
    - Very unlikely

28. How satisfied are you with the extent of your intellectual growth and interest in ideas since coming here?
    - Very satisfied
    - Somewhat satisfied
    - Neutral
    - Somewhat dissatisfied
    - Very dissatisfied

29. When you think about your overall social life here (friends, college organizations, extracurricular activities, and so on), how satisfied are you with yours?
    - Very satisfied
    - Somewhat satisfied
    - Neutral
    - Somewhat dissatisfied
    - Very dissatisfied

30. There are so many things that can interfere with students making progress toward a degree; feelings of uncertainty about finishing are likely to occur along the way. At this moment in time, how certain are you that you will earn a college degree?
    - Very certain
    - Somewhat certain
    - Neutral
    - Somewhat uncertain
    - Very uncertain

31. How much do other aspects of your life suffer because you are a college student?
    - Very much
    - Much
    - Same
    - Little
    - Very little

32. How likely is it that you will earn a degree from here?
    - Very likely
    - Somewhat likely
    - Neutral
    - Somewhat unlikely
    - Very unlikely

33. How much of a connection do you see between what you are learning here and your future career responsibilities?
    - Very much
    - Much
    - Some
    - Little
    - Very little

34. How much have your interactions with other students had an impact on your intellectual growth and interest in ideas?
    - Very much
    - Much
    - Some
    - Little
    - Very little
    - Not applicable

35. After beginning college, students sometimes discover that a college degree is not quite as important to them as it once was. How strong is your intention in persist in your pursuit of a degree, here or elsewhere?
    - Very strong
    - Somewhat strong
    - Neutral
    - Somewhat weak
    - Very weak
    - Not applicable

36. How concerned about your intellectual growth are the faculty here?
    - Very concerned
    - Somewhat concerned
    - Neutral
    - Somewhat unconcerned
    - Very unconcerned

37. How much do you think you have in common with other students here?
    - Very much
    - Much
    - Some
    - Little
    - Very little
    - Not applicable

38. When you consider the benefits of having a college degree and the costs of earning it, how much would you say that the benefits outweigh the costs, if at all?
    - Benefits far outweigh the costs
    - Benefits somewhat outweigh the costs
    - Benefits and costs are equal
    - Costs somewhat outweigh the benefits
    - Costs far outweigh the benefits

39. How would you rate the quality of the instruction you are receiving here?
    - Excellent
    - Good
    - Fair
    - Poor
    - Very poor

40. How often do you wear clothing with this college's emblems?
   - Very often
   - Somewhat often
   - Sometimes
   - Rarely
   - Very rarely
   - Not applicable

Section 3: Voluntary Entry into Randomized Drawing

41. Do you want to be included in the drawing for a $50 Amazon gift card?
   - Yes (if yes, please enter your email address in the comment box)
   - No

APPENDIX D

INSTITUTIONAL REVIEW BOARD EMEMPTION DETERMINATION LETTER

MISSISSIPPI STATE UNIVERSITY

Office of Research Compliance

Institutional Review Board for the Protection of
Human Subjects in Research
P.O. Box 6223
53 Morgan Avenue
Mississippi State, MS 39762
P. 662.325.3294

www.orc.msstate.edu

NOTICE OF DETERMINATION FROM THE HUMAN RESEARCH PROTECTION PROGRAM

DATE:	June 10, 2021
TO:	Carol White, Educational Leadership, Katie Oswalt;Linda Coats;Stephanie King Katie Oswalt, Educational Leadership, Linda Coats, Educational Leadership, Stephanie King, Educational Leadership, William Bowlin, Educational Leadership
PROTOCOL TITLE:	Non-classroom involvement among rural community college students: An application of Tinto and Astin#s models
FUNDING SOURCE:	
PROTOCOL NUMBER:	IRB-21-209
	Approval Date: June 10, 2021 Expiration Date: June 09, 2026

EXEMPTION DETERMINATION

The review of your research study referenced above has been completed. The HRPP had made an Exemption Determination as defined by 45 CFR 46.104(d)2. Based on this determination, and in accordance with Federal Regulations, your research does not require further oversight by the HRPP.

Employing best practices for Exempt studies is strongly encouraged such as adherence to the ethical principles articulated in the Belmont Report, found at www.hhs.gov/ohrp/regulations-and-policy/belmont-report/# as well as the MSU HRPP Operations Manual, found at www.orc.msstate.edu/humansubjects. As part of best practices in research, it is the responsibility of the Principal Investigator to ensure that personnel added after this Exemption Determination notice have completed IRB training prior to their involvement in the research study. Additionally, to protect the confidentiality of research participants, we encourage you to destroy private information which can be linked to the identities of individuals as soon as it is reasonable to do so.

Based on this determination, this study has been inactivated in our system. This means that recruitment, enrollment, data collection, and/or data analysis CAN continue, yet personnel and procedural amendments to this study are no longer required. **If at any point, however, the risk to participants increases, you must contact the HRPP immediately. If you are unsure if your proposed change would increase the risk, please call the HRPP office and they can guide you.**

If this research is for a thesis or dissertation, this notification is your official documentation that the HRPP has made this determination.

If you have any questions relating to the protection of human research participants, please contact the HRPP Office at irb@research.msstate.edu. We wish you success in carrying out your research project.

Review Type:	EXEMPT
IRB Number:	IORG0000467

APPENDIX E

WAIVER OF INFORMED CONSENT

Mississippi State University
Informed Consent Form for Participation in Research

Please take all the time you need to read through this document and decide whether you would like to participate in this research study. Your decision to take part in this research study is entirely voluntary. Participation or nonparticipation will not impact your standing with your college. Submission of the survey will be interpreted as your informed consent to participate and verification that you are at least 18 years of age.

IRB Approval Number: IRB-21-209

Title of Research Study: Non-classroom involvement among rural community college students: An application of Tinto and Astin's models

Study Site: [redacted]

Researchers: Will Bowlin (Student Researcher) and Dr. Carol White (Advisor)

Purpose

You have been asked to participate in this study based on your freshman, full-time status. The purpose of this research is to determine whether freshmen, full-time rural community college students who participate in non-classroom campus activities differ from nonparticipants in self-identified values of academic integration, social integration, degree commitment, collegiate stress, and institutional commitment.

Procedures

As a participant in this study, you will be asked to complete a survey about your college experience, which will take approximately 20 minutes to complete. The survey includes 42 questions within three sections. First, the *Participant Background and Involvement* section will ask about your demographic and educational background, as well as your involvement in campus activities outside of the classroom. Second, an adapted form of the *College Persistence Questionnaire, Version 2* will ask a series of questions about your opinion on issues concerning college life. The last section will offer you an opportunity to voluntarily enter a randomized drawing for completing the survey. The survey will remain open until the end of November 21, 2021.

Risks or Discomforts

There is no anticipated discomfort for those contributing to this study, so risk to participants is minimal. However, if at any time you feel uncomfortable while completing the survey, you may withdraw at any time without penalty.

Benefits

There is no promise that you will receive any benefit from taking part in this study. Society will benefit from this study based on the potential to offer community college personnel an additional method for reporting the value of the overall student experience. In addition, by focusing on non-classroom activities, your participation in this study may help determine whether differences exist among student populations. This may assist college leaders evaluate the opportunities provided to students in the future.

Incentive to participate

Three survey completers will be randomly selected to receive a $50 Amazon gift card.

Confidentiality

Your responses to this survey will remain confidential and anonymous. Data records will be stored in a manner that exclude personal identifiers or code numbers from connecting you to your survey responses. Gift cards will be sent electronically to each of the three randomly selected survey completers based on the email address provided at the end of the survey. However, all email addresses collected will be stored separately from the survey responses and will not be used to identify your answers.

Additionally, the researchers involved in this study will not release your personal contact information to unauthorized personnel. Please note that research records will be held by a state entity and therefore are subject to disclosure if required by law. Research information may be shared with the MSU Institutional Review Board (IRB) and the Office for Human Research Protections (OHRP) and others who are responsible for ensuring compliance with laws and regulations related to research. The information from this study may be published for scientific purposes; however, your identity will not be revealed.

Questions

If you have any questions about this research project or want to provide input, please feel free to contact Will Bowlin at 662-720-7352 or Dr. Carol White at 662-325-7064.

For questions regarding your rights as a research participant or to request information, please feel free to contact the MSU Human Research Protection Program (HRPP) by e-mail at irb@research.msstate.edu, or visit our participant page on the website at https://www.orc.msstate.edu/human-subjects/participant-information.

To report problems, concerns, or complaints pertaining to your involvement in this research study, you may do so anonymously by contacting the MSU Ethics Line at http://www.msstate.ethicspoint.com/.

Voluntary Participation

Please understand that your participation is voluntary. Your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue your participation at any time without penalty or loss of benefits.

APPENDIX F

MEAN COMPARISONS AMONG BETWEEN- AND WITHIN-SUBJECTS VARIABLES

FOR ACADEMIC INTEGRATION

Table F1

Academic Integration Means Among Gender and Levels of Involvement

Gender	Level of Involvement	Mean	Std. Deviation	N
Male	Uninvolved	3.9461	.60734	51
	Involved	3.6938	.74373	29
	More Involved	4.2044	.47951	9
	Total	3.8900	.65658	89
Female	Uninvolved	3.8595	.63970	110
	Involved	3.9245	.59875	56
	More Involved	3.9214	.75049	22
	Total	3.8861	.63892	188
Total	Uninvolved	3.8869	.62903	161
	Involved	3.8458	.65667	85
	More Involved	4.0035	.68749	31
	Total	3.8873	.64346	277

Table F2

Academic Integration Means Among Gender and Types of Involvement

Involvement Types	Gender	Mean	Std. Deviation	N
Athletics	Male	3.4860	.69479	5
	Female	3.5233	.35607	6
	Total	3.5064	.50682	11
Cocurricular	Male	3.7133	.85116	15
	Female	3.9700	.55414	37
	Total	3.8960	.65530	52
Extracurricular	Male	3.9209	.64807	11
	Female	3.7694	.92543	16
	Total	3.8311	.81325	27
2+ types of inv	Male	4.1000	.49271	7
	Female	4.0895	.53054	19
	Total	4.0923	.51083	26

Table F2 (continued)

Involvement Types	Gender	Mean	Std. Deviation	N
Total	Male	3.8147	.71882	38
	Female	3.9236	.64006	78
	Total	3.8879	.66572	116

