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ACADEMIC INTEGRATION AND SUCCESS FOR ONLINE COMMUNITY COLLEGE STUDENTS: THE ROLE OF COMMUNITY AND MOTIVATION

A Dissertation in

Adult Education

by

Adam W. Jenkins

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The dissertation of Adam W. Jenkins was reviewed and approved* by the following:

William Diehl
Assistant Professor of Education
Dissertation Co-Adviser
Co-Chair of Committee

Adnan Qayyum
Assistant Professor of Education
Dissertation Co-Adviser
Co-Chair of Committee

David Guthrie
Associate Professor of Education

Karen Paulson
Associate Professor of Education

Susan Land
Associate Professor of Education
Director of Graduate Studies for Learning and Performance Systems

*Signatures are on file in the Graduate School.

ABSTRACT

The research described in this paper examines the role of sense of classroom community, intrinsic motivation, and academic integration on academic achievement (using persistence and course grade as the dependent variable) for community college students in online courses. A total of 72 students enrolled in online community college courses participated in this study. Each participant identified one online community college course in which they were currently enrolled for the purposes of the study. Participants reflected on this course and completed modified and partial versions of three survey instruments- The Classroom Community Scale, the Academic Motivation Scale, and the Institutional Integration Scale to measure the independent variables of sense of classroom community, intrinsic motivation, and academic integration, respectively. At the completion of the semester, course grade and completion status for each participant were collected by the researcher.

Results of the data analysis revealed numerous findings. Sense of classroom community was found to be significantly correlated with academic integration. Intrinsic motivation was also found to be significantly correlated with academic integration. Students with high levels of intrinsic motivation and relatively lower levels of extrinsic motivation (a concept which the author terms "dominant intrinsic motivation") were found to have the strongest correlation with academic integration. Neither sense of classroom community nor intrinsic motivation was found to be predictive of course grade. Academic integration was also found to not be predictive of course grade at a statistically significant level. No between-groups differences were found on any of the independent variables (sense of classroom community, intrinsic motivation, and academic integration) for the following groups: Students working full-time versus students

working less-than-full-time, and students in 100 level courses versus students in 200 level courses. No correlations were found between any of the independent variables and student age.

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Chapter 1

INTRODUCTION

Context of the Study

Community colleges, according to Mellow and Heelan (2008) are the "… only distinctly American form of higher education" (p. xv). William Rainey Harper, then president of the University of Chicago, is generally credited with sparking the junior college (what would become the modern "community college") movement around the turn of the 20th Century. Harper viewed the junior college as the mechanism to free universities from the general education function of the freshman and sophomore years, and allow universities to focus on the discipline-specific study and research of the junior and senior years. The earliest junior colleges existed as partnerships between universities and high schools, and served as a bridge between the two (Beach, 2010).

Compulsory education laws, and changing attitudes about the value of education, resulted in soaring numbers of high school students in the United States during the 1900s and 1910s. The number of high school graduates in the country grew by over 700% from 1890 to 1918 (Beach, 2010). The universities of the nation, however, were unable, and often unwilling, to meet the resulting increased demand for higher education. University officials of this era were often "aristocratically minded" and concerned that many high school graduates who aspired to postsecondary education were not capable of university study (Beach, 2010, p. 11). With widespread approval of university presidents and deans, junior colleges during this time functioned to "guard the entrance" to universities by admitting students who ostensibly lacked the academic credentials or financial and sociological resources to attend universities (Witt,

Wattenbarger, Gollattscheck, & Suppiger, 1994, p. 47). Consistent with Harper's vision, the curriculum at junior colleges of this time period continued to be university transfer-oriented general education.

By the late 1920s, civic leaders began to recognize the economic benefits of having a junior college in their local community. In addition to enhancing civic pride, a junior college was seen as a way to develop the local workforce in a way that would make the local area more attractive to new industries. For this reason, the mission of many junior colleges expanded beyond general education for university transfer to also include a vocational training function (Witt et al., 1994).

The Great Depression of the 1930s saw an expansion in public junior college enrollment and strengthened the commitment of junior college administrators to the dual university-preparation and vocational training functions. University tuition became unaffordable for many Americans during the Depression, and junior colleges offered a more inexpensive alternative. In fact, many public junior colleges were tuition-free in the 1930s. Vocational training was viewed as "social insurance" during the Depression, and both students and policy-makers increasingly turned to junior colleges for this purpose. Lawmakers in several states required junior colleges to offer vocational training and students were enrolling in junior college vocational programs at higher rates each year during the 1930s (Witt et al., 1994).

Two key events in the development of the modern community college occurred during the decade of the 1940s. First, the Servicemen's Readjustment Act (commonly called the "GI Bill) and the millions of young men returning to the United States after World War Two once again spiked junior college enrollments. Junior college enrollments nearly doubled from 1944 to

1947, and just short of half of all junior college students were military veterans at this time. Second, the Truman Commission on Higher Education published *Higher Education for American Democracy* which "pushed the two-year college into the forefront of American higher education" (Witt et al., 1994, p. 129).

President Harry Truman believed that higher education in the United States had "… remained elitist too long" and that the momentum the GI Bill had created to give access to higher education to those traditionally deprived of it needed to be maintained (Witt et al., 1994, p. 130). President Truman formed a twenty-eight member commission, headed by former commissioner of education George Zook, to examine how access to higher education could be expanded. The committee produced *Higher Education for American Democracy*, a six-volume report that advanced a number of ideas that continue to inspire mission statements at community colleges across the country to this day.

First, the Truman Commission on Higher Education (hereafter, "the commission") stated an opposition to discriminatory admission practices on the basis of "… race, religion, color, sex, and national origin" and recommended forbidding the use of federal funds at institutions of higher education where discriminatory practices exist (*Higher education for American democracy: A report of the President's Commission on Higher Education Vol. II*, 1947, p. 69). Second, the commission advocated "… the establishment of free, public, community colleges which would offer courses in general education both terminal and having transfer value, vocational courses suitably related to local needs, and adult education programs of varied character" (*Higher education for American democracy: A report of the President's Commission on Higher Education Vol. II*, 1947, p. 70). Finally, the commission set specific guidelines for whom the community college should serve:

> (Community colleges) will provide college education for the youth certainly, so as to remove geographic and economic barriers to educational opportunity and discover and develop individual talents at low cost and easy access. But in addition, the community college will serve as an active center of adult education. It will attempt to meet the total post-high school needs of its community. (*Higher education for American democracy: A report of the President's Commission on Higher Education Vol. I*, 1947, p. 67)

The term "community college" does perhaps better encompass the expanded role of the local two-year college as viewed by the Truman Commission than does "junior college" (Beach, 2010). The commission did not invent the term "community college." Perhaps prompted by the use of the term in the report, however, the term "community college" did come into wider use and began to slowly replace "junior college" as the name used by schools during the 1950s and beyond as schools further evolved to meet much of the vision endorsed by the commission (Witt et al., 1994).

The 1960s featured the largest growth in the number of new community colleges and community college student enrollment of any decade (Levinson, 2005). A number of factors contributed to this community college boom, including the Higher Education Reauthorization Act which created student financial aid programs, the post-World War Two "baby boomer" generation reaching college age, and the women's rights and civil rights movements which inspired previously underrepresented to pursue higher education (Witt et al., 1994).

During the 1960s the idea of community colleges as an "open door" college, with admission granted to everyone with a high school diploma or otherwise qualified, "… gained near religious importance among community college leaders" (Witt et al., 1994, p. 186). The

open admissions policies necessitated that most community colleges develop remedial education programs to serve students that were underprepared for college-level work.

By the 1970s, much of the modern community college mission had been defined. Community colleges now, as then, tend to have open admissions policies and perform the various academic transfer, vocational preparation, adult, and remedial functions.

It was also in the 1970s that distance education began to emerge in community colleges. Distance education is a natural fit for the "open and accessible" philosophy of community colleges. Distance education can remove geographic barriers that might limit access to students living far from campuses. Distance education can also remove class scheduling barriers that might limit access to students with work and family obligations (Mullins, 2007).

The first distance education courses in community colleges were "telecourses," prerecorded video programs that students viewed either through PBS or cable access broadcasts or via film or videotape. Another early form of distance education in the community colleges was interactive television, which allowed students to engage with instructors and each other synchronously from remote locations (Miller, 2010).

The rise of the Internet in the 1990s resulted in online courses replacing telecourses and interactive television as the most common form of distance education in community colleges. As home computers became more affordable and students have become more comfortable with technology, online courses have proliferated at community colleges (Mullins, 2007).

Today, the 1,017 public and tribal community colleges in the United States enroll nearly forty-five percent of all undergraduate students ("Fast Facts From Our Fact Sheet," 2014). At present, virtually every community college offers online courses. With community college

students accounting for nearly half of all online course enrollments in higher education, they represent the largest single segment of online students (Traver, Volchok, Bidjerano, & Shea, 2014). In 2011, 22 percent of all community college students took online courses (Radford, 2013).

Definitions of Terms Used in the Study

Academic Integration

Integration, according to Tinto (2012), refers to the "… degree to which a person integrates the values and norms of a community into hers or his own value system" (p. 160). "Norms" could refer to "explicit norms" such as earning the grades needed to pass at an institution. Values, for example, could include the extent to which a student conforms with what the institution deems academically important, such as "… an engineering school which values the physical sciences over the arts" (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006, p. 11). Further, Tinto (1975) states that academic integration can be measured by the grades which a student earns and their intellectual development during the college years p. 104).