Table F3

Academic Integration Means Among Race/Ethnicity and Levels of Involvement

Level of Involvement	Race/Ethnicity	Mean	Std. Deviation	N
Uninvolved	White	3.8929	.64721	126
	Non-White	3.9180	.56292	35
	Total	3.8984	.62825	161
Involved	White	3.8064	.63666	70
	Non-White	4.0293	.73872	15
	Total	3.8458	.65667	85
More Involved	White	4.0895	.73408	22
	Non-White	3.7933	.53645	9
	Total	4.0035	.68749	31
Total	White	3.8850	.65467	218
	Non-White	3.9273	.60225	59
	Total	3.8940	.64304	277

Table F4

Academic Integration Means Among Race/Ethnicity and Types of Involvement

Involvement Types	Race/Ethnicity	Mean	Std. Deviation	N
Athletics	White	3.3763	.33991	8
	Non-White	3.8533	.79475	3
	Total	3.5064	.50682	11
Cocurricular	White	3.8604	.63271	45
	Non-White	4.1243	.80251	7
	Total	3.8960	.65530	52
Extracurricular	White	3.8005	.87293	20
	Non-White	3.9186	.66401	7
	Total	3.8311	.81325	27
2+ types of inv	White	4.1937	.45246	19
	Non-White	3.8171	.59348	7
	Total	4.0923	.51083	26
Total	White	3.8741	.66816	92
	Non-White	3.9408	.66775	24
	Total	3.8879	.66572	116

Table F5

Academic Integration Means Among Programs of Study and Levels of Involvement

Level of Involvement	Program of Study	Mean	Std. Deviation	N
Uninvolved	University Transfer	3.9069	.56755	48
	Career and Technical	3.8920	.69883	65
	Health Sciences	3.8712	.60032	50
	Total	3.8900	.62896	163
Involved	University Transfer	3.7256	.65307	39
	Career and Technical	4.0341	.71473	17
	Health Sciences	3.8969	.61526	29
	Total	3.8458	.65667	85

Table F5 (continued)

Level of Involvement	Program of Study	Mean	Std. Deviation	N
More Involved	University Transfer	4.0504	.70779	25
	Career and Technical	3.8550	1.01116	2
	Health Sciences	3.7850	.53019	4
	Total	4.0035	.68749	31
Total	University Transfer	3.8758	.63712	112
	Career and Technical	3.9199	.70053	84
	Health Sciences	3.8760	.59621	83
	Total	3.8891	.64332	279

Table F6

Academic Integration Means Among Programs of Study and Types of Involvement

Involvement Types	Program of Study	Mean	Std. Deviation	N
Athletics	University Transfer	3.0500	.21932	3
	Career and Technical	3.3550	.30406	2
	Health Sciences	3.7850	.49871	6
	Total	3.5064	.50682	11
Cocurricular	University Transfer	3.7252	.60257	27
	Career and Technical	4.1564	.76533	11
	Health Sciences	4.0207	.61088	14
	Total	3.8960	.65530	52
Extracurricular	University Transfer	3.9279	.95615	14
	Career and Technical	3.6450	.53972	4
	Health Sciences	3.7633	.71817	9
	Total	3.8311	.81325	27
2+ types of inv	University Transfer	4.0920	.50365	20
	Career and Technical	4.6400	.09899	2
	Health Sciences	3.8200	.51569	4
	Total	4.0923	.51083	26
Total	University Transfer	3.8525	.68819	64
	Career and Technical	4.0153	.71699	19
	Health Sciences	3.8833	.59913	33
	Total	3.8879	.66572	116

Table F7

Academic Integration Means Among Residential Statuses and Levels of Involvement

Level of Involvement	Residential Status	Mean	Std. Deviation	N
Uninvolved	On campus	3.9888	.63335	25
	Within 20 miles	3.9181	.56305	58
	Further than 20 miles	3.8401	.68253	78
	Total	3.8913	.63271	161
Involved	On campus	3.8079	.64508	43
	Within 20 miles	3.9570	.70167	30
	Further than 20 miles	3.7033	.58699	12
	Total	3.8458	.65667	85
More Involved	On campus	4.0228	.82559	18
	Within 20 miles	3.8957	.55755	7
	Further than 20 miles	4.0717	.34954	6
	Total	4.0035	.68749	31
Total	On campus	3.9055	.68189	86
	Within 20 miles	3.9287	.60364	95
	Further than 20 miles	3.8375	.65547	96
	Total	3.8899	.64555	277

Table F8

Academic Integration Means Among Residential Statuses and Types of Involvement

Involvement Types	Residential Status	Mean	Std. Deviation	N
Athletics	On campus	3.5140	.53357	10
	Further than 20 miles	3.4300	.	1
	Total	3.5064	.50682	11
Cocurricular	On campus	4.0013	.58999	16
	Within 20 miles	3.8565	.69742	26
	Further than 20 miles	3.8300	.68780	10
	Total	3.8960	.65530	52

Table F8 (continued)

Involvement Types	Residential Status	Mean	Std. Deviation	N
Extracurricular	On campus	3.6200	.94058	15
	Within 20 miles	4.2857	.63177	7
	Further than 20 miles	3.8280	.27399	5
	Total	3.8311	.81325	27
2+ types of inv	On campus	4.1345	.54298	20
	Within 20 miles	3.9275	.44440	4
	Further than 20 miles	4.0000	.41012	2
	Total	4.0923	.51083	26
Total	On campus	3.8713	.70298	61
	Within 20 miles	3.9454	.67008	37
	Further than 20 miles	3.8261	.53926	18
	Total	3.8879	.66572	116

Table F9

Academic Integration Means Among Employment Statuses and Levels of Involvement

Employment Status	Level of Involvement	Mean	Std. Deviation	N
None	No Involvement	3.95	.548	49
	Involved	3.89	.646	40
	More Involved	4.00	.514	8
	Total	3.93	.584	97
1-30 hours/week	No Involvement	3.81	.640	73
	Involved	3.81	.669	41
	More Involved	4.03	.755	22
	Total	3.84	.668	136
31-40+ hours/week	No Involvement	3.97	.701	40
	Involved	3.79	.797	4
	More Involved	3.43	.	1
	Total	3.94	.699	45

Table F9 (continued)

Employment Status	Level of Involvement	Mean	Std. Deviation	N
Total	No Involvement	3.89	.631	162
	Involved	3.85	.657	85
	More Involved	4.00	.687	31
	Total	3.89	.644	278

Table F10

Academic Integration Means Among Employment Statuses and Types of Involvement

Employment Status	Involvement Types Condensed	Mean	Std. Deviation	N
None	Athletics	3.41	.398	7
	Cocurricular	4.02	.686	21
	Extracurricular	3.99	.601	12
	2+ types of inv	3.93	.508	8
	Total	3.91	.623	48
1-30 hours/week	Athletics	3.68	.690	4
	Cocurricular	3.82	.622	27
	Extracurricular	3.71	.952	15
	2+ types of inv	4.21	.489	17
	Total	3.89	.702	63
31-40+ hours/week	Cocurricular	3.79	.797	4
	2+ types of inv	3.43	.	1
	Total	3.72	.708	5
Total	Athletics	3.51	.507	11
	Cocurricular	3.90	.655	52
	Extracurricular	3.83	.813	27
	2+ types of inv	4.09	.511	26
	Total	3.89	.666	116

Table F11

Academic Integration Means Among Parental Education and Levels of Involvement

Level of Involvement	Parental College Degree	Mean	Std. Deviation	N
Uninvolved	Yes, both did	4.0057	.63079	21
	One did, but the other did not	3.9733	.59444	45
	Neither did	3.8314	.64043	88
	Total	3.8966	.62663	154
Involved	Yes, both did	3.8324	.65191	29
	One did, but the other did not	3.7838	.63630	29
	Neither did	3.9608	.71558	25
	Total	3.8541	.66229	83
More Involved	Yes, both did	4.1744	.45771	9
	One did, but the other did not	3.7123	.85816	13
	Neither did	4.2383	.35846	6
	Total	3.9736	.68925	28
Total	Yes, both did	3.9463	.62218	59
	One did, but the other did not	3.8711	.65362	87
	Neither did	3.8791	.64935	119
	Total	3.8914	.64309	265

Table F12

Academic Integration Means Among Parental Education and Types of Involvement

Involvement Types	Parental College Degree	Mean	Std. Deviation	N
Athletics	Yes, both did	3.2867	.42501	3
	One did, but the other did not	3.5700	.61764	6
	Neither did	3.8600	.	1
	Total	3.5140	.53357	10
Cocurricular	Yes, both did	3.7229	.65200	17
	One did, but the other did not	3.7861	.62847	18
	Neither did	4.2237	.62355	16
	Total	3.9024	.66018	51
Extracurricular	Yes, both did	4.1229	.54331	7
	One did, but the other did not	3.8089	1.10093	9
	Neither did	3.6636	.69424	11
	Total	3.8311	.81325	27
2+ types of inv	Yes, both did	4.2455	.46153	11
	One did, but the other did not	3.7933	.45291	9
	Neither did	4.2367	.46145	3
	Total	4.0674	.49118	23
Total	Yes, both did	3.9134	.62340	38
	One did, but the other did not	3.7617	.70225	42
	Neither did	4.0145	.66594	31
	Total	3.8842	.66805	111

Table F13

Academic Integration Means Among Volume of Online Courses and Levels of Involvement

Level of Involvement	Online classes	Mean	Std. Deviation	N
Uninvolved	None	3.8810	.53391	29
	Less than half	3.9098	.62557	62
	Half	3.6146	.64744	13
	More than half, but not all	4.1936	.86366	11
	All	3.8748	.61375	48
	Total	3.8900	.62896	163
Involved	None	3.9165	.69698	17
	Less than half	3.8402	.66784	50
	Half	3.7617	.68572	6
	More than half, but not all	3.8225	.52698	8
	All	3.7875	.84713	4
	Total	3.8458	.65667	85
More Involved	None	4.2133	.41307	6
	Less than half	4.1195	.50906	19
	Half	3.1775	1.17868	4
	More than half, but not all	3.1400	.	1
	Total	3.9800	.68640	30
Total	None	3.9310	.58009	52
	Less than half	3.9137	.62920	131
	Half	3.5770	.75107	23
	More than half, but not all	3.9925	.75415	20
	All	3.8681	.62443	52
	Total	3.8862	.64258	278

Table F14

Academic Integration Means Among Volume of Online Courses and Types of Involvement

Involvement Types	Online classes	Mean	Std. Deviation	N
Athletics	None	3.6775	.74750	4
	Less than half	3.4086	.34358	7
	Total	3.5064	.50682	11
Cocurricular	None	4.0015	.66107	13
	Less than half	3.9442	.70294	26
	Half	3.6800	.58839	4
	More than half, but not all	3.7633	.41273	6
	All	3.5733	.89512	3
	Total	3.8960	.65530	52
Extracurricular	None	4.3333	.58106	3
	Less than half	3.8432	.68201	19
	Half	2.7600	1.18655	3
	More than half, but not all	4.7100	.	1
	All	4.4300	.	1
	Total	3.8311	.81325	27
2+ types of inv	None	4.0433	.57735	3
	Less than half	4.1676	.44429	17
	Half	4.0933	.57570	3
	More than half, but not all	3.2150	.10607	2
	Total	4.0676	.50526	25
Total	None	3.9939	.64019	23
	Less than half	3.9171	.63700	69
	Half	3.5280	.90296	10
	More than half, but not all	3.7467	.54291	9
	All	3.7875	.84713	4
	Total	3.8808	.66415	115

Table F15

Academic Integration Means Among Intent to Return and Levels of Involvement

Intent to Return	Level of Involvement	Mean	Std. Deviation	N
Less Than Likely	No Involvement	3.29	.614	12
	Involved	3.26	.210	7
	More Involved	3.14	1.512	3
	Total	3.26	.656	22
Very and Somewhat Likely	No Involvement	3.94	.606	150
	Involved	3.90	.658	78
	More Involved	4.10	.515	28
	Total	3.95	.614	256
Total	No Involvement	3.89	.629	162
	Involved	3.85	.657	85
	More Involved	4.00	.687	31
	Total	3.89	.643	278

Table F16

Academic Integration Means Among Intent to Return and Types of Involvement

Intent to Return	Involvement Types	Mean	Std. Deviation	N
Less Than Likely	Athletics	3.07	.099	2
	Cocurricular	3.57	.431	5
	Extracurricular	2.29	1.209	2
	2+ types of inv	3.71	.	1
	Total	3.23	.735	10
Very and Somewhat Likely	Athletics	3.60	.512	9
	Cocurricular	3.93	.669	47
	Extracurricular	3.95	.664	25
	2+ types of inv	4.11	.515	25
	Total	3.95	.627	106
Total	Athletics	3.51	.507	11
	Cocurricular	3.90	.655	52
	Extracurricular	3.83	.813	27
	2+ types of inv	4.09	.511	26
	Total	3.89	.666	116

APPENDIX G

MEAN COMPARISONS AMONG BETWEEN- AND WITHIN-SUBJECTS VARIABLES

FOR SOCIAL INTEGRATION

Table G1

Social Integration Means Among Gender and Levels of Involvement

Level of Involvement	Gender	Mean	Std. Deviation	N
Uninvolved	Male	2.9922	.96647	55
	Female	2.7780	.88463	112
	Total	2.8486	.91506	167
Involved	Male	3.2514	.85257	29
	Female	3.3122	.69266	54
	Total	3.2910	.74777	83
More Involved	Male	3.7778	.62353	9
	Female	3.7148	.74310	23
	Total	3.7325	.70217	32
Total	Male	3.1490	.92735	93
	Female	3.0447	.88305	189
	Total	3.0791	.89760	282

Table G2

Social Integration Means Among Gender and Types of Involvement

Involvement Types	Gender	Mean	Std. Deviation	N
Athletics	Male	3.6000	.63423	5
	Female	3.4283	.39539	6
	Total	3.5064	.49710	11
Cocurricular	Male	3.1820	.82126	15
	Female	3.2489	.68179	35
	Total	3.2288	.71847	50
Extracurricular	Male	3.4927	.91572	11
	Female	3.2419	.91373	16
	Total	3.3441	.90552	27
2+ types of inv	Male	3.4486	.90619	7
	Female	3.9075	.50295	20
	Total	3.7885	.64526	27

Table G2 (continued)

Involvement Types	Gender	Mean	Std. Deviation	N
Total	Male	3.3761	.82799	38
	Female	3.4325	.72720	77
	Total	3.4138	.75879	115

Table G3

Social Integration Means Among Race/Ethnicity and Levels of Involvement

Level of Involvement	Race/Ethnicity	Mean	Std. Deviation	N
Uninvolved	White	2.8136	.91638	128
	Non-White	3.0146	.92527	39
	Total	2.8605	.91963	167
Involved	White	3.2341	.72905	69
	Non-White	3.5714	.80304	14
	Total	3.2910	.74777	83
More Involved	White	3.8265	.75802	23
	Non-White	3.4922	.48994	9
	Total	3.7325	.70217	32
Total	White	3.0514	.90355	220
	Non-White	3.2097	.87657	62
	Total	3.0862	.89854	282

Table G4

Social Integration Means Among Race/Ethnicity and Types of Involvement

Involvement Types	Race/Ethnicity	Mean	Std. Deviation	N
Athletics	White	3.4463	.40174	8
	Non-White	3.6667	.78590	3
	Total	3.5064	.49710	11
Cocurricular	White	3.1984	.70934	44
	Non-White	3.4517	.81477	6
	Total	3.2288	.71847	50
Extracurricular	White	3.2930	.92328	20
	Non-White	3.4900	.90567	7
	Total	3.3441	.90552	27
2+ types of inv	White	3.8500	.71896	20
	Non-White	3.6129	.34461	7
	Total	3.7885	.64526	27
Total	White	3.3822	.77629	92
	Non-White	3.5404	.68550	23
	Total	3.4138	.75879	115

Table G5

Social Integration Means Among Programs of Study and Levels of Involvement

Level of Involvement	Program of Study	Mean	Std. Deviation	N
Uninvolved	University Transfer	2.8627	.94327	51
	Career and Technical	2.8343	.93530	68
	Health Sciences	2.8796	.87475	50
	Total	2.8563	.91501	169
Involved	University Transfer	3.1658	.71793	38
	Career and Technical	3.3575	.73261	16
	Health Sciences	3.4183	.79267	29
	Total	3.2910	.74777	83

Table G5 (continued)

Level of Involvement	Program of Study	Mean	Std. Deviation	N
More Involved	University Transfer	3.7488	.71677	25
	Career and Technical	2.9300	.50912	2
	Health Sciences	3.9720	.52766	5
	Total	3.7325	.70217	32
Total	University Transfer	3.1581	.88779	114
	Career and Technical	2.9338	.91051	86
	Health Sciences	3.1306	.88693	84
	Total	3.0820	.89673	284

Table G6

Social Integration Means Among Programs of Study and Types of Involvement

Involvement Types	Program of Study	Mean	Std. Deviation	N
Athletics	University Transfer	3.4767	.36226	3
	Career and Technical	3.5000	.50912	2
	Health Sciences	3.5233	.62369	6
	Total	3.5064	.49710	11
Cocurricular	University Transfer	3.1327	.63421	26
	Career and Technical	3.2710	.85101	10
	Health Sciences	3.3771	.79200	14
	Total	3.2288	.71847	50
Extracurricular	University Transfer	3.3257	.95793	14
	Career and Technical	3.1450	.62846	4
	Health Sciences	3.4611	.99491	9
	Total	3.3441	.90552	27
2+ types of inv	University Transfer	3.7790	.70539	20
	Career and Technical	3.6450	.50205	2
	Health Sciences	3.8840	.50762	5
	Total	3.7885	.64526	27
Total	University Transfer	3.3971	.76755	63
	Career and Technical	3.3100	.71269	18
	Health Sciences	3.4997	.77878	34
	Total	3.4138	.75879	115

Table G7

Social Integration Means Among Residential Statuses and Levels of Involvement

Level of Involvement	Residential Status	Mean	Std. Deviation	N
Uninvolved	On campus	3.3193	.90093	30
	Within 20 miles	2.8000	.95253	58
	Further than 20 miles	2.7037	.84395	79
	Total	2.8477	.91591	167
Involved	On campus	3.3926	.78452	43
	Within 20 miles	3.2907	.70511	28
	Further than 20 miles	2.9275	.64298	12
	Total	3.2910	.74777	83
More Involved	On campus	3.8800	.78979	19
	Within 20 miles	3.4686	.58587	7
	Further than 20 miles	3.5733	.43454	6
	Total	3.7325	.70217	32
Total	On campus	3.4693	.84352	92
	Within 20 miles	2.9981	.89335	93
	Further than 20 miles	2.7852	.82628	97
	Total	3.0786	.89823	282

Table G8

Social Integration Means Among Residential Statuses and Types of Involvement

Involvement Types	Residential Status	Mean	Std. Deviation	N
Athletics	On campus	3.5430	.50809	10
	Further than 20 miles	3.1400	.	1
	Total	3.5064	.49710	11
Cocurricular	On campus	3.3488	.73707	16
	Within 20 miles	3.2438	.71385	24
	Further than 20 miles	3.0010	.72033	10
	Total	3.2288	.71847	50

Table G8 (continued)

Involvement Types	Residential Status	Mean	Std. Deviation	N
Extracurricular	On campus	3.3433	1.10266	15
	Within 20 miles	3.4286	.63654	7
	Further than 20 miles	3.2280	.66119	5
	Total	3.3441	.90552	27
2+ types of inv	On campus	3.8305	.69917	21
	Within 20 miles	3.6425	.53928	4
	Further than 20 miles	3.6400	.09899	2
	Total	3.7885	.64526	27
Total	On campus	3.5419	.81188	62
	Within 20 miles	3.3263	.67868	35
	Further than 20 miles	3.1428	.64899	18
	Total	3.4138	.75879	115

Table G9

Social Integration Means Among Employment Statuses and Levels of Involvement

Employment Status	Level of Involvement	Mean	Std. Deviation	N
None	No Involvement	2.96	.914	51
	Involved	3.21	.713	39
	More Involved	3.75	.605	8
	Total	3.13	.840	98
1-30 hours/week	No Involvement	2.97	.865	76
	Involved	3.37	.798	41
	More Involved	3.73	.760	23
	Total	3.21	.872	140
31-40+ hours/week	No Involvement	2.47	.900	41
	Involved	3.29	.516	3
	More Involved	3.71	.	1
	Total	2.55	.907	45

Table G9 (continued)

Employment Status	Level of Involvement	Mean	Std. Deviation	N
Total	No Involvement	2.85	.910	168
	Involved	3.29	.748	83
	More Involved	3.73	.702	32
	Total	3.08	.895	283

Table G10

Social Integration Means Among Employment Statuses and Levels of Involvement

Employment Status	Involvement Types Condensed	Mean	Std. Deviation	N
None	Athletics	3.43	.361	7
	Cocurricular	3.19	.785	20
	Extracurricular	3.31	.778	12
	2+ types of inv	3.47	.765	8
	Total	3.30	.720	47
1-30 hours/week	Athletics	3.64	.724	4
	Cocurricular	3.25	.707	27
	Extracurricular	3.37	1.023	15
	2+ types of inv	3.94	.568	18
	Total	3.50	.798	64
31-40+ hours/week	Cocurricular	3.29	.516	3
	2+ types of inv	3.71	.	1
	Total	3.39	.471	4
Total	Athletics	3.51	.497	11
	Cocurricular	3.23	.718	50
	Extracurricular	3.34	.906	27
	2+ types of inv	3.79	.645	27
	Total	3.41	.759	115