Community College

Not all two-year colleges are "community colleges" for the purposes of this study. Private non-profit and private for-profit two-year colleges are not considered community colleges, since those institutions do not use public funds and have no obligation or mission of open access, both key elements in the Truman Commission's vision for the community college. "Community colleges" in this study refer exclusively to public, open-access, institutions that

grant Associate's degrees as the highest degree. All participants in this study attend institutions that meet this definition.

Intrinsic Motivation

"Intrinsic motivation" takes place when a person does something because it is "… inherently interesting or enjoyable" (Ryan & Deci, 2000, p. 55). In educational settings, a learner would be experiencing intrinsic motivation if they were fascinated with the content of the subject being taught, for example. Intrinsic motivation in the classroom has been found to result in "high quality learning" (Ryan & Deci, 2000, p. 55).

Online Courses

Allen and Seaman (2014) identify four types of courses:

1) Traditional courses- occur entirely face-to-face, without any online components (0% online).

2) Web Facilitated courses- use online elements to supplement what is otherwise a traditional face-to-face course (1-29% online).

3) Hybrid or Blended courses- feature much of the coursework online, with some face-to-face class meetings (30-79% online). A "substantial portion" of the content of the course is delivered online in hybrid or blended courses.

4) Online courses- have most or all of the coursework online, typically without face-to-face class meetings (80-100% online). (p. 6)

This study uses the Allen and Seaman (2014) definition of an "online course." All participants in this study are enrolled in courses that take place 100% online, without face-to-face meetings.

Persistence

There are several related, but not synonymous, terms that describe the phenomenon of students leaving institutions of higher education. The term "retention" refers to the efforts of institutions (policies and practices) that are meant to prevent students from voluntarily leaving the institution. "Attrition" refers to the loss of students by an institution (Arnold, 1999). "Persistence," on the other hand, describes whether the student will remain enrolled until they meet their educational goal (Reason, 2009). For the purposes of this study, persistence is achieved when the student completes their course with a grade of "C" or higher.

Sense of Classroom Community

Rovai (2002a) states that "… classroom community can be constitutively defined in terms of four dimensions: spirit, trust, interaction, and commonality of expectation and goals" (p. 3). The extent to which a participant perceives these positive elements in their online classroom is operationalized as "sense of classroom community" in this study, and is measured using Rovai's Classroom Community Scale.

Significance of the Study

Compared to students at four-year colleges and universities, students at community colleges tend to be older, enrolled part-time, and working full-time (Malcolm, 2013). These student characteristics overlap with the characteristics of many online students. Ortagus (2017),

for example, found that postsecondary students who were employed full-time were more likely than their peers to enroll in online courses and programs (p. 51). Despite the undeniable appeal of online courses to the community college students who value the convenience of the format, course completion rates in community college online courses have been found to be up to 20% lower than in face-to-face classes (Aragon & Johnson, 2006). Considering the problems with online course completion, it is not surprising that there is evidence that participation in online courses can be detrimental to persistence to graduation (Xu & Jaggers, 2011).

Retention of students is important for a number of reasons, and from a number of stakeholder perspectives- institutional, student, and societal (Stillman, 2009).

From an institutional perspective, it is important to keep students enrolled for the college to remain financially sound (Doherty, 2006). Baime and Baum (2016) state that although some federal, state, and even local money is used to fund community colleges, "virtually all community colleges have become increasingly reliant on tuition as a revenue source," as it makes up nearly half of all operational funding for most institutions (p. 4).

Retention is also important for the institution to avoid negative scrutiny from legislators and policymakers, which can impact funding and other support. *The White House Summit on Community Colleges* recommended that state funding for community colleges be based on "… completion rates, rather than enrollment" (2011, p. 18). There is evidence that states are moving toward funding models that are based on completion, rather than enrollment, numbers. The Ohio Higher Education Funding Commission, for example, concurred with the recommendation of *The White House Summit*, proposing that the state tie 20% (up from 0) of its funding to

community colleges to course completion (*Recommendations of the Ohio Higher Education Funding Commission,* 2012).

From the student perspective, retention is important so that students "… have a positive college experience, complete their academic goals, and enter the workforce" (Fike & Fike, 2008, p. 69). Many high paying jobs require a college education. Stillman (2009) notes that the average college graduate earns "… about one third more than workers who did not finish college" in a lifetime (p. 4). Additionally, unemployment rates are lower for those who attain an Associate's degree (3.4%) versus those who end their education after high school graduation (4.6%) ("Unemployment Rates and Earnings by Educational Attainment," 2018).

Watts (2001) identified a number of societal benefits of college completion. These societal benefits included, but are not limited to:

- Increased tax revenue from higher salaries earned by college graduates versus non-graduates,
- College graduates are less likely to rely on public assistance than non-graduates,
- Reduced rates of incarceration among college graduates versus non-graduates,
- College graduates are more likely to volunteer and/or contribute financially to community organizations than are non-graduates (pp. xii-xv).

As described previously, the issue of persistence in online courses is particularly relevant in the context of the community college, where students are more likely to both enroll in and fail to complete online courses than are students at four-year institutions. Unfortunately, Liu, Gomez, Khan, and Yen (2007) lament a lack of research in this area, writing that "… past studies of dropout focused primarily on either community college dropout in a traditional face-to-face

setting or distance learning dropout in general. There is a lack of research to better understand the community college course dropout" (p. 520). Harrell and Bower (2011) echo that thought, stating that there is a "…minimal amount of research on persistence in online courses and an even smaller amount addressing student persistence in online courses at the community college level" (p. 178).

It is taken for granted that sense of community is a significant factor in persistence for online students. Palloff and Pratt (2003), for example, flatly state that "… the greater the interactivity in an online course and the more attention paid to developing a sense of community, the more likely students will stick with the course until its completion" (p. 117). However, despite the ubiquitous use of learner-learner and learner-instructor interaction in online courses, the contribution that sense of community makes to academic integration (and ultimately persistence) for community college students in online courses is unclear. Since community college students often have job and family responsibilities, in addition to their school obligations, one of the aspects of online courses that makes the format so popular at those institutions is the relative independence and flexibility that online courses offer compared to face-to-face courses. LaPointe and Reisetter (2008), for example, found that some students who participated in their study did not value the learner-learner community in their online class for this very reason.

The findings of this study have practical implications on online course design for community college students. By understanding the extent to which sense of community, intrinsic motivation, and academic integration are valuable to persistence for online community college students, we can inform and improve course design. For example, if intrinsic motivation is found to be more predictive of course persistence than sense of community, a course designer can replace some activities that require interaction between the learner and other learners (or

between the learner and instructor), such as discussion forums, with activities that a student can perform independently such as reflective essays or quizzes.

Research Questions

1. To what extent does sense of classroom community influence academic integration for community college students in online classes?
2. To what extent does intrinsic motivation influence academic integration for community college students in online classes?
3. Which independent variable, sense of classroom community or intrinsic motivation, is a better predictor of persistence for community college students in online classes?
4. To what extent does academic integration influence persistence for community college students in online classes?
5. Is “intent to persist” predictive of actual course persistence?

Chapter 2

REVIEW OF THE LITERATURE

Introduction

This chapter examines the relevant literature in seven key areas related to the present study. First, theories and models of college student persistence are presented. Second, the literature on retention in distance education is addressed. Third, the literature on retention in community colleges is discussed. Fourth, the concept of interaction, including learner-learner interaction, in online courses is explored. Fifth, the chapter takes a look at the idea of "community" in education. Sixth, the aspect of "motivation" is covered. Finally, the usefulness of "intent-to-persist" as a variable is examined.

Theories and Models of College Student Persistence

Characteristics of Community College and Distance Education Students

Both community college students and distance education students have unique characteristics that potentially make it difficult to apply many of the models of persistence in higher education to this group.

A variety of social, economic, and policy factors result in community colleges generally enrolling a more diverse group of students than do four-year colleges and universities (Malcolm, 2013). Students enrolled in community colleges are more likely than students enrolled in four-year institutions to be:

- adult learners

- from a racial or ethnic minority
- from a low-income background
- first-generation college students
- academically underprepared for college
- enrolled part-time
- working full-time
- living off-campus and in their hometown.

Nearly half of all community college students are "adult learners," older than the "traditional" college age of eighteen to twenty four years old (Cohen & Brawer, 2003). Being older than the traditional college age can have both positive and negative impacts on a student's chances of success in higher education. On the positive side, adult students can have greater "maturity and developmental complexity" than younger students (Montero-Hernandez & Cerven, 2013, p. 69). On the negative side, adult students often have more obligations and commitments outside of school than do younger students. Research has found that the length of time between high school graduation and community college entry is negatively correlated with persistence (Hawley & Harris, 2005).

Students of color are more heavily concentrated in community colleges than four-year institutions, with students of color comprising nearly 40% of community college enrollments (Malcolm, 2013). There are a number of explanations suggested for the relatively high percentage of students of color in community colleges. One explanation is that members of racial and ethnic minorities disproportionally attend underfunded K-12 schools which may result in relatively poor academic preparation and college counseling compared to students in better-funded districts (Malcolm, 2013). Students who experience these circumstances may be

underprepared for most four-year colleges and/or unaware of their options to attend four-year colleges. Another explanation is that students of color are more likely than white students to be placed into non-academic tracks (i.e., vocational tracks) in their high school coursework which makes acceptance at four-year schools more difficult to achieve. Most other explanations for the high numbers of students of color in community colleges, like the examples above, are based on the "intersection of socio-economic factors and race" (Malcolm, 2013, p. 26).

Students of all races from disadvantaged socio-economic statuses (SES) are more likely to choose community college for their post-secondary education than are students of higher SES backgrounds. Nearly half of all students enrolled in community colleges are considered to be from low-income backgrounds (Malcolm, 2013). The simplest explanation for this is that community college is almost always the least expensive post-secondary option. The average tuition price at community colleges in 2010 was $2,713 per year versus $7,605 for public four-year schools and $27,293 for private, non-profit, four-year schools (Malcolm, 2013). However, students from disadvantaged SES backgrounds also often lack information about the financial aid options available to them and the options that they have to attend four-year schools, and this lack of information also contributes to the over-representation of this group in community colleges. It should be noted, too, that despite the comparatively low cost of community colleges, community college students are more likely than students at four-year schools to have unmet financial needs even when receiving financial aid (*The White House Summit on Community Colleges*, 2011).

First-generation college students, similarly, often suffer from a lack of information about higher education. Just shy of 40% of community college students have parents who never attended any form of post-secondary education, less than a quarter of all students at four-year institutions fall into this category (Malcolm, 2013, p. 21). Retention rates for first-generation

college students tend to be lower than those with parents who attended college (Fike & Fike, 2008).

Community colleges almost always have open admissions policies, with admissions granted to all applicants with a high school diploma or GED. One consequence of open admissions is that community college students are more likely to be underprepared for higher education than are students enrolled at four-year institutions. College aptitude test scores for community college students are "… considerably lower than the norm" for college students at four-year schools (Cohen & Brawer, 2003). Poor literacy and math skills prior to college entry can prove difficult to overcome for many community college students (Perin, 2013).

Roughly two-thirds of all community college students are enrolled part-time (Cohen & Brawer, 2003). Community colleges often make great efforts to offer their course programming at times and in places that are workable and convenient for their many adult learners, who often have work and family obligations competing for their time. Students in community colleges are more likely to work fulltime than are students in four-year colleges, a fact which is driven by the higher numbers of adult students. Twenty-two percent of full-time and 41% of part-time community college students also work full-time (American Association of Community Colleges, 2014a).

One of the missions of the community college is to provide broad access to higher education, and "… more than any other factor, access depends on proximity" (Cohen & Brawer, 2003, p. 16). As the name suggests, community colleges tend to be located in the communities of the students whom they serve. On-campus housing is the exception to the rule for community

colleges, with less than one percent of all community college students living on campus (American Association of Community Colleges, 2014b).

The vast majority of distance education students in the United States are adult learners, most between the ages of 25 and 50 years (Moore & Kearsley, 2005). The flexible nature of online learning makes this option particularly appealing to the "core constituency" of the community college, adult learners with work and family commitments (Mullins, 2007, p. 491).

Tinto's Model of Student Departure

Tinto's (1993) model of student departure is "… probably the most widely used framework" guiding research on persistence in higher education (Pascarella & Terenzini, 2005, p. 425).

Tinto (1993) calls his model of student departure "sociological" in that interactions between the student and others inside and outside of the institution of higher education, combined with the characteristics of the individual student, influence departure decisions (p. 113). Tinto's model is also "longitudinal" in that it reflects the interaction process between the student and the institution over time which can lead to a decision to depart (Tinto, 1993).

Tinto's model begins with the student characteristics prior to entry into the higher education institution. A student's "family and community" background, "skills and abilities," and "precollege educational experiences" are all regarded as "pre-entry attributes" in Tinto's model (1993, p. 113). Examples of family and community background include family SES, the educational attainment of the parents, and the size of the community in which the student grew up. Skills and abilities refer to such traits as a student's intellectual and social prowess. Precollege educational experiences encompass K-12 learning and achievement (Tinto, 1993).

The pre-entry attributes element of Tinto's model works well with the study of persistence in online community college settings. As noted previously, many community college students have pre-entry characteristics that put them at greater risk for dropout than other students in higher education. These characteristics can have a direct impact on persistence (i.e., being a first-generation student, having poor high school achievement, etc.).

Tinto (1993) theorizes that pre-entry characteristics also have indirect influences on persistence in that these characteristics help shape the "goals and commitments" of the student. The goals and commitments level includes: the desired degree and future occupation of the student, and the extent to which the student is committed to those goals and to their institution. This level also acknowledges the external commitments that students might have beyond college, such as work and family obligations. These external commitments can alter the educational goals of the student. The external commitments element is directly relevant to any study of persistence in online community college courses, because distance and community college students are more likely to have outside commitments than students in classrooms in four-year schools (American Association of Community Colleges, 2014a).

The goals and commitments described above, according to Tinto (1993), influence the extent to which students become academically and socially integrated into their institution of higher education. Formal academic integration involves the academic performance of the student and informal academic integration involves contact with faculty and staff. Formal social integration is characterized by involvement in extracurricular activities and informal social integration by developing relationships with peers. When a student achieves a high level of perceived academic and social integration in Tinto's model, this strengthens the student's

commitment to their educational goals and their institution, and the student chooses to remain enrolled. With low levels of academic and social integration, a student chooses to depart.

It is not difficult to apply the Tinto's ideas about the importance of formal academic integration to community college students in online courses. Community college students who need developmental coursework and those who earn poor grades are, predictably, more likely to drop out than are their more academically successful peers (Hawley & Harris, 2005).

Tinto's idea of social integration, particularly formal social integration, is a little more difficult to apply to community college students, and particularly difficult to apply to online community college students. Because such a large percentage of community college students live off-campus and work on a full or part-time basis, extracurricular activities have very limited importance and participation at many community colleges (Cohen & Brawer, 2003). Some online community college students might literally go entire semesters, or more, without setting foot on campus. Informal social integration can also be a great challenge for community colleges because of the diversity of the students and the nonresidential nature of most community colleges. Astin (1993) sums it up this way:

> … in reality it is very difficult to create anything resembling a 'peer group' out of such a hodge-podge of students. Each difference- in interests, in circumstances (full-time versus part-time, marital status and so on), and especially in age- makes it more difficult for students to identify with each other and to form common bonds. … all of these limitations imposed by student diversity are, of course, exacerbated by the absence of a residential experience. (p. 416)

Tinto's (1993) model also acknowledges the influence of external (non-school) commitments on student persistence while enrolled in school (as opposed to pre-entry external commitments, discussed earlier). According to Tinto, external commitments can have an indirect influence on persistence by reducing the amount of perceived social and academic integration that a student achieves (e.g., employment obligations take away from study time and reduces academic integration which leads to dropping out). External commitments can also have a direct influence on persistence (e.g., change in employment hours results in no longer having time for school). As stated previously, community college students often have more significant external commitments than do students at four-year schools.

Finally, Tinto's (1993) model includes the influences of the external community on student persistence. This aspect of the model is particularly relevant for nonresidential students, which includes over 99% of community college students. Tinto (1993) states that when the external community is strong that it "… may serve to condition, if not counter, events within the college" and that the external community can have both positive and negative influences on persistence (p. 116).

Most aspects of Tinto's model can be applied, broadly, to online community college students. Tinto acknowledges, however, that social events are less likely to influence persistence for nonresidential and community college students than are external events and academic experiences. This being the case, a model of persistence which deemphasizes the "social" element of Tinto's model and enhances the "external" and "academic" elements might prove more useful in the study of persistence among online community college students. Most other prominent models of persistence, however, include concepts similar to Tinto's social integration

and/or downplay the importance of the external community and external commitments of the students.

Astin's Theory of Student Involvement

In Astin's theory of student involvement (1999), the key concept "involvement" refers to "… the amount of physical and psychological energy that the student devotes to the academic experience" (1999, p. 518). Astin's theory suggests that students with higher levels of involvement are more likely to persist than are students with lower levels of involvement. In describing the attributes of the highly involved student, Astin (1999) gives as an example a student who "… devotes considerable energy to studying, *spends much time on campus, participates actively in student organizations*, and *interacts frequently with faculty members and other students*" (emphasis added) (p. 518). Since community college students, and especially online community college students, are unlikely to spend much time on campus, participate in extracurricular activities, and form peer groups with each other, this social aspect of "involvement" is difficult to achieve for these students. Astin (1999) specifically says that "… community colleges are places where the involvement of both faculty and students seems to be minimal" (p. 524).

Kuh's Concept of Engagement

Kuh, Kinzie, Schuh, Whitt, and Associates (2005) use the concept of "engagement" as their predictor for persistence in higher education. "Engagement" refers to "… time and energy that students devote to educationally purposeful activities" (Kuh, et al., 2005, p. 8). This definition of engagement is quite similar, of course, to the definition that Astin gives for "involvement." As with "involvement," the external community and external commitments

might inhibit engagement for online community college students and make the concept less suitable for that group than for on-campus students at four-year colleges and universities.

Bean and Eaton's Psychological Model of College Student Retention

Bean and Eaton (2000) point out that the student departure from higher education can be explained with sociological models (such as those of Tinto, Astin, Pascarella, and Kuh), but also with psychological models, such as the one that they proposed (p. 48). As with the other models of retention examined above, Bean and Eaton's model includes student background traits upon college entry. Bean and Eaton (2000) theorize that when students interact with their institutional environment, that "… psychological processes take place" that for successful students result in such positive results as "… positive self-efficacy, reduced stress, increased efficacy, and internal locus of control" (p. 58). These positive results then increase the motivation of the student to do scholarly work.

The emphasis on the institutional environment and the deemphasis of the external environment, makes Bean and Eaton's psychological model, like the other models described above, better suited for students in face-to-face four-year institutions.