Table G11

Social Integration Means Among Parental Education and Levels of Involvement

Level of Involvement	Parental College Degree	Mean	Std. Deviation	N
Uninvolved	Yes, both did	3.1922	.79209	23
	One did, but the other did not	2.7809	.98015	47
	Neither did	2.7916	.89363	89
	Total	2.8464	.91225	159
Involved	Yes, both did	3.4231	.77027	29
	One did, but the other did not	3.3725	.66754	28
	Neither did	3.0783	.79850	24
	Total	3.3035	.75062	81
More Involved	Yes, both did	3.7870	.69252	10
	One did, but the other did not	3.5162	.79456	13
	Neither did	3.8817	.56708	6
	Total	3.6852	.71231	29
Total	Yes, both did	3.3961	.78132	62
	One did, but the other did not	3.0777	.91522	88
	Neither did	2.9044	.89318	119
	Total	3.0744	.89381	269

Table G12

Social Integration Means Among Parental Education and Types of Involvement

Involvement Types	Parental College Degree	Mean	Std. Deviation	N
Athletics	Yes, both did	3.3800	.41569	3
	One did, but the other did not	3.5483	.58122	6
	Neither did	4.0000	.	1
	Total	3.5430	.50809	10
Cocurricular	Yes, both did	3.1853	.69661	17
	One did, but the other did not	3.1929	.74628	17
	Neither did	3.3720	.73771	15
	Total	3.2451	.71651	49
Extracurricular	Yes, both did	3.5914	.91004	7
	One did, but the other did not	3.5389	.92051	9
	Neither did	3.0273	.87736	11
	Total	3.3441	.90552	27
2+ types of inv	Yes, both did	3.9758	.62834	12
	One did, but the other did not	3.6356	.33377	9
	Neither did	3.0967	1.15223	3
	Total	3.7383	.65596	24
Total	Yes, both did	3.5164	.75939	39
	One did, but the other did not	3.4180	.70339	41
	Neither did	3.2390	.81728	30
	Total	3.4041	.75657	110

Table G13

Social Integration Means Among Volume of Online Courses and Levels of Involvement

Level of Involvement	Online classes	Mean	Std. Deviation	N
Uninvolved	None	3.1338	.85640	32
	Less than half	3.0175	.80717	65
	Half	3.1546	.70048	13
	More than half, but not all	3.4282	.76110	11
	All	2.2410	.89280	48
	Total	2.8563	.91501	169
Involved	None	3.4213	.86390	16
	Less than half	3.2600	.70167	50
	Half	3.4983	1.06325	6
	More than half, but not all	3.3043	.53606	7
	All	2.8225	.75226	4
	Total	3.2910	.74777	83
More Involved	None	3.9550	.54574	6
	Less than half	3.8210	.63617	20
	Half	2.8925	.89950	4
	More than half, but not all	3.4300	.	1
	Total	3.7145	.70625	31
Total	None	3.3102	.85900	54
	Less than half	3.2264	.78927	135
	Half	3.1987	.82316	23
	More than half, but not all	3.3826	.64914	19
	All	2.2858	.89014	52
	Total	3.0778	.89542	283

Table G14

Social Integration Means Among Volume of Online Courses and Types of Involvement

Involvement Types	Online classes	Mean	Std. Deviation	N
Athletics	None	3.7875	.57529	4
	Less than half	3.3457	.40443	7
	Total	3.5064	.49710	11
Cocurricular	None	3.4308	.80803	12
	Less than half	3.1538	.64825	26
	Half	3.4625	1.00629	4
	More than half, but not all	3.1980	.60977	5
	All	2.8100	.92081	3
	Total	3.2288	.71847	50
Extracurricular	None	4.0000	.75783	3
	Less than half	3.3989	.89536	19
	Half	2.3800	.78619	3
	More than half, but not all	3.7100	.	1
	All	2.8600	.	1
	Total	3.3441	.90552	27
2+ types of inv	None	3.3833	1.32719	3
	Less than half	3.8567	.54624	18
	Half	3.8567	.75215	3
	More than half, but not all	3.4300	.00000	2
	Total	3.7692	.65005	26
Total	None	3.5668	.81437	22
	Less than half	3.4203	.72542	70
	Half	3.2560	.99781	10
	More than half, but not all	3.3200	.49828	8
	All	2.8225	.75226	4
	Total	3.4061	.75763	114

Table G15

Social Integration Means Among Intent to Return and Levels of Involvement

Intent to Return	Level of Involvement	Mean	Std. Deviation	N
Less Than Likely	No Involvement	2.75	1.039	13
	Involved	3.04	.583	7
	More Involved	2.81	1.083	3
	Total	2.85	.898	23
Very and Somewhat Likely	No Involvement	2.87	.909	155
	Involved	3.31	.760	76
	More Involved	3.83	.601	29
	Total	3.11	.896	260
Total	No Involvement	2.86	.917	168
	Involved	3.29	.748	83
	More Involved	3.73	.702	32
	Total	3.08	.897	283

Table G16

Social Integration Means Among Intent to Return and Types of Involvement

Intent to Return	Involvement Types	Mean	Std. Deviation	N
Less Than Likely	Athletics	3.29	.205	2
	Cocurricular	2.97	.690	5
	Extracurricular	2.36	1.110	2
	2+ types of inv	3.57	.	1
	Total	2.97	.707	10
Very and Somewhat Likely	Athletics	3.56	.537	9
	Cocurricular	3.26	.723	45
	Extracurricular	3.42	.865	25
	2+ types of inv	3.80	.657	26
	Total	3.46	.753	105
Total	Athletics	3.51	.497	11
	Cocurricular	3.23	.718	50
	Extracurricular	3.34	.906	27
	2+ types of inv	3.79	.645	27
	Total	3.41	.759	115

APPENDIX H

MEAN COMPARISONS AMONG BETWEEN- AND WITHIN-SUBJECTS VARIABLES FOR DEGREE COMMITMENT

Table H1

Degree Commitment Means Among Gender and Levels of Involvement

Level of Involvement	Gender	Mean	Std. Deviation	N
Uninvolved	Male	4.2205	.60184	55
	Female	4.2988	.56925	113
	Total	4.2732	.57949	168
Involved	Male	4.4359	.43048	29
	Female	4.4400	.49130	56
	Total	4.4386	.46884	85
More Involved	Male	4.5178	.48997	9
	Female	4.5209	.60424	23
	Total	4.5200	.56663	32
Total	Male	4.3165	.55122	93
	Female	4.3666	.55564	192
	Total	4.3502	.55373	285

Table H2

Degree Commitment Means Among Gender and Types of Involvement

Involvement Types	Gender	Mean	Std. Deviation	N
Athletics	Male	4.4000	.60737	5
	Female	4.2233	.38950	6
	Total	4.3036	.48159	11
Cocurricular	Male	4.4653	.43760	15
	Female	4.4865	.52423	37
	Total	4.4804	.49664	52
Extracurricular	Male	4.3018	.41463	11
	Female	4.3837	.66886	16
	Total	4.3504	.57088	27
2+ types of inv	Male	4.7143	.29838	7
	Female	4.5570	.42362	20
	Total	4.5978	.39575	27

Table H2 (continued)

Involvement Types	Gender	Mean	Std. Deviation	N
Total	Male	4.4553	.43976	38
	Female	4.4635	.52397	79
	Total	4.4609	.49629	117

Table H3

Degree Commitment Means Among Race/Ethnicity and Levels of Involvement

Level of Involvement	Race/Ethnicity	Mean	Std. Deviation	N
Uninvolved	White	4.2622	.59022	128
	Non-White	4.2458	.60202	40
	Total	4.2583	.59128	168
Involved	White	4.4447	.45685	70
	Non-White	4.4100	.53776	15
	Total	4.4386	.46884	85
More Involved	White	4.4848	.60970	23
	Non-White	4.6100	.45736	9
	Total	4.5200	.56663	32
Total	White	4.3432	.55940	221
	Non-White	4.3355	.57653	64
	Total	4.3414	.56227	285

Table H4

Degree Commitment Means Among Race/Ethnicity and Types of Involvement

Involvement Types	Race/Ethnicity	Mean	Std. Deviation	N
Athletics	White	4.2513	.48722	8
	Non-White	4.4433	.53715	3
	Total	4.3036	.48159	11
Cocurricular	White	4.5069	.48290	45
	Non-White	4.3100	.58935	7
	Total	4.4804	.49664	52
Extracurricular	White	4.3155	.59262	20
	Non-White	4.4500	.53339	7
	Total	4.3504	.57088	27
2+ types of inv	White	4.5575	.39467	20
	Non-White	4.7129	.40566	7
	Total	4.5978	.39575	27
Total	White	4.4546	.49571	93
	Non-White	4.4850	.50849	24
	Total	4.4609	.49629	117

Table H5

Degree Commitment Means Among Programs of Study and Levels of Involvement

Level of Involvement	Program of Study	Mean	Std. Deviation	N
Uninvolved	University Transfer	4.3358	.53235	52
	Career and Technical	4.1121	.66628	68
	Health Sciences	4.3830	.49118	50
	Total	4.2602	.58866	170
Involved	University Transfer	4.3841	.50814	39
	Career and Technical	4.4400	.43716	17
	Health Sciences	4.5110	.43616	29
	Total	4.4386	.46884	85
More Involved	University Transfer	4.5592	.58958	25
	Career and Technical	4.8350	.23335	2
	Health Sciences	4.1980	.44740	5
	Total	4.5200	.56663	32
Total	University Transfer	4.4002	.53945	116
	Career and Technical	4.1928	.63943	87
	Health Sciences	4.4162	.47215	84
	Total	4.3420	.56073	287

Table H6

Degree Commitment Means Among Programs of Study and Types of Involvement

Involvement Types	Program of Study	Mean	Std. Deviation	N
Athletics	University Transfer	4.2233	.69256	3
	Career and Technical	4.1650	.47376	2
	Health Sciences	4.3900	.45453	6
	Total	4.3036	.48159	11
Cocurricular	University Transfer	4.4319	.52686	27
	Career and Technical	4.4691	.46507	11
	Health Sciences	4.5829	.47937	14
	Total	4.4804	.49664	52

Table H6 (continued)