Bean and Metzner's Model of Nontraditional Undergraduate Student Attrition

Bean and Metzner (1985), in creating their model of nontraditional undergraduate student attrition, use what they term an "appropriately cumbersome" definition of "nontraditional student":

> A nontraditional student is older than 24, or does not live in a campus residence (e.g., is a commuter), or is a part-time student, or some combination of these factors; *is not greatly*

influenced by the social environment of the institution; and is chiefly concerned with the institution's academic offerings…. (emphasis added)(p. 489)

Nearly all online community college students will meet Bean and Metzner's definition of a nontraditional student. As mentioned earlier, any model of student persistence that is appropriate for this group needs to account for the possibility that these students do not value social integration, involvement, engagement, etc. to the same extent as most residential students in four-year colleges and universities. For this reason, and others, the Bean and Metzner model is the most fitting for a study of persistence of online community college students.

Bean and Metzner's model has some similarities with previous ideas about student attrition. As with other models, student background characteristics and academic variables are considered important, and persistence is seen as a longitudinal process. Specifically, Bean and Metzner identified a number of factors which they believe have *direct* effects on the decision to drop out for nontraditional students:

- "Background and defining variables" (e.g., age of the student, part-time or full-time enrollment status, high school performance, educational goals, and demographic characteristics)
- "Academic variables" (e.g., study habits, attendance habits, advising and course availability, and certainty of major choice)
- "Psychological outcomes" (e.g., commitment to goals, satisfaction with college)
- "Academic outcomes" (defined by the student's grade point average)
- "Intent to leave"

- "Environmental variables" (e.g., student employment status, financial concerns, and encouragement from family and friends) (Bean & Metzner, 1985, p. 491)

Bean and Metzner's model of nontraditional undergraduate student attrition does include the element of social integration, but it is presented as having only possible effects on psychological outcomes, intent to leave, and persistence. Bean and Metzner stress that social integration in the Tinto sense might be important for some individual nontraditional students, but that for most of the students to whom their model applies (which includes nearly every online community college student) this area is less important than the other factors.

With a phenomenon as complex as persistence among nontraditional college students, a simple and straightforward model might fail to capture the contingencies, nuances, and relationships related to the process. Bean and Metzner's model is far from simple and straightforward. The model features an interconnected web of effects between the groups of variables and outcomes. First, "background and defining variables" have direct effects on academic variables (e.g., high school performance on study habits), environmental variables (e.g., gender on family responsibilities), psychological outcomes (e.g., educational goals on goal commitment), academic outcomes (high school performance on grade point average), intent to leave (e.g., educational goals change) and ultimately on decision to drop out.

Next, "academic variables" have direct effects on academic outcomes (e.g., study habits on grade point average), psychological outcomes (e.g., major certainty on goal commitment), and intent to leave (e.g., course availability). Environmental variables have a direct effect on psychological outcomes (e.g., hours of employment on stress), academic outcome (e.g., family responsibilities on grade point average), and intent to leave (e.g., finances). Additionally,

academic variables and environmental variables have a "compensatory interaction effect"- if indicators are poor in academic variables, positive indicators in environmental variables can mitigate those (e.g. outside encouragement mitigate uncertainty about major). Poor environmental indicators, however, will take precedence over positive academic variables, according to Bean and Metzner (1985, p. 491). This once again underscores the importance of environmental variables for the nontraditional student.

"Psychological outcomes" include the perceived utility of the program of study, satisfaction with the experience in college, commitment to the goals that prompted enrollment in college, and level of stress. Psychological outcomes, as one would expect, are directly and closely related to decisions to leave school. Psychological outcomes also have an interaction effect with academic outcomes. Bean and Metzner (1985) theorize that positive psychological outcomes can mitigate poor academic outcomes, but that positive academic outcomes coupled with poor psychological outcomes will prompt a decision to leave school.

Rovai's (2003) Composite Persistence Model for Distance Education

Rovai (2003) proposed a "composite persistence model" which combines elements of Tinto's (1993) integration model and Bean and Metzner's (1985) student attrition model and which also acknowledges the "… special needs of distance education students" (p. 8). Just as Bean and Metzner built upon and adapted Tinto's work to create a model to account for the unique characteristics of nontraditional students, Rovai incorporated applicable elements of both Tinto and Bean and Metzner along with adding "novel factors" that more directly addressed students in distance education courses to create a model of persistence specific to this population (Kizilcec & Halawa, 2015, p. 2).

Rovai's (2003) model is separated into three areas:

1) Student characteristics prior to admission (to higher education)
2) "Internal" factors after admission
3) "External" factors after admission

A number of student characteristics prior to admission in Rovai's model are borrowed from the work of Tinto and Bean and Metzner. Rovai cites "… age, ethnicity, gender, intellectual development, and academic performance and preparation prior to college" as being among the student characteristics prior to admission identified by either Tinto or Bean and Metzner that his model incorporates (2003, p. 8).

Rovai's model, unlike those of Tinto and Bean and Metzner, is tailored to students in online courses, and includes a number of "student skills" prior to taking online courses that can influence persistence decisions. Rovai specifically cites the work of Rowntree (1995) and Cole (2000) in compiling his list of student skills prior to admission that are important to persistence in online courses. Rowntree indicated that computer skills, literacy skills, time management skills, and interpersonal skills were necessary for success in online courses (Rovai, 2003, p. 9). In addition to concurring with Rowntree's observation that literacy skills are key, Cole added "information literacy" skills, the ability to independently track down, evaluate, and use relevant information, to the list of skills needed by students in online courses (Rovai, 2003, p. 10).

Similar to what Rovai's model does with student characteristics and skills prior to admission, Rovai's list of "internal factors" that influence persistence after admission draws heavily from Tinto and Bean and Metzner and also adds new elements specific to the online learning environment. Drawing on Tinto, Rovai's model includes academic integration, social integration, goal commitment, institutional commitment, and sense of learning community

among internal factors in the persistence decision (2003, p. 9). Some of the internal factors derived from Bean and Metzner in Rovai's model include grade point average, the usefulness of the learning content, satisfaction, and commitment (Rovai, 2003, p. 9).

In addition to the internal factors adapted from Tinto and Bean and Metzner, five unique student needs for online courses are identified as internal factors in Rovai's (2003) model. Rovai credits the analysis of Workman and Stenard (1996) for the five online student needs in his model- "clarity of programs," "self-esteem," "identification with school," "interpersonal relationships," and "accessibility to services" (2003, p. 9). "Clarity of programs" refers to the need for institutions to keep students updated on changes to school "programs, policies, and procedures" (Workman & Stenard, 1996, p. 3). "Self-esteem" is identified by Workman and Stenard as a barrier to learning. When students are intimidated by the challenges of their online course, they devote their time to overcoming their apprehensions, rather than the coursework itself (Workman & Stenard, 1996, p. 6). "Identification with school" refers to students in online courses feeling like "outsiders" at the school (Rovai, 2003, p. 11). Rovai states that "identification with school" is closely related to sense of community and Tinto's "institutional commitment" concept (2003, p. 11). Similarly, "interpersonal relationships" in the Rovai model is roughly equivalent to "sense of community" and refers to the need for students to develop relationships with classmates and instructors (2003, p. 11). Finally, "accessibility to services" is the ease of ability for students in online courses to utilize necessary college services such as the bookstore, library, advising, and financial aid (Rovai, 2003).

Rovai derives the "external factors" after admission in his model from Bean and Metzner's (1985) student attrition model. Among the external factors specifically used by Rovai are: "finances," "hours of employment," "family responsibilities," "outside encouragement,"

"opportunity to transfer," and "life crises" (2003, p. 9). "Finances" represents the ability of the student to pay for college, as well as the opportunity cost of work hours potentially lost to study time. "Hours of employment" and "family responsibilities" both refer to potential competing obligations that make college success and persistence more difficult. "Outside encouragement" signifies the need for students to feel supported in their studies by family members and friends outside of the institution. "Opportunity to transfer" denotes the availability and practicality of moving to a new institution. "Life crises" can include such events as "sickness, divorce, loss of job, etc." that can negatively impact persistence (Rovai, 2003, p. 10).

Retention in Distance Education

Considering the prevalence and costliness of student departure in distance education, it is not surprising that much research has been directed at determining the factors associated with it. Predictably, however, student attrition in distance education is a "… difficult and perplexing phenomenon" with "… many possible causes" (Levy, 2007, p. 187). Additionally, Moore and Kearsley (2005) state that "… an accumulation and mixture of causes" is often to blame for distance education course dropout (p. 169). A number of theoretical frameworks have been developed to explore the many causes of attrition in distance education.

Models of Persistence in Pre-Online Distance Education Era

Billings (1988) studied student characteristics that influenced persistence in her model for completion of correspondence courses. Billings found that the best predictor of a student finishing a correspondence course was their intention to complete the course, a finding which highlights the importance of student motivation in distance education course completion. Billings' model also includes student characteristics such as previous educational attainment and

achievement, family support, and employment obligations can influence their likelihood to complete a correspondence course. Additionally, course satisfaction, difficulty, and the practical value of the material all factor in to decisions to complete or fail to complete a course.

Powell, Conway, and Ross (1990) created a "multivariate framework" of factors influencing success in distance education courses (p. 5). Using research available at the time of publication, Powell et al. (1990) put student success factors into three categories: predisposing characteristics, life changes, and institutional factors. "Predisposing characteristics" include such variables as demographic traits, educational preparation, and motivational and other psychological factors. The "life changes" category refers to unexpected challenges that students may face outside of class, such as work changes, illnesses, and family problems. The "institutional" category encompasses those factors which are under the control of the school, such as course difficulty, instructor effectiveness, and student support services.