Involvement Types	Program of Study	Mean	Std. Deviation	N
Extracurricular	University Transfer	4.2964	.70819	14
	Career and Technical	4.4975	.40689	4
	Health Sciences	4.3689	.40720	9
	Total	4.3504	.57088	27
2+ types of inv	University Transfer	4.6240	.38574	20
	Career and Technical	4.8350	.23335	2
	Health Sciences	4.3980	.46494	5
	Total	4.5978	.39575	27
Total	University Transfer	4.4525	.54367	64
	Career and Technical	4.4816	.43407	19
	Health Sciences	4.4650	.44535	34
	Total	4.4609	.49629	117

Table H7

Degree Commitment Means Among Residential Statuses and Levels of Involvement

Level of Involvement	Residential Status	Mean	Std. Deviation	N
Uninvolved	On campus	4.2717	.49698	30
	Within 20 miles	4.2822	.65290	59
	Further than 20 miles	4.2376	.57837	79
	Total	4.2593	.58959	168
Involved	On campus	4.4451	.41230	43
	Within 20 miles	4.5157	.47073	30
	Further than 20 miles	4.2225	.61483	12
	Total	4.4386	.46884	85
More Involved	On campus	4.5511	.64834	19
	Within 20 miles	4.5971	.26998	7
	Further than 20 miles	4.3317	.57908	6
	Total	4.5200	.56663	32
Total	On campus	4.4104	.50136	92
	Within 20 miles	4.3781	.58968	96
	Further than 20 miles	4.2415	.57718	97
	Total	4.3421	.56113	285

Table H8

Degree Commitment Means Among Residential Statuses and Types of Involvement

Involvement Types	Residential Status	Mean	Std. Deviation	N
Athletics	On campus	4.3670	.45675	10
	Further than 20 miles	3.6700	.	1
	Total	4.3036	.48159	11
Cocurricular	On campus	4.4262	.42911	16
	Within 20 miles	4.5704	.43575	26
	Further than 20 miles	4.3330	.71458	10
	Total	4.4804	.49664	52
Extracurricular	On campus	4.3987	.67838	15
	Within 20 miles	4.4500	.44852	7
	Further than 20 miles	4.0660	.28059	5
	Total	4.3504	.57088	27
2+ types of inv	On campus	4.6257	.39069	21
	Within 20 miles	4.4175	.51945	4
	Further than 20 miles	4.6650	.23335	2
	Total	4.5978	.39575	27
Total	On campus	4.4776	.49346	62
	Within 20 miles	4.5311	.43783	37
	Further than 20 miles	4.2589	.58825	18
	Total	4.4609	.49629	117

Table H9

Degree Commitment Means Among Employment Statuses and Levels of Involvement

Employment Status	Level of Involvement	Mean	Std. Deviation	N
None	No Involvement	4.18	.633	50
	Involved	4.40	.413	40
	More Involved	4.60	.366	8
	Total	4.30	.548	98
1-30 hours/week	No Involvement	4.30	.534	76
	Involved	4.54	.416	41
	More Involved	4.47	.628	23
	Total	4.40	.528	140
31-40+ hours/week	No Involvement	4.27	.631	43
	Involved	3.71	.863	4
	More Involved	5.00	.	1
	Total	4.24	.664	48
Total	No Involvement	4.26	.589	169
	Involved	4.44	.469	85
	More Involved	4.52	.567	32
	Total	4.34	.561	286

Table H10

Degree Commitment Means Among Employment Statuses and Types of Involvement

Employment Status	Involvement Types Condensed	Mean	Std. Deviation	N
None	Athletics	4.17	.385	7
	Cocurricular	4.51	.442	21
	Extracurricular	4.43	.412	12
	2+ types of inv	4.50	.281	8
	Total	4.44	.409	48
1-30 hours/week	Athletics	4.54	.597	4
	Cocurricular	4.57	.382	27
	Extracurricular	4.29	.680	15
	2+ types of inv	4.62	.439	18
	Total	4.52	.499	64
31-40+ hours/week	Cocurricular	3.71	.863	4
	2+ types of inv	5.00	.	1
	Total	3.97	.945	5
Total	Athletics	4.30	.482	11
	Cocurricular	4.48	.497	52
	Extracurricular	4.35	.571	27
	2+ types of inv	4.60	.396	27
	Total	4.46	.496	117

Table H11

Degree Commitment Means Among Parental Education and Levels of Involvement

Level of Involvement	Parental College Degree	Mean	Std. Deviation	N
Uninvolved	Yes, both did	4.2961	.59554	23
	One did, but the other did not	4.4054	.46666	48
	Neither did	4.2206	.60520	89
	Total	4.2869	.56822	160
Involved	Yes, both did	4.4993	.37263	29
	One did, but the other did not	4.5107	.45150	29
	Neither did	4.3396	.55545	25
	Total	4.4552	.46171	83
More Involved	Yes, both did	4.6830	.35428	10
	One did, but the other did not	4.3838	.70608	13
	Neither did	4.3583	.58208	6
	Total	4.4817	.58025	29
Total	Yes, both did	4.4535	.47869	62
	One did, but the other did not	4.4362	.49908	90
	Neither did	4.2523	.59180	120
	Total	4.3590	.54428	272

Table H12

Degree Commitment Means Among Parental Education and Types of Involvement

Involvement Types	Parental College Degree	Mean	Std. Deviation	N
Athletics	Yes, both did	4.3333	.57735	3
	One did, but the other did not	4.3617	.48779	6
	Neither did	4.5000	.	1
	Total	4.3670	.45675	10
Cocurricular	Yes, both did	4.6071	.35304	17
	One did, but the other did not	4.5833	.37526	18
	Neither did	4.2706	.66335	16
	Total	4.4931	.49291	51
Extracurricular	Yes, both did	4.4286	.34585	7
	One did, but the other did not	4.3311	.86651	9
	Neither did	4.3164	.41113	11
	Total	4.3504	.57088	27
2+ types of inv	Yes, both did	4.5825	.37880	12
	One did, but the other did not	4.4611	.47020	9
	Neither did	4.7767	.25423	3
	Total	4.5613	.40170	24
Total	Yes, both did	4.5464	.37235	39
	One did, but the other did not	4.4714	.53727	42
	Neither did	4.3432	.55077	31
	Total	4.4621	.49249	112

Table H13

Degree Commitment Means Among Volume of Online Courses and Levels of Involvement

Level of Involvement	Online classes	Mean	Std. Deviation	N
Uninvolved	None	4.2647	.53980	32
	Less than half	4.2052	.62227	64
	Half	4.2431	.72487	13
	More than half, but not all	4.3491	.53277	11
	All	4.3126	.56366	50
	Total	4.2602	.58866	170
Involved	None	4.4506	.48846	17
	Less than half	4.3996	.48388	50
	Half	4.6100	.35922	6
	More than half, but not all	4.3737	.50384	8
	All	4.7475	.16500	4
	Total	4.4386	.46884	85
More Involved	None	4.5267	.48813	6
	Less than half	4.6080	.39891	20
	Half	3.9550	1.18145	4
	More than half, but not all	4.8300	.	1
	Total	4.5152	.57532	31
Total	None	4.3507	.52057	55
	Less than half	4.3378	.55973	134
	Half	4.2887	.74559	23
	More than half, but not all	4.3830	.50412	20
	All	4.3448	.55542	54
	Total	4.3408	.56138	286

Table H14

Degree Commitment Means Among Volume of Online Courses and Types of Involvement

Involvement Types	Online classes	Mean	Std. Deviation	N
Athletics	None	4.5425	.59707	4
	Less than half	4.1671	.38539	7
	Total	4.3036	.48159	11
Cocurricular	None	4.3838	.51615	13
	Less than half	4.4488	.55047	26
	Half	4.7075	.24945	4
	More than half, but not all	4.5550	.44465	6
	All	4.7200	.19053	3
	Total	4.4804	.49664	52
Extracurricular	None	4.7767	.09238	3
	Less than half	4.4374	.39378	19
	Half	3.3867	.91904	3
	More than half, but not all	3.8300	.	1
	All	4.8300	.	1
	Total	4.3504	.57088	27
2+ types of inv	None	4.4433	.41789	3
	Less than half	4.6106	.40858	18
	Half	4.8300	.00000	3
	More than half, but not all	4.3300	.70711	2
	Total	4.5950	.40332	26
Total	None	4.4704	.47837	23
	Less than half	4.4591	.46807	70
	Half	4.3480	.80708	10
	More than half, but not all	4.4244	.49523	9
	All	4.7475	.16500	4
	Total	4.4591	.49806	116

Table H15

Degree Commitment Means Among Intent to Return and Levels of Involvement

Intent to Return	Level of Involvement	Mean	Std. Deviation	N
Less Than Likely	No Involvement	3.49	.738	14
	Involved	4.19	.596	7
	More Involved	3.94	1.419	3
	Total	3.75	.826	24
Very and Somewhat Likely	No Involvement	4.33	.522	155
	Involved	4.46	.454	78
	More Involved	4.58	.415	29
	Total	4.40	.497	262
Total	No Involvement	4.26	.589	169
	Involved	4.44	.469	85
	More Involved	4.52	.567	32
	Total	4.34	.560	286

Table H16

Degree Commitment Means Among Intent to Return and Types of Involvement

Intent to Return	Involvement Types	Mean	Std. Deviation	N
Less Than Likely	Athletics	3.75	.113	2
	Cocurricular	4.60	.595	5
	Extracurricular	3.08	1.061	2
	2+ types of inv	4.50	.	1
	Total	4.12	.836	10
Very and Somewhat Likely	Athletics	4.43	.441	9
	Cocurricular	4.47	.491	47
	Extracurricular	4.45	.401	25
	2+ types of inv	4.60	.403	26
	Total	4.49	.445	107
Total	Athletics	4.30	.482	11
	Cocurricular	4.48	.497	52
	Extracurricular	4.35	.571	27
	2+ types of inv	4.60	.396	27
	Total	4.46	.496	117

APPENDIX I

MEAN COMPARISONS AMONG BETWEEN- AND WITHIN-SUBJECTS VARIABLES FOR COLLEGIATE STRESS

Table I1

Collegiate Stress Means Among Gender and Levels of Involvement

Level of Involvement	Gender	Mean	Std. Deviation	N
Uninvolved	Male	3.1574	.78952	54
	Female	3.5066	.84149	113
	Total	3.3937	.83882	167
Involved	Male	3.3190	.93038	29
	Female	3.3482	.77997	56
	Total	3.3382	.82889	85
More Involved	Male	3.1389	.63874	9
	Female	3.6196	.69442	23
	Total	3.4844	.70407	32
Total	Male	3.2065	.81925	92
	Female	3.4740	.80856	192
	Total	3.3873	.82023	284

Table I2

Collegiate Stress Means Among Gender and Types of Involvement

Involvement Types	Gender	Mean	Std. Deviation	N
Athletics	Male	3.8000	.69372	5
	Female	3.4583	.53424	6
	Total	3.6136	.60584	11
Cocurricular	Male	3.1333	.94900	15
	Female	3.3919	.75356	37
	Total	3.3173	.81366	52
Extracurricular	Male	3.1591	.81603	11
	Female	3.3125	1.07044	16
	Total	3.2500	.96077	27
2+ types of inv	Male	3.3929	.87627	7
	Female	3.5750	.53864	20
	Total	3.5278	.62915	27
Total	Male	3.2763	.86561	38
	Female	3.4272	.76182	79
	Total	3.3782	.79642	117

Table I3

Collegiate Stress Means Among Race/Ethnicity and Levels of Involvement

Level of Involvement	Race/Ethnicity	Mean	Std. Deviation	N
Uninvolved	White	3.4375	.82110	128
	Non-White	3.2564	.90228	39
	Total	3.3952	.84147	167
Involved	White	3.3714	.84885	70
	Non-White	3.1833	.73477	15
	Total	3.3382	.82889	85
More Involved	White	3.5761	.58112	23
	Non-White	3.2500	.95197	9
	Total	3.4844	.70407	32

Table 3 (continued)

Level of Involvement	Race/Ethnicity	Mean	Std. Deviation	N
Total	White	3.4310	.80766	221
	Non-White	3.2381	.85952	63
	Total	3.3882	.82183	284

Table I4

Collegiate Stress Means Among Race/Ethnicity and Types of Involvement

Involvement Types	Race/Ethnicity	Mean	Std. Deviation	N
Athletics	White	3.6250	.71962	8
	Non-White	3.5833	.14434	3
	Total	3.6136	.60584	11
Cocurricular	White	3.2778	.83125	45
	Non-White	3.5714	.68791	7
	Total	3.3173	.81366	52
Extracurricular	White	3.5250	.89185	20
	Non-White	2.4643	.71339	7
	Total	3.2500	.96077	27
2+ types of inv	White	3.5625	.60085	20
	Non-White	3.4286	.74602	7
	Total	3.5278	.62915	27
Total	White	3.4220	.79312	93
	Non-White	3.2083	.80307	24
	Total	3.3782	.79642	117

Table I5

Collegiate Stress Means Among Programs of Study and Levels of Involvement

Level of Involvement	Program of Study	Mean	Std. Deviation	N
Uninvolved	University Transfer	3.5288	.68894	52
	Career and Technical	3.2612	.91436	67
	Health Sciences	3.4850	.88843	50
	Total	3.4098	.84713	169
Involved	University Transfer	3.2692	.82595	39
	Career and Technical	3.6324	.79115	17
	Health Sciences	3.2586	.84379	29
	Total	3.3382	.82889	85
More Involved	University Transfer	3.5200	.58595	25
	Career and Technical	3.1250	1.23744	2
	Health Sciences	3.4500	1.15109	5
	Total	3.4844	.70407	32
Total	University Transfer	3.4397	.72278	116
	Career and Technical	3.3314	.89889	86
	Health Sciences	3.4048	.88402	84
	Total	3.3969	.82549	286

Table I6

Collegiate Stress Means Among Programs of Study and Types of Involvement

Involvement Types	Program of Study	Mean	Std. Deviation	N
Athletics	University Transfer	4.0000	.90139	3
	Career and Technical	3.1250	.53033	2
	Health Sciences	3.5833	.40825	6
	Total	3.6136	.60584	11
Cocurricular	University Transfer	3.2130	.75544	27
	Career and Technical	3.6364	.68341	11
	Health Sciences	3.2679	.99259	14
	Total	3.3173	.81366	52

Table I6 (continued)

Involvement Types	Program of Study	Mean	Std. Deviation	N
Extracurricular	University Transfer	3.2679	.83473	14
	Career and Technical	3.9375	1.19678	4
	Health Sciences	2.9167	.98425	9
	Total	3.2500	.96077	27
2+ types of inv	University Transfer	3.5500	.60481	20
	Career and Technical	3.0000	1.06066	2
	Health Sciences	3.6500	.62750	5
	Total	3.5278	.62915	27
Total	University Transfer	3.3672	.74664	64
	Career and Technical	3.5789	.81672	19
	Health Sciences	3.2868	.87718	34
	Total	3.3782	.79642	117

Table I7

Collegiate Stress Means Among Residential Statuses and Levels of Involvement

Level of Involvement	Residential Status	Mean	Std. Deviation	N
Uninvolved	On campus	3.2333	.91899	30
	Within 20 miles	3.3816	.82525	57
	Further than 20 miles	3.5094	.83859	80
	Total	3.4162	.85006	167
Involved	On campus	3.2733	.79210	43
	Within 20 miles	3.5083	.84201	30
	Further than 20 miles	3.1458	.91985	12
	Total	3.3382	.82889	85
More Involved	On campus	3.6316	.65282	19
	Within 20 miles	3.4643	.54827	7
	Further than 20 miles	3.0417	.92759	6
	Total	3.4844	.70407	32
Total	On campus	3.3342	.81645	92
	Within 20 miles	3.4282	.80874	94
	Further than 20 miles	3.4362	.85879	98
	Total	3.4005	.82716	284

Table I8

Collegiate Stress Means Among Residential Statuses and Types of Involvement

Involvement Types	Residential Status	Mean	Std. Deviation	N
Athletics	On campus	3.6750	.60150	10
	Further than 20 miles	3.0000	.	1
	Total	3.6136	.60584	11
Cocurricular	On campus	2.9844	.73863	16
	Within 20 miles	3.6346	.66795	26
	Further than 20 miles	3.0250	1.01002	10
	Total	3.3173	.81366	52
Extracurricular	On campus	3.3500	.92002	15
	Within 20 miles	3.1429	1.15341	7
	Further than 20 miles	3.1000	.97788	5
	Total	3.2500	.96077	27
2+ types of inv	On campus	3.5714	.64296	21
	Within 20 miles	3.2500	.73598	4
	Further than 20 miles	3.6250	.17678	2
	Total	3.5278	.62915	27
Total	On campus	3.3831	.76517	62
	Within 20 miles	3.5000	.78837	37
	Further than 20 miles	3.1111	.89616	18
	Total	3.3782	.79642	117

Table I9

Collegiate Stress Means Among Employment Statuses and Levels of Involvement

Employment Status	Level of Involvement	Mean	Std. Deviation	N
None	No Involvement	3.30	.869	51
	Involved	3.38	.884	40
	More Involved	3.47	.674	8
	Total	3.34	.855	99
1-30 hours/week	No Involvement	3.45	.781	74
	Involved	3.25	.785	41
	More Involved	3.48	.742	23
	Total	3.39	.776	138
31-40+ hours/week	No Involvement	3.47	.942	43
	Involved	3.88	.595	4
	More Involved	3.75	.	1
	Total	3.51	.911	48
Total	No Involvement	3.41	.849	168
	Involved	3.34	.829	85
	More Involved	3.48	.704	32
	Total	3.40	.827	285

Table I10

Collegiate Stress Means Among Employment Statuses and Levels of Involvement

Employment Status	Involvement Types Condensed	Mean	Std. Deviation	N
None	Athletics	3.50	.456	7
	Cocurricular	3.21	.950	21
	Extracurricular	3.50	.959	12
	2+ types of inv	3.59	.667	8
	Total	3.39	.847	48
1-30 hours/week	Athletics	3.81	.851	4
	Cocurricular	3.31	.713	27
	Extracurricular	3.05	.946	15
	2+ types of inv	3.49	.644	18
	Total	3.33	.772	64
31-40+ hours/week	Cocurricular	3.88	.595	4
	2+ types of inv	3.75	.	1
	Total	3.85	.518	5
Total	Athletics	3.61	.606	11
	Cocurricular	3.32	.814	52
	Extracurricular	3.25	.961	27
	2+ types of inv	3.53	.629	27
	Total	3.38	.796	117

Table I11

Collegiate Stress Means Among Parental Education and Levels of Involvement

Level of Involvement	Parental College Degree	Mean	Std. Deviation	N
Uninvolved	Yes, both did	3.4674	.86702	23
	One did, but the other did not	3.3594	.78873	48
	Neither did	3.4410	.87583	89
	Total	3.4203	.84506	160
Involved	Yes, both did	3.4914	.87496	29
	One did, but the other did not	3.1552	.73014	29
	Neither did	3.3800	.90173	25
	Total	3.3404	.83791	83
More Involved	Yes, both did	3.5500	.51099	10
	One did, but the other did not	3.6346	.73325	13
	Neither did	2.9583	.94097	6
	Total	3.4655	.73716	29
Total	Yes, both did	3.4919	.81352	62
	One did, but the other did not	3.3333	.76987	90
	Neither did	3.4042	.88295	120
	Total	3.4007	.83028	272

Table I12

Collegiate Stress Means Among Parental Education and Types of Involvement

Involvement Types	Parental College Degree	Mean	Std. Deviation	N
Athletics	Yes, both did	4.3333	.62915	3
	One did, but the other did not	3.3750	.34460	6
	Neither did	3.5000	.	1
	Total	3.6750	.60150	10
Cocurricular	Yes, both did	3.3971	.75549	17
	One did, but the other did not	3.2639	.83786	18
	Neither did	3.2813	.91230	16
	Total	3.3137	.82135	51
Extracurricular	Yes, both did	3.1429	1.13521	7
	One did, but the other did not	3.2778	.84266	9
	Neither did	3.2955	1.02359	11
	Total	3.2500	.96077	27
2+ types of inv	Yes, both did	3.6667	.49237	12
	One did, but the other did not	3.3611	.80147	9
	Neither did	3.3333	.94648	3
	Total	3.5104	.66545	24
Total	Yes, both did	3.5064	.79158	39
	One did, but the other did not	3.3036	.75614	42
	Neither did	3.2984	.90926	31
	Total	3.3728	.81165	112

Table I13

Collegiate Stress Means Among Volume of Online Courses and Levels of Involvement

Level of Involvement	Online classes	Mean	Std. Deviation	N
Uninvolved	None	3.3468	.95672	31
	Less than half	3.4077	.84035	65
	Half	3.5208	.86246	12
	More than half, but not all	3.6364	.76944	11
	All	3.3750	.81949	50
	Total	3.4098	.84713	169
Involved	None	3.3971	.80068	17
	Less than half	3.2400	.78889	50
	Half	3.8750	.87678	6
	More than half, but not all	3.7500	.77919	8
	All	2.6875	1.08733	4
	Total	3.3382	.82889	85
More Involved	None	3.7083	.29226	6
	Less than half	3.2750	.72502	20
	Half	3.8750	.82916	4
	More than half, but not all	4.5000	.	1
	Total	3.4758	.71401	31
Total	None	3.4028	.85564	54
	Less than half	3.3259	.80360	135
	Half	3.6818	.83873	22
	More than half, but not all	3.7250	.75612	20
	All	3.3241	.84901	54
	Total	3.3956	.82667	285