Garland (1993) also created a distance education dropout framework that included the diverse factors that lead to attrition. The categories that Garland uses are largely similar to those of Powell, Conway, and Ross. The factors that Garland includes are "situational," "dispositional," "institutional," and "epistemological." The "situational" and "institutional" factors for Garland are comparable to the "life changes" and "institutional" factors, respectively, as described by Powell, Conway, and Ross. The "dispositional" factors used by Garland refer to psychological characteristics that might be impediments to persistence such as learning styles and motivation. Garland's concept of epistemological factors consists of course content related factors, such as difficulty, that might lead to student dropout.

Kember's (1995) model of student completion suggests that "student entry characteristics" such as family support, previous education, and work situation are important influences on course completion. These factors are likely to influence whether or not a student becomes academically and socially integrated into their distance education course. Those students who have entry characteristics that make them well-suited to distance education study will tend to have positive outcomes, as long as the distance education course meets their expectations and they determine that the benefit of participation in the course is worth the various costs. Students who have entry characteristics that are likely to make them ill-suited to distance education study are less likely to achieve academic and social integration into their courses which leads to negative results such as failure to complete the course. From a practical standpoint, Kember's model suggests that courses should be designed to enhance intrinsic motivation in students and should use a "deep approach" to learning to the material being studied.

Research on Distance Education Persistence in the Online Era

Consistent with theoretical frameworks above, the causes of student attrition found in the recent distance education literature can be placed into two broad categories: institution-level causes and student-level causes.

Institution-level causes include those related to course content and design, student support, and instructor presence. First, the difficulty and career relevance of the course content in a distance education course has an influence on persistence (Moore & Kearsley, 2005). Seven percent of the students who failed to complete their online courses in Doherty's (2006) research indicated that the advanced nature of the content in their online courses was their reason for

quitting. Participants in the research of Bambara, Harbour, Davies, and Athey (2009) revealed that "… lack of interest in the content presented a barrier to their learning" (p. 227). Based on their review of the literature, Menchaca and Bekele (2008) included "relevance" as one of their "course factors" related to student success in online courses (p. 236).

Student support services include, but are not limited to, such as areas as advising, administration, and technical support. Moore and Kearsley (2005) state that the lack of access to, or knowledge of, a contact person with the institution for such tasks as obtaining materials, scheduling classes, and receiving grades can be "very frustrating" for distance education learners (p. 182). Eleven percent of the participants in Aragon and Johnson's (2008) study stated that "institutional issues" of this nature were the reason for their failure to persist (p. 151).

Technological issues can impose a barrier to persistence for some students. Bambara et al. (2009) reported that participants in their research encountered "… myriad technical difficulties" and that these difficulties "… caused frustrations" that compounded academic problems (p. 227). Menchaca and Bekele (2008) include technology helpdesks as one of the "leadership factors" in their model of student success in Internet-supported learning environments (p. 236).

The distance learners surveyed for the research conducted by Bambara et al. (2009) indicated that a lack of student-instructor interaction in their online courses negatively impacted their motivation to persistence. Aragon and Johnson (2008) reported that the "… level of responsiveness of instructors" was a commonly given response by students who failed to persist in an online course (p. 151). Doherty (2006) also found that "… lack of communication with the instructor" was a disadvantage of online courses that students frequently cited (p. 251).

Student-level causes of attrition include psychological, technological, social, and "other" causes (Liu, Gomez, Khan, & Yen., 2007, p. 534). A number of psychological variables have been studied as predictors of online course departure, including locus-of-control, learning styles, and aptitude for autonomous (or self-directed or independent) learning. Muse (2003) included locus-of-control as one of many variables in his study of student persistence in community college online courses. Muse found that having an external locus-of-control was the third-greatest predictor of dropout, behind only poor computer skills and inadequate study environment (2003, p. 249). Yukselturk and Bulut (2007) included locus-of-control in their multi-variable research into online course success among Turkish college students. As with previous studies, Yukselturk and Bulut (2007) found that having an external locus-of-control was negatively correlated with success in online courses. Morris, Wu, and Finnegan (2010) also performed a multi-variable study, looking specifically at students enrolled in online general education courses. Consistent with other findings, locus-of-control was found to be a reliable predictor of course dropout by Morris et al. (2010).

Doherty (2006) looked at multiple variables as predictors for persistence in community college online courses, including adult learning styles as determined by Soloman and Felder's (1999) Index of Learning Styles (ILS). Doherty found that there was "… no significant difference" in learning styles between students who completed or failed to complete their courses (2006, p. 250). Battalio (2009), however, found that students who had what the ILS referred to as the "reflective" learning style, who prefer to learn by thinking quietly about a subject, were more likely to be successful in online courses. Yukselturk and Bulut (2007) also examined learning styles but used Kolb's (1985) Learning Style Inventory as their instrument. Yukselturk

and Bulut determined, like Doherty (2006), that learning styles "… did not have a significant contribution to variance in success" among the participants (2007, p. 77).

Aragon and Johnson (2008) examined the influence of "self-directed learning readiness," among other variables, on persistence for community college online students (p. 148). Using the Bartlett-Kotrlik (1999) Inventory of Self-Learning as their instrument, Aragon and Johnson found that there was"… no significant difference" in scores between course completers and non-completers (2008, p. 153). Yen and Liu (2009) looked at learner autonomy as a predictor of course success (defined as completing a course and receiving a passing grade of "A," "B," or "C") for students in online community college courses. Using the Learner Autonomy Profile (Carr, 1999) as their instrument, Yen and Liu (2009) found that "… learner autonomy is a useful predictor" of course success, a finding contrary to that of Aragon and Johnson (2008) (p. 356). Bambara et al. (2009) conducted a phenomenological study of community college students enrolled in "high risk" online courses, defined as courses with a historical dropout or failure rate of greater than thirty percent (p. 219). One of the themes that emerged from the research of Bambara et al. (2009) is that participants who identified themselves as being "independent," "motivated," and "self-directed" tended to complete their courses at a greater rate than those who did not (p. 229).

Calvin and Freeburg (2010) write that research centering on the impact of technological factors, such as experience, confidence, and skill with using computers and the Internet, on persistence is "mixed" (p. 64). For example, Muse (2003) included computer skills and computer confidence in his multi-variable study of persistence and found that neither had a significant effect. To the contrary, Dupin-Bryant (2004) found that the number of years that a student has used computers did not have an influence on persistence, but rather that the type of

computer experience and training a student had was a predictor. Those students with experience and training using similar types of technologies to those used in their online courses were more likely to persist (Dupin-Bryant, 2004). Menchaca and Bekele (2008) cite a number of studies that found that experience with online learning environments is essential for student success. In order for students to successfully complete an online course or program, they need to have regular access to a functioning computer and to the Internet. Muller (2008) reported that participants in her research identified technology as a "…major challenge," and that software malfunctions and loss of Internet connection were barriers to persistence (p. 10).

Social causes of attrition in distance learning refer to "… the degree of one's feeling, perception, and reaction to another intellectual entity…" in an online course (Liu, et al., 2007, p. 535). "Intellectual entities," in the context of an online course, refers to the instructor and the student's peers. As discussed above, the importance of instructor-student communication for satisfaction and retention is well established in the literature. The influence of student-student interaction on persistence, however, is subject to mixed findings. Participants in Muller's (2008) research indicated that "engagement in the learning community" was the most important influence on their persistence (p. 5). On a similar note, community college online learners surveyed by Bambara et al. (2009) believed that lack of learner-learner interaction in their online courses was a "… huge obstacle" that resulted in feelings of isolation which negatively impacted their motivation and satisfaction with the course (p. 225). Contrary to the findings of Muller (2008) and Bambara et al. (2009), Drouin (2008) found that perceived "sense of community" had a positive influence on satisfaction with an online course but had no influence on achievement or retention. Additionally, some students surveyed by Drouin (2008) specifically remarked that they did not want or need a sense of community in their courses (p. 279). Poellhuber,

Chomienne, and Karsenti (2008) found that persistence rates were not significantly different between their control group of students taking a distance education course that featured no learner-learner collaboration and their treatment group that took a distance education course with learner-learner collaboration (p. 54). It should be noted, however, that Poellhuber et al. (2008) attributed this finding to differences between the participants in the two groups, rather than the "absence of effect of peer collaboration" (p. 56).

Other factors that have been found to influence persistence in distance education courses primarily involve the academic background and the life circumstances of the students in online courses (Liu, et al., 2007). Intuitively, a number of studies (Dupin-Bryant, 2010; Morris, Wu, & Finnegan, 2005; Muse, 2003) suggest that a student's grade point average is a reliable predictor of persistence in a college-level online course. Muse (2003) found that students who had obtained a higher level of education prior to their online course were more likely to persist than those with a lower level. The results of Dupin-Bryant's (2010) research revealed that the number of previous online courses a student had completed was linked to future online course persistence.

Some of the more prominent life circumstances variables that have been associated with persistence in distance education courses include a student's employment and family obligations, financial aid status, and study environment. Aragon and Johnson (2008) reported that the most common reason which students gave for dropping out of an online was because of "personal reasons and time constraints" (p. 151). Participants who had dropped out of an online course in Doherty's (2006) research also self-identified "over-commitment" as the reason for their dropping out more often than any other reason (p. 252). Muller (2008) surveyed women taking online courses and found that their parenting and work responsibilities were perceived to be a

"key barrier" to persistence (p. 7). Parker (1999) found that students who were paying for their own education were more likely to persist than those whose parents were paying and those who were using financial aid, particularly if they had an internal locus-of-control. Muse's (2003) research revealed that having a "… satisfactory study environment" was a contributor to success for online students (p. 254).

Table One summarizes the causes of student departure in the distance education literature.