Table I14

Collegiate Stress Means Among Volume of Online Courses and Types of Involvement

Involvement Types	Online classes	Mean	Std. Deviation	N
Athletics	None	3.8750	.77728	4
	Less than half	3.4643	.48795	7
	Total	3.6136	.60584	11
Cocurricular	None	3.3846	.68932	13
	Less than half	3.1442	.79741	26
	Half	3.5000	.84163	4
	More than half, but not all	4.0417	.62082	6
	All	2.8333	1.28290	3
	Total	3.3173	.81366	52
Extracurricular	None	2.9167	.80364	3
	Less than half	3.2368	.92599	19
	Half	4.2500	1.08972	3
	More than half, but not all	2.5000	.	1
	All	2.2500	.	1
	Total	3.2500	.96077	27
2+ types of inv	None	3.9167	.14434	3
	Less than half	3.3333	.64169	18
	Half	4.0000	.43301	3
	More than half, but not all	3.8750	.88388	2
	Total	3.5192	.64001	26
Total	None	3.4783	.71077	23
	Less than half	3.2500	.76613	70
	Half	3.8750	.81009	10
	More than half, but not all	3.8333	.77055	9
	All	2.6875	1.08733	4
	Total	3.3750	.79912	116

Table I15

Collegiate Stress Means Among Intent to Return and Levels of Involvement

Intent to Return	Level of Involvement	Mean	Std. Deviation	N
Less Than Likely	No Involvement	3.73	.769	14
	Involved	3.46	.529	7
	More Involved	4.08	.804	3
	Total	3.70	.707	24
Very and Somewhat Likely	No Involvement	3.38	.852	154
	Involved	3.33	.852	78
	More Involved	3.42	.678	29
	Total	3.37	.833	261
Total	No Involvement	3.41	.849	168
	Involved	3.34	.829	85
	More Involved	3.48	.704	32
	Total	3.40	.827	285

Table I16

Collegiate Stress Means Among Intent to Return and Types of Involvement

Intent to Return	Involvement Types	Mean	Std. Deviation	N
Less Than Likely	Athletics	3.38	.177	2
	Cocurricular	3.70	.481	5
	Extracurricular	3.88	1.591	2
	2+ types of inv	3.50	.	1
	Total	3.65	.648	10
Very and Somewhat Likely	Athletics	3.67	.661	9
	Cocurricular	3.28	.834	47
	Extracurricular	3.20	.927	25
	2+ types of inv	3.53	.642	26
	Total	3.35	.807	107
Total	Athletics	3.61	.606	11
	Cocurricular	3.32	.814	52
	Extracurricular	3.25	.961	27
	2+ types of inv	3.53	.629	27
	Total	3.38	.796	117

APPENDIX J

MEAN COMPARISONS AMONG BETWEEN- AND WITHIN-SUBJECTS VARIABLES

FOR INSTITUTIONAL COMMITMENT

Table J1

Institutional Commitment Means Among Gender and Levels of Involvement

Level of Involvement	Gender	Mean	Std. Deviation	N
Uninvolved	Male	3.9953	.55142	53
	Female	4.0110	.44671	114
	Total	4.0060	.48077	167
Involved	Male	3.8793	.71845	29
	Female	4.0417	.48746	54
	Total	3.9849	.57957	83
More Involved	Male	4.2500	.42492	10
	Female	3.9891	.42958	23
	Total	4.0682	.43872	33
Total	Male	3.9864	.60147	92
	Female	4.0170	.45455	191
	Total	4.0071	.50612	283

Table J2

Institutional Commitment Means Among Gender and Types of Involvement

Involvement Types	Gender	Mean	Std. Deviation	N
Athletics	Male	3.9000	.84039	5
	Female	3.9000	.33541	5
	Total	3.9000	.60323	10
Cocurricular	Male	3.9062	.70045	16
	Female	4.0068	.57278	37
	Total	3.9764	.60896	53
Extracurricular	Male	4.0000	.74162	11
	Female	4.0333	.29681	15
	Total	4.0192	.51925	26

Table J2 (continued)

Involvement Types	Gender	Mean	Std. Deviation	N
2+ types of inv	Male	4.1429	.42956	7
	Female	4.0875	.39963	20
	Total	4.1019	.39988	27
Total	Male	3.9744	.67081	39
	Female	4.0260	.46873	77
	Total	4.0086	.54267	116

Table J3

Institutional Commitment Means Among Race/Ethnicity and Levels of Involvement

Level of Involvement	Race/Ethnicity	Mean	Std. Deviation	N
Uninvolved	White	4.0256	.50771	127
	Non-White	3.9563	.39584	40
	Total	4.0090	.48307	167
Involved	White	3.9638	.57566	69
	Non-White	4.0893	.60928	14
	Total	3.9849	.57957	83
More Involved	White	4.0625	.45594	24
	Non-White	4.0833	.41458	9
	Total	4.0682	.43872	33
Total	White	4.0102	.52360	220
	Non-White	4.0040	.45012	63
	Total	4.0088	.50740	283

Table J4

Institutional Commitment Means Among Race/Ethnicity and Types of Involvement

Involvement Types	Race/Ethnicity	Mean	Std. Deviation	N
Athletics	White	3.9063	.49888	8
	Non-White	3.8750	1.23744	2
	Total	3.9000	.60323	10
Cocurricular	White	3.9565	.59932	46
	Non-White	4.1071	.70500	7
	Total	3.9764	.60896	53
Extracurricular	White	3.9868	.58019	19
	Non-White	4.1071	.31810	7
	Total	4.0192	.51925	26
2+ types of inv	White	4.1000	.40879	20
	Non-White	4.1071	.40459	7
	Total	4.1019	.39988	27
Total	White	3.9892	.54662	93
	Non-White	4.0870	.53091	23
	Total	4.0086	.54267	116

Table J5

Institutional Commitment Means Among Programs of Study and Levels of Involvement

Level of Involvement	Program of Study	Mean	Std. Deviation	N
Uninvolved	University Transfer	4.0686	.56806	51
	Career and Technical	3.9632	.50421	68
	Health Sciences	4.0200	.33058	50
	Total	4.0118	.48089	169
Involved	University Transfer	3.9145	.60760	38
	Career and Technical	4.1029	.44246	17
	Health Sciences	4.0089	.61795	28
	Total	3.9849	.57957	83

Table J5 (continued)

Level of Involvement	Program of Study	Mean	Std. Deviation	N
More Involved	University Transfer	4.1635	.39333	26
	Career and Technical	3.8750	.17678	2
	Health Sciences	3.6500	.51841	5
	Total	4.0682	.43872	33
Total	University Transfer	4.0391	.55170	115
	Career and Technical	3.9885	.48810	87
	Health Sciences	3.9940	.46028	83
	Total	4.0105	.50601	285

Table J6

Institutional Commitment Means Among Programs of Study and Types of Involvement

Involvement Types	Program of Study	Mean	Std. Deviation	N
Athletics	University Transfer	3.7500	.75000	3
	Career and Technical	3.3750	.53033	2
	Health Sciences	4.2000	.44721	5
	Total	3.9000	.60323	10
Cocurricular	University Transfer	3.9286	.63047	28
	Career and Technical	4.2045	.41560	11
	Health Sciences	3.8929	.68440	14
	Total	3.9764	.60896	53
Extracurricular	University Transfer	4.0385	.55758	13
	Career and Technical	4.1250	.14434	4
	Health Sciences	3.9444	.59658	9
	Total	4.0192	.51925	26
2+ types of inv	University Transfer	4.1625	.32722	20
	Career and Technical	4.0000	.00000	2
	Health Sciences	3.9000	.67546	5
	Total	4.1019	.39988	27
Total	University Transfer	4.0156	.54167	64
	Career and Technical	4.0789	.42535	19
	Health Sciences	3.9545	.61063	33
	Total	4.0086	.54267	116

Table J7

Institutional Commitment Means Among Residential Statuses and Levels of Involvement

Level of Involvement	Residential Status	Mean	Std. Deviation	N
Uninvolved	On campus	3.9750	.42218	30
	Within 20 miles	4.0517	.49727	58
	Further than 20 miles	4.0063	.49513	79
	Total	4.0165	.48170	167
Involved	On campus	4.0000	.50929	41
	Within 20 miles	3.9917	.65812	30
	Further than 20 miles	3.9167	.64256	12
	Total	3.9849	.57957	83
More Involved	On campus	4.1000	.27386	20
	Within 20 miles	4.3214	.49401	7
	Further than 20 miles	3.6667	.60553	6
	Total	4.0682	.43872	33
Total	On campus	4.0137	.43679	91
	Within 20 miles	4.0526	.55291	95
	Further than 20 miles	3.9742	.52227	97
	Total	4.0133	.50665	283

Table J8

Institutional Commitment Means Among Residential Statuses and Types of Involvement

Involvement Types	Residential Status	Mean	Std. Deviation	N
Athletics	On campus	3.8611	.62639	9
	Further than 20 miles	4.2500	.	1
	Total	3.9000	.60323	10
Cocurricular	On campus	4.0000	.44194	17
	Within 20 miles	4.0577	.68669	26
	Further than 20 miles	3.7250	.62860	10
	Total	3.9764	.60896	53
Extracurricular	On campus	4.0536	.55625	14
	Within 20 miles	3.8929	.49701	7
	Further than 20 miles	4.1000	.51841	5
	Total	4.0192	.51925	26
2+ types of inv	On campus	4.1190	.24519	21
	Within 20 miles	4.3125	.55434	4
	Further than 20 miles	3.5000	1.06066	2
	Total	4.1019	.39988	27
Total	On campus	4.0328	.44599	61
	Within 20 miles	4.0541	.63775	37
	Further than 20 miles	3.8333	.62426	18
	Total	4.0086	.54267	116

Table J9

Institutional Commitment Means Among Employment Statuses and Types of Involvement

Employment Status	Level of Involvement	Mean	Std. Deviation	N
None	No Involvement	4.00	.433	51
	Involved	3.93	.550	38
	More Involved	3.81	.594	8
	Total	3.96	.493	97
1-30 hours/week	No Involvement	3.98	.512	74
	Involved	4.02	.612	41
	More Involved	4.12	.319	23
	Total	4.01	.518	138
31-40+ hours/week	No Involvement	4.09	.485	43
	Involved	4.06	.625	4
	More Involved	4.50	.707	2
	Total	4.11	.497	49
Total	No Involvement	4.01	.482	168
	Involved	3.98	.580	83
	More Involved	4.07	.439	33
	Total	4.01	.507	284

Table J10

Institutional Commitment Means Among Employment Statuses and Types of Involvement

Employment Status	Involvement Types	Mean	Std. Deviation	N
None	Athletics	3.54	.485	6
	Cocurricular	4.00	.622	21
	Extracurricular	4.05	.472	11
	2+ types of inv	3.78	.432	8
	Total	3.91	.553	46
1-30 hours/week	Athletics	4.44	.239	4
	Cocurricular	3.94	.629	27
	Extracurricular	4.00	.567	15
	2+ types of inv	4.19	.251	18
	Total	4.06	.525	64

Table J10 (continued)

Employment Status	Involvement Types	Mean	Std. Deviation	N
31-40+ hours/week	Cocurricular	4.05	.542	5
	2+ types of inv	5.00	.	1
	Total	4.21	.621	6
Total	Athletics	3.90	.603	10
	Cocurricular	3.98	.609	53
	Extracurricular	4.02	.519	26
	2+ types of inv	4.10	.400	27
	Total	4.01	.543	116

Table J11

Institutional Commitment Means Among Parental Education and Levels of Involvement

Level of Involvement	Parental College Degree	Mean	Std. Deviation	N
Uninvolved	Yes, both did	3.8864	.71434	22
	One did, but the other did not	4.0573	.50592	48
	Neither did	4.0309	.38770	89
	Total	4.0189	.48026	159
Involved	Yes, both did	4.0431	.50475	29
	One did, but the other did not	3.8393	.72077	28
	Neither did	4.0521	.47765	24
	Total	3.9753	.58310	81
More Involved	Yes, both did	3.8000	.45338	10
	One did, but the other did not	4.1923	.39731	13
	Neither did	4.0000	.25000	7
	Total	4.0167	.41488	30
Total	Yes, both did	3.9467	.58115	61
	One did, but the other did not	4.0084	.57708	89
	Neither did	4.0333	.39818	120
	Total	4.0056	.50551	270

Table J12

Institutional Commitment Means Among Parental Education and Types of Involvement

Involvement Types	Parental College Degree	Mean	Std. Deviation	N
Athletics	Yes, both did	4.1667	.38188	3
	One did, but the other did not	3.7500	.77055	5
	Neither did	3.5000	.	1
	Total	3.8611	.62639	9
Cocurricular	Yes, both did	3.9412	.54864	17
	One did, but the other did not	3.8611	.74371	18
	Neither did	4.1029	.51583	17
	Total	3.9663	.61043	52
Extracurricular	Yes, both did	4.0000	.59512	7
	One did, but the other did not	4.0278	.67828	9
	Neither did	4.0250	.32167	10
	Total	4.0192	.51925	26
2+ types of inv	Yes, both did	3.9792	.43247	12
	One did, but the other did not	4.1667	.30619	9
	Neither did	3.9167	.14434	3
	Total	4.0417	.36614	24
Total	Yes, both did	3.9808	.49797	39
	One did, but the other did not	3.9512	.65245	41
	Neither did	4.0403	.43348	31
	Total	3.9865	.54129	111

Table J13

Institutional Commitment Means Among Volume of Online Courses and Levels of Involvement

Level of Involvement	Online classes	Mean	Std. Deviation	N
Uninvolved	None	3.9219	.53294	32
	Less than half	4.0352	.54348	64
	Half	4.0208	.41912	12
	More than half, but not all	4.0227	.48029	11
	All	4.0350	.37461	50
	Total	4.0118	.48089	169
Involved	None	3.9844	.53595	16
	Less than half	4.0600	.55227	50
	Half	3.8500	.91173	5
	More than half, but not all	3.7813	.54178	8
	All	3.6250	.75000	4
	Total	3.9849	.57957	83
More Involved	None	3.9583	.48520	6
	Less than half	4.1071	.45806	21
	Half	4.0000	.45644	4
	More than half, but not all	4.0000	.	1
	Total	4.0625	.44450	32
Total	None	3.9444	.52004	54
	Less than half	4.0556	.53136	135
	Half	3.9762	.54718	21
	More than half, but not all	3.9250	.49404	20
	All	4.0046	.41633	54
	Total	4.0097	.50671	284

Table J14

Institutional Commitment Means Among Volume of Online Courses and Types of Involvement

Involvement Types	Online classes	Mean	Std. Deviation	N
Athletics	None	4.0833	.94648	3
	Less than half	3.8214	.47246	7
	Total	3.9000	.60323	10
Cocurricular	None	3.9423	.54154	13
	Less than half	4.1019	.56865	27
	Half	3.7500	1.02062	4
	More than half, but not all	3.8750	.51841	6
	All	3.5000	.86603	3
	Total	3.9764	.60896	53
Extracurricular	None	4.0833	.14434	3
	Less than half	4.0658	.53257	19
	Half	4.0000	.70711	2
	More than half, but not all	3.0000	.	1
	All	4.0000	.	1
	Total	4.0192	.51925	26
2+ types of inv	None	3.9167	.14434	3
	Less than half	4.1389	.47140	18
	Half	4.0833	.28868	3
	More than half, but not all	4.0000	.00000	2
	Total	4.0962	.40668	26
Total	None	3.9773	.51124	22
	Less than half	4.0739	.52337	71
	Half	3.9167	.70711	9
	More than half, but not all	3.8056	.51201	9
	All	3.6250	.75000	4
	Total	4.0065	.54457	115

Table J15

Institutional Commitment Means Among Intent to Return and Levels of Involvement

Intent to Return	Level of Involvement	Mean	Std. Deviation	N
Less Than Likely	No Involvement	3.23	.616	14
	Involved	2.71	.393	7
	More Involved	3.17	.382	3
	Total	3.07	.569	24
Very and Somewhat Likely	No Involvement	4.09	.399	154
	Involved	4.10	.436	76
	More Involved	4.16	.331	30
	Total	4.10	.402	260
Total	No Involvement	4.01	.481	168
	Involved	3.98	.580	83
	More Involved	4.07	.439	33
	Total	4.01	.506	284

Table J16

Institutional Commitment Means Among Intent to Return and Types of Involvement

Intent to Return	Involvement Types	Mean	Std. Deviation	N
Less Than Likely	Athletics	3.00	.000	2
	Cocurricular	2.75	.500	5
	Extracurricular	3.00	.707	2
	2+ types of inv	2.75	.	1
	Total	2.85	.428	10
Very and Somewhat Likely	Athletics	4.13	.423	8
	Cocurricular	4.10	.461	48
	Extracurricular	4.10	.416	24
	2+ types of inv	4.15	.301	26
	Total	4.12	.409	106
Total	Athletics	3.90	.603	10
	Cocurricular	3.98	.609	53
	Extracurricular	4.02	.519	26
	2+ types of inv	4.10	.400	27
	Total	4.01	.543	116

APPENDIX K

SURVEY ITEM MEANS GROUPED BY PERSISTENCE FACTOR

Table K1

Survey Item Means for Academic Integration

	N	Mean
Question 13. On average, across all your courses, how interested are you in the things that are being said during class discussions?	292	3.65
Question 18. In general, how satisfied are you with the quality of instruction are you receiving here?	296	4.27
Question 23. How well do you understand the thinking of your instructors when they lecture or ask students to answer questions in class?	294	3.50
Question 28. How satisfied are you with the extent of your intellectual growth and interest in ideas since coming here?	292	4.15
Question 33. How much of a connection do you see between what you are learning here and your future career responsibilities?	295	3.91
Question 36. How concerned about your intellectual growth are the faculty here?	294	3.69
Question 39. How would you rate the quality of the instruction you are receiving here?	296	4.11
Valid N (listwise)	285	

Table K2

Survey Item Means for Social Integration

	N	Mean
Question 14. What is your overall impression of the other students here?	294	3.71
Question 19. How much have your interactions with other students had an impact on your personal growth, attitudes, and values?	294	2.89
Question 24. How strong is your sense of connectedness with others (faculty, students, staff) on this campus?	295	3.28
Question 29. When you think about your overall social life here (friends, college organizations, extracurricular activities, and so on), how satisfied are you with yours?	294	3.54
Question 34. How much have your interactions with other students had an impact on your intellectual growth and interest in ideas?	293	2.84
Question 37. How much do you think you have in common with other students here?	296	2.89
Question 40. How often do you wear clothing with this college's emblems?	296	2.40
Valid N (listwise)	289	

Table K3

Survey Item Means for Degree Commitment

	N	Mean
Question 15. How supportive is your family of your pursuit of a college degree, in terms of their encouragement and expectations?	295	4.61
Question 20. At this moment in time, how strong would you say your commitment is to earning a college degree, here or elsewhere?	296	4.61
Question 25. When you think of people who mean the most to you (friends and family), how disappointed do you think they would be if you quit school?	295	4.39
Question 30. There are so many things that can interfere with students making progress toward a degree; feelings of uncertainty about finishing are likely to occur along the way. At this moment in time, how certain are you that you will earn a college degree?	295	4.32
Question 35. After beginning college, students sometimes discover that a college degree is not quite as important to them as it once was. How strong is your intention in persist in your pursuit of a degree, here or elsewhere?	295	4.26
Question 38. When you consider the benefits of having a college degree and the costs of earning it, how much would you say that the benefits outweigh the costs, if at all?	296	3.92
Valid N (listwise)	293	

Table K4

Survey Item Means for Collegiate Stress

	N	Mean
Question 16. Students differ quite a lot in how distressed they get over various aspects of college life. Overall, how much stress would you say that you have experienced while attending this institution?	295	3.43
Question 21. How much pressure do you feel when trying to meet deadlines for course assignments?	296	3.49
Question 26. How often do you feel overwhelmed by the academic workload here?	295	3.50
Question 31. How much do other aspects of your life suffer because you are a college student?	294	3.14
Valid N (listwise)	292	

Table K5

Survey Item Means for Institutional Commitment

	N	Mean
Question 17.	295	4.29
How confident are you that this is the right college for you?		
Question 22.	293	2.69
How much thought have you given to stopping your education here (perhaps transferring to another college, going to work, or leaving for		
other reasons)?	294	4.69
Question 27.		
How likely is it that you will re-enroll here next semester?		
Question 32.	296	4.39
How likely is it that you will earn a degree from here?		
Valid N (listwise)	291	