------STUDENT-LEVEL CAUSES------ **--INSTITUTION-LEVEL CAUSES--**

PSYCHO-LOGICAL	TECHNO-LOGICAL	SOCIAL	OTHER	COURSE CONTENT AND DESIGN	STUDENT SUPPORT	INSTRUCTOR PRESENCE
External locus-of-control (Parker, 1999) (Muse, 2003) (Yukselturk & Bulut, 2007) (Morris, Wu, & Finnegan, 2010)	Lack of experience with technologies used in the course (Dupin-Bryant, 2004)	Lack of learner-learner interaction (Muller, 2008) (Bambara et al., 2009)	Poor academic and study skills (Dupin-Bryant, 2004) (Muse, 2003)	Course content too difficult (Doherty, 2006)	Need for contact person and administrative support (Aragon & Johnson, 2008)	Lack of communication and responsiveness from course instructor (Aragon & Johnson, 2008) (Doherty, 2006)
Low-suitability to independent learning (Aragon & Johnson, 2008) (Yen & Liu, 2009) (Bambara et al., 2009)	Internet access and software malfunctions (Muller, 2008)		Lack of time and presence of the other commitments and obligations (Aragon & Johnson, 2008) (Parker, 1999) (Muse, 2003) (Muller, 2008) (Doherty, 2006)	Course content not relevant to career, life (Menchaka & Bekele, 2008)	Need for technical support (Bambara et al., 2009)	
Learning styles (Battalio, 2009)			Lack of monetary investment in own education (Parker, 1999)	Course content not interesting (Bambara et al., 2009)		
			Lack of suitable study environment (Muse ,2003)			

Table 1- Summary of student departure causes.

As the literature cited above suggests, persistence in distance education courses is a complex problem and "… there are many reasons why some students remain in online classes while others drop out" (Palloff & Pratt, 2003, p. 113). To this point, Muse (2003) states that there "… is no lack of angles with which to approach this and related problems" (p. 258). Because it is so complex, there are unresolved questions that remain on the topic of persistence in distance education that this paper attempts to help address.

First, past studies have come to contradicting conclusions about whether or not certain factors are significant contributors to attrition. Examples of this can be found, for example, when looking at such factors as learning styles (i.e. Battalio, 2009, versus Doherty, 2006), computer skills and experience (i.e. Muse, 2003, versus Menchaca & Bekele, 2008), and learner-learner interaction (i.e. Muller, 2008, versus Drouin, 2008). The study described in this dissertation aims to further clarify the role of learner-learner and learner-instructor interaction (sense of community) on retention. Second, the majority of the studies into persistence in online courses use participants from a single institution, and the specific school culture, resources, and student demographics at those institutions might lead to findings that are not generalizable to other institutions (Aragon & Johnson, 2008).

Retention in Community Colleges

Community colleges, and very often community college students, differ from four-year colleges and universities and their students: First, community colleges almost always have open-access policies with guaranteed admission to all high school graduates and GED-holders, four-year colleges and universities typically can be selective about their enrollees. Second, community college students often have academic and career goals that differ from those of

students at four-year institutions. Finally, community college students frequently have life circumstances and demographic backgrounds that are unlike those of students at four-year schools (Nakajima, Dembo, & Mossler, 2012, p. 592).

The nature of community colleges and community college students necessitates that persistence research needs to be conducted that focuses specifically on that unique context. Sorey and Duggan (2008) lament, however, that "empirical research on the persistence of community college students is scarce" (p. 76). Burns (2010) found that what literature exists on persistence and retention in community colleges focuses on three broad areas- student characteristics, institutional characteristics, and institutional interventions.

Student Characteristics

Student characteristics are perhaps the most widely studied aspect of the community college literature on persistence. Hawley and Harris (2006) divide the research on the role of student characteristics in community college persistence into the sub-categories of: demographic characteristics, economic factors, psychosocial characteristics, goal attainment/aspirations, and "other factors" (pp. 120-123).

Race and ethnicity have been identified as demographic factors that can influence persistence. Spangler and Slate (2015) state that differences in community college completion rates "… between White students and their Black and Hispanic counterparts are well documented" in the literature (p. 743). In their own study of the Texas community college system, Spangler and Slate (2015) confirmed earlier findings, reporting that Asian students had the highest rate of persistence, followed by White students, Black students, and Hispanic students, in that order (p. 750). It should be noted, however, that some studies (Craig & Ward,

2008; Fike & Fike, 2008; Nakajima et al., 2015) have found race and ethnicity to be unrelated to persistence when other covariates (academic background, socioeconomic status, etc.) are removed.

Student age is another demographic trait with implications on persistence. Several studies have found that students with long intervals between high school completion and initial community college enrollment are less likely to persist than students who enroll shortly after finishing high school (Craig & Ward, 2008; Hawley & Harris, 2006; McKinney & Novak, 2012; Settle, 2011). Nakajima et al. (2015) found that younger students were more likely to persist than older students, consistent with earlier research, but cautioned that the finding was likely a result of other factors associated with low-persistence (work and family obligations, part-time student status, etc.) that impact older students more often than younger students.

Despite the efforts of community colleges to offer affordable tuition, economic factors have been found to be strongly correlated with persistence for community college students. Choitz and Reimherr (2013) report that 98 percent of community college students who come from the bottom three income quartiles have unmet financial needs related to attending community college (p. 1).

David et al. (2015) found that students who reported to have difficulties paying for living expenses and tuition were likely to fail to persist. Similarly, participants in the research of Hawley and Harris (2008) indicating that they were expecting to have "trouble financing college" had a low level of persistence. Conversely, students indicating that they are able to rely on their parents for financial support is positively associated with persistence (Doud & Coury, 2006). In Sorrey and Duggan's (2008) research, financial considerations were found to be a

greater influence on persistence for adult students (over 24 years old) than for traditional college-age students.

The Center for Community College Research reports that only 61% of community college students complete the Free Application for Federal Student Aid (FAFSA) application to help fund their education through loans, work study, and grants ("Community College FAQs," n.d.). McKinney and Novak (2012) found that failure to file a FAFSA, particularly for part-time students, has a negative impact on persistence (p. 77). Nakajima et al. (2015) and Fike and Fike (2008) confirmed this finding, indicating that students who received financial aid were more likely to remain enrolled in community college than students who did not receive financial aid.

Psychosocial characteristics that have been found to have an effect on persistence for community college students include academic and social integration into the community college, support from family and friends outside of the college, and the perceived usefulness of the credential that the student is seeking. In a finding that contradicts a premise of Bean and Metzner's (1985) model of nontraditional undergraduate student attrition, Sorrey and Duggan (2008) found social integration into the community college to be the single greatest factor associated with persistence for adult students. Consistent with Tinto (1993), the authors also found social integration to be positively associated with persistence for traditional college-age students. Settle (2011) found that all persisting students in his study reported having friends who attended the same community college.

Emotional support outside of the college has also been linked to persistence in community colleges. The research of David et al. (2015) revealed that "… Lack of Social Support was negatively associated with persistence, such that students with the lowest levels of

support were the least likely to reenroll…" (p. 10). Sorrey and Duggan (2008) concluded that "encouragement and support" was the single factor most predictive of persistence for traditional-age community college students (p. 89).

Stuart, Rios-Aguilar, and Deil-Amen (2014) argue that most studies of persistence involving community college students fail to account for changing student responses to the job market. The authors point out that students in community colleges may discover during their time of enrollment that the career to which they aspire might pay better (or worse) than they initially believe, or that it might take more (or less) time in school than they realized at the start of their community college experience to achieve that career. When the students' perceptions change about their desired career, this can influence a decision to persist (Stuart et al., 2014).

Martin, Galentino, and Townsend (2014) conducted a qualitative study to uncover what factors community college graduates attributed to their own persistence. Participants in their study all indicated that having clear academic and career goals were a driving force behind their decisions to persist. Voorhees and Zhou (2000) also found that students with well-planned goals for college and career were significantly more likely to persist than those with ambiguous aspirations. Additionally, participants in Martin et al. (2014) revealed that intrinsic motivation to succeed in community college was key to overcoming external obstacles (work and family commitments, poor academic background, etc.) that often impede the progress of community college students.

In addition to demographic traits, financial concerns, psychosocial factors, and goal attainment and motivation, there are numerous "other" factors that have been found to influence persistence in community college: pre-college academic preparation, grade point average

(hereafter "GPA") in college, speaking English as a second language, the numbers of college credits in which a student is enrolled, work status, the type of degree being sought, parental education level, and social capital.

Jacobson and Mokher (2013, p. i) write that "high school preparation and performance are key predictors of college persistence…" and there is bountiful research that supports that statement. Hawley and Harris (2006) indicated that students who were required to take developmental coursework (non-credit reading and math coursework meant to bring the student up to a minimum college-level proficiency) were "… the most likely to drop out" among the participants in their research (p. 132). Similarly, Fike and Fike (2008) found that students who were not required to take developmental reading courses and those who had passed developmental reading courses were far more likely to persist than students who had failed those courses.

As with students in developmental reading courses, students who do not speak and write English fluently can be expected to have trouble with college-level coursework. Several studies have correlated poor English-language skills with failure to persist for community college students. Hawley and Harris (2006) and Nakajima et al. (2012), for example, both noted that lack of English fluency was a predictor of dropout.

Not surprisingly, many studies have conclusively linked college GPA to persistence for community college students. This can be explained as a cause of dropout and an effect of intention to drop out- students who are performing poorly are less likely to be motivated to persist, and students who are likely to drop out will be less conscientious about their schoolwork. Nakajima et al. (2012) found that cumulative GPA was the strongest predictor of persistence for

community college students, over a number of other factors (demographic, financial, etc.). McKinney and Novak (2012), Settle (2011), Craig and Ward (2008), and Dowd and Coury (2006) all found similar results linking GPA to persistence.

When students have external demands (work or children, for example), those obligations can negatively impact persistence for students in community colleges. Multiple studies have linked enrollment status with persistence. Settle (2011) found that full-time enrollment status was a "significant variable" for predicting persistence (p. 295). The results of the research conducted by Nakajima et al. (2012) and Fike and Fike (2008) positively correlated the number of credits attempted with the likelihood of persistence. In what is likely a related phenomenon, Nakajima et al. (2012) also found that number of hours worked was negatively correlated with persistence.

The type of program in which a student is enrolled has also been linked to persistence. Hawley and Harris (2006) found that students who intend to transfer into four-year degrees programs are significantly less likely to persist within the community college than are students seeking two-year degrees (p. 131). Sorey and Duggan (2008) also found that students in occupational programs were more likely to persist than students in transfer programs. The authors believe that this result can at least partially be explained by considering that some students might not consider a two-year degree necessary on their path to a four-year degree (e.g., some of the courses required to attain the two-year degree might not be required courses for the four-year degree). An alternative explanation is that students enrolled in two-year programs could have clearer goals (as discussed in Martin et al., 2014) than students with aspirations to four-year degrees and that this has a positive impact on persistence.

Community colleges tend to have more first-generation college students (students whose parents did not attend college) than four-year colleges and universities (Settle, 2011). Research indicates that first-generation college students are less likely to persist than continuing-generation students (Fike & Fike, 2008, p. 70). One likely reason for the lower persistence rate among first-generation students in that first-generation students may lack "social capital" (Burns, 2010). Social capital is the way through which students acquire information about higher education, including the financial aid process, available college resources, and expectations about the difficulty and commitment level required to complete college.

Institutional Characteristics

Burns (2010) acknowledges that research into community college policies and characteristics that "… promote student success is still in its infancy" but notes that community colleges with similar student populations can have differing graduation rates (p. 39). For example, Bailey, Jenkins, and Leinbach (2005) found that community college size is negatively correlated with persistence. The work of Bailey et al. (2005) also revealed that community colleges with higher percentages of part-time students, and part-time faculty, were likely to have higher than expected attrition rates, even when controlling for other factors.

Institutional Interventions

"Institutional interventions" refers to policies and practices which community colleges can adopt that have been found to increase student retention. Some of the institutional interventions in the literature of community college persistence that have been deemed effective include: the use of orientation/student success courses, encouraging students to meet with their

academic advisors, having an accessible and concerned faculty, the creation of learning communities, and stressing early course registration.

There exists strong data supporting the usefulness of orientation/student success courses for increasing persistence rates at community colleges. Cho and Karp (2012) describe the typical student success course:

> This course, which is usually aimed at students who have no previous college experience, provides them with useful information about the institution, assistance in academic and career planning, techniques to improve study habits, and opportunities to develop personal skills such as basic financial literacy. (p. 87)

The research conducted by Cho and Karp (2012) validated the utility of student success courses. The researchers found that there "… are clear positive associations between enrollment in a student success course in the first semester and the short-term outcomes of credit attainment and second-year persistence" (Cho & Karp, 2012, p. 101). The work of Nguyen, Hays, and Wetstein (2010) produced similar conclusions, finding that "… enrollment in a college orientation course appears to be positively related to student persistence" (p. 20).

The research into community college persistence has "consistently shown" the importance of academic advising (Burns, 2010, p. 47). The research of McKinney and Novak (2012) uncovered that students who reported that they "never" met with their academic advisor were 43% less likely to persist than students who reported meeting with their advisor "sometimes" or "often" (p. 77). Nguyen et al. (2010) indicated that meeting with an academic counselor "several times" was the third most reliable predictor of persistence, behind only student age and GPA (p. 18).

A number of studies have found faculty social interaction with and concern for students to be strongly associated with persistence. For example, all of the students who participated in Settle's (2011) research who persisted indicated that they had social contact with faculty outside of the classroom. Additionally, Nakajima et al. (2012) found that perceived "faculty concern" for students had a "significant relationship" to persistence (p. 605).

"Vast amounts of literature" attribute the use of learning communities to persistence (Burns, 2010, p. 49). Bailey and Alfonso (2005) write that learning communities "… have the most support grounded in research" of any institutional interventions aimed at increasing community college retention (p. 2).

O'Bannion (2012) calls for community colleges to eliminate late registration (registration for courses that have already begun) and cites several studies that link late registration to attrition. In their case study, Smith, Street, and Olivarez (2002) found that students who registered for class prior to the start of the semester ("regular" registration) withdrew from 10% of their course hours, while students who registered for class after the semester had begun ("late" registration) withdrew from 21% of their course hours (p. 261). Hale and Bray (2011) also indicated higher course completion rates for students who registered prior to the start of classes.

Tables Two and Three summarize the factors associated with student departure in the community college literature, as described in this section.

INDIVIDUAL CHARACTERISTICS

DEMOGRAPHIC CHARACTERISTICS	ECONOMIC FACTORS	PSYCHOSOCIAL CHARACTERISTICS	GOAL ATTAINMENT /ASPIRATIONS	"OTHER"
Race/ethnicity (Spangler & Slate, 2015)	*Ability to pay tuition* (Hawley & Harris, 2006) (David et al., 2015)	*Social integration at the community college* (Sorrey & Duggan, 2008)(Settle, 2011)	*Clarity of academic and career goals* (Voorhees & Zhou, 2000)(Martin et al., 2014)	*High school preparation and performance* (Jacobson & Mokher, 2013)
Age/time interval between high school and college (Hawley & Harris, 2006)(Craig & Ward, 2008)(Settle, 2011)(McKinney & Novak, 2012)(Nakajima et al., 2015)	*Financial support from parents* (Doud & Coury, 2006)	*Emotional support outside the community college* (Sorrey & Duggan, 2008) (David et al., 2015)	*Intrinsic motivation* (Martin et al., 2014)	*Success with/need for developmental coursework* (Hawley & Harris, 2006)(Fike & Fike, 2008)
	Filing a FAFSA (McKinney & Novak, 2012)	*Changes in perceptions about school/job market* (Stuart et al., 2014)		*English-language skills* (Hawley & Harris, 2006)(Nakajima et al., 2012)
	Receiving financial aid (Fike & Fike, 2008)(Nakajima et al., 2015)			*College GPA* (Dowd & Coury, 2006)(Craig & Ward, 2008)(Settle, 2011)(McKinney & Novak, 2012)(Nakajima, 2012)
				Type of program (Hawley & Harris, 2006)(Sorey & Duggan, 2008)
				Parental education level/Social Capital (Fike & Fike, 2008)(Burns, 2010)
				Credits attempted/ work commitment (Fike & Fike, 2008)(Settle, 2011)(Nakajima et al., 2012)

Table 2- Individual characteristics associated with student departure.

INSTITUTIONAL CHARACTERISTICS/INTERVENTIONS

INSTITUTIONAL CHARACTERISTICS	INSTITUTIONAL INTERVENTIONS
College size (Bailey et al., 2005)	*Orientation/Student Success courses* (Nguyen et al., 2010)(Cho & Karp, 2012)
Percentage of full-time/part-time students (Bailey et al., 2005)	*Academic advising* (Nguyen et al., 2010)(McKinney & Novak, 2012)
Percentage of full-time/part-time faculty (Bailey et al., 2005)	*Faculty interaction with/concern for students* (Settle, 2011)(Nakajima et al., 2012)
	Learning communities (Bailey & Alfonso, 2005)
	On-time registration (Smith et al., 2002)(Hale & Bray, 2011)

Table 3- Institutional characteristics and interventions associated with student departure.

Interaction in Distance Education

Moore (1989) identified three interaction types in distance education: learner-teacher, learner-learner, and learner-content. Anderson and Kuskis (2007) expanded Moore's work to include six modes of interaction in distance education: learner-teacher, learner-institution, learner-content, teacher-content, teacher-teacher, and learner-learner. The various forms of interaction function in an "interdependent manner" with each form "… potentially benefiting from and contributing to the others" in an online classroom (Shackleford & Maxwell, 2012, p. 239).

Moore and Kearsley (2005) note that learner-learner interaction is "… a relatively new dimension" in distance education having been made possible by technological advances in video and computer conferencing (p. 141). Learner-learner, or peer interaction, is defined as "…communication between one learner and other learners, alone or in group settings, with or without the presence of an instructor" (LaPointe & Gunawardena, 2004, p. 84).

Learner-learner interaction in the online classroom has the potential to be seen as less personal than face-to-face interaction, because of the absence of nonverbal cues when using text-based, asynchronous, modes of interaction (the most commonly used in online courses) (Rovai, 2002b). However, the lack of these cues can be mitigated by thoughtful and purposeful course design (Drouin, 2008). In fact, there is some evidence that computer-mediated communication can lead to greater group cohesiveness, liking, and intimacy than can equivalent face-to-face communication (Walther, 1996).

A number of studies have reported positive outcomes of learner-learner interaction in online courses. These positive outcomes include increased learning (e.g., LaPointe & Gunawardena, 2004), increased satisfaction (e.g., Lee & Rha, 2009), increased sense of community (e.g., Shackleford & Maxwell, 2012), and increased motivation (e.g., Kim, 2009).

It is the possibility of increased motivation through learner-learner interaction and sense of community that ties it to the issue of persistence. As noted above, there are numerous distance education models of persistence and research studies that point to motivation as a component of persistence. Garland (1993) identifies a lack of motivation as a learner characteristic that can lead to dropout. Kember (1995) suggests that "intrinsic motivation," a necessary element for persistence, can be increased through course design. Learner-learner interaction is a way to increase intrinsic motivation for some students, a finding which studies such as those conducted by Muller (2008) and Bambara et al. (2009) have revealed.

Classroom Community

The term "learning community" has been applied to diverse strategies of instruction and organization in higher education and has become a "generic umbrella" for describing a broad range of educational methods that intend to use community-building to enhance learning (Lenning & Ebbers, 1999, p. 8). Despite much attention in the literature being devoted to proposing a more precise definition of "learning community," no clear consensus has been reached (Shapiro & Levine, 1999). In fact, Quinn (2010) characterizes the idea of "learning communities" as "blandly ubiquitous" (p. 46). By comparing and contrasting a variety of definitions and conceptualizations of learning communities, an operational definition will be created for use in this study.

Alexander Meiklejohn is credited with being a pioneer in the history of learning communities in higher education (Lenning & Ebbers, 1999). Meiklejohn operated the Experimental College at the University of Wisconsin from 1927-32. The Experimental College differed from the standard practices of the University of Wisconsin, in a number of ways. The students involved in the College, which was limited to underclassmen, lived together in a specified residence hall. Faculty participating in the College had offices in physical proximity to this residence hall. Classes and meals took place in nearby facilities. Efforts were made in the College to organize classroom and extra-curricular activities around common themes. Instead of lecture-based pedagogy, tutorials and discussion groups were used in the classroom. Meiklejohn believed that this philosophy and structure resulted in "… meaning and purpose and fellowship which might give to intellectual endeavors their proper rounding out into a scheme of rich and happy living" (1932, p. 248).

Later conceptualizations of learning communities in higher education shared some of the traits of the Experimental College. Joseph Tussman was a student of Meiklejohn, and used his experience with the Experimental College as the inspiration for his programming at the University of California at Berkeley in the late 1960s (Smith, MacGregor, Matthews, & Gabelnick, 2004). As with the Experimental College, Tussman's learning community arranged a program of study for underclassman around a common theme, without the use of individual courses, with faculty members exclusive to the program, featuring the deliberate blurring of the lines between curricular and extra-curricular activities, and with members of the community living in close proximity to one another.

In the 1970s, The Evergreen State College adopted elements of the Meiklejohn and Tussman learning communities into their curriculum. Evergreen uses a "Coordinated Study

Program" for all four years of the baccalaureate as compared to only the first two years for Meiklejohn and Tussman, and also does not include the housing and extra-curricular elements of earlier learning communities. The Coordinated Study Program uses an interdisciplinary approach, with dedicated groups of students and faculty members collaborating to study a common theme or problem over the course of an academic term or year (Kuh, Kinzie, Schuh, & Whitt, 2005).

All of the programming for the learning communities listed above extends beyond a single college course. This characteristic of a "learning community" is consistent with the definition that a number of authors use. Smith et al. (2004) define the term "learning community" as "… a variety of curricular approaches that intentionally link or cluster *two or more courses*, often around an interdisciplinary theme or problem, and enroll a common cohort of students" (emphasis added) (p. 20). Pascarella and Terenzini (2005) perceive learning communities in a similar way, stating that learning communities "… usually involve block scheduling and registration so that a group of students (who may or may not live in the same residence hall) take the same *two or three courses* at the same time" (emphasis added) (p. 422). Shapiro and Levine (1999) identify "integration of the curriculum" as one of the basic characteristics of a learning community (p. 3). Tinto (2000) writes that learning communities, in their most basic form, are "… a kind of coregistration or block scheduling that enables students to take courses together" (p. 83).

The research described in this paper examines sense of community in fully online courses. Is the development of a learning community possible under these conditions? Some definitions of the concept, particularly those that are rooted in the context of online courses, claim that it is indeed.

Lenning and Eberts (1999), in reviewing the literature on learning communities, identified two dimensions of learning communities that they deemed important to post-secondary education: primary membership and primary form of interaction. Primary membership consists of whom it is that is involved in the learning community. Three basic types of primary membership which the authors identify include:

- *Learning organizations*- colleges and universities "… consciously structured to promote their own learning and that of their students and faculty members"
- *Faculty learning communities*- "… consciously and proactively structured" faculty groups to promote faculty learning
- *Student learning communities*- "… consciously and proactively structured" student groups organized to promote student learning (1999, pp. 10-11).

Forms of interaction which learning communities can utilize, as identified by Lenning and Eberts (1999) include:

- *Physical interaction*- face-to-face interaction, as in a traditional classroom setting
- *Virtual interaction*- using computers and the Internet
- *Correspondent interaction*- through letters, etc. (pp. 11-12).

If using a definition of learning community as broad as that of Lenning and Eberts (1999), a single online course has "learning community" potential, as a student learning community using virtual interaction.

Lenning and Eberts (1999) have reservations, however, about the likelihood that a college classroom will become a "learning community," in the classic sense, when comparing it to a K-12 classroom:

> Generally, in classrooms where teachers work to effectively develop a sense of family, or community, across the classroom, all the students in the class view themselves as members of a distinctive learning community. Although a college class can similarly become a true learning community, it tends not to happen. (p. 29)

The statement above applies to the traditional face-to-face classroom setting. Lenning and Eberts (1999) specifically reference the short and infrequent class meetings and a lecture-style format as two of the inhibitors of learning community development in a college classroom. The nature of the online classroom results in different pedagogies being used in that format versus the face-to-face classroom, and these pedagogies might be suitable to the development of "learning communities" in a slightly different sense.

Rovai (2002a) proposes an alternative view of community, and one more compatible with the online classroom than the traditional views: "When community is viewed as what people do together, rather than where or through what means they do them, community becomes separated from geography, physical neighborhoods, and campuses" (p. 4). Based on his review of the literature, Rovai (2002a) identified four defining dimensions of classroom community: "… spirit, trust, interaction, and commonality of goals" (p. 4). "Spirit" refers to a sense of togetherness and belonging within the class. "Trust," for Rovai (2002a), consists of two elements- credibility and benevolence. Credibility is the belief that what others in the class say is reliable. Benevolence is the belief that others in the class are interested in the welfare of their classmates. Rovai (2002a)

calls learner interaction, the "… essential element of, but not the full solution to..." development of a learning community in an online classroom (p. 5). The "common goal" in an online classroom is that learning will occur.

Sadera, Robertson, Song, and Nidon (2009) conducted a review of the literature on the idea of "community" in distance learning and found some common themes, largely similar to those described by Rovai (2002). Based on their review, Sadera et al. (2009) define community in an online class as "… a group of participants, relationships, interactions, and their social presence within a given learning environment" (p. 278).

Looking at each element of the Sadera et al. (2009) definition, each element included is undeniably necessary for "community" to occur. Community requires more than one person, and between any two or more people there is always a relationship, of some sort. Interactions and the sense of social presence that potentially results from it, however, are the elements that can turn a group of people into a "community."

Gunawardena and Zittle (1997) define social presence as "the degree to which a person is perceived as a 'real person' in mediated communication" (p. 9). In their Community of Inquiry (CoI) model, Anderson, Rourke, Garrison, and Archer (2001) offer a similar, but more detailed description of social presence. CoI is a conceptual framework designed to "… capture the educational dynamic and guide understanding of online learning effectiveness in higher education" and consists of three overlapping elements: cognitive presence, teaching presence, and social presence (Garrison & Archer, 2007, p. 78). In the CoI framework, social presence is defined by a learner's ability to "… project themselves socially and affectively into a community

of inquiry" (Rourke, Garrison, Anderson, & Archer, 2001, p. 52). Three indicators of social presence in a CoI are:

- *Affective expression*- Participants disclosing feelings, emotion, values, etc. with others
- *Open communication*- Sustained, honest, dialogue among participants that results in increasing commitment to each other
- *Group cohesion*- Collaborative efforts centered around learning activities (Swan, Garrison, & Richardson, 2009).

Rovai's (2002) Classroom Community Scale

Rovai (2002b) writes that his Classroom Community Scale (CCS) is "… a test instrument that can assist educational researchers in studying community in virtual classrooms" (p. 199). In creating his scale, Rovai generated an initial list of forty questions for use in the scale. Twenty of those questions were based on the literature on "community" and twenty of the questions were chosen to specifically reflect the unique context of the classroom (both online and face-to-face). The questions are divided into two subscales, ten questions are designed to measure perceptions of connectedness, ten questions are designed to measure perceptions of learning. Rovai enlisted a panel of three university psychology professors to examine the content validity of the questions. The panel rated each of the questions on a four-point Likert scale, with questions rated a 4.0 being deemed "totally relevant" to classroom community. Only those questions that the panel unanimously identified as "totally relevant" were used in the CCS. Statistically, questions that did not account for at least nine percent of the variance were removed from the CCS, resulting in the final twenty question scale. When testing the scale, Rovai (2002b) found that the

internal validity of the scale was supported by a Cronbach's alpha of 0.93, which is considered "excellent reliability" (p. 206).

There are numerous examples of the CCS being used in the recent distance education literature. For example, Baturay (2010) used all twenty questions from the CCS to measure the relationship of classroom community to cognitive learning and satisfaction. Shea (2006) called the CCS "... a good measure of the characteristics of a learning community," and used all twenty questions, in his study of learning communities in online environments (p. 37). Lewis, McVay-Dyche, Chen, and Seto (n.d.) selected the CCS for their study of sense of community among medical professionals in online courses because "… it was specifically developed for the online environment and is sensitive to differences in sense of community within higher education students" (p. 8).

In addition to distance education researchers using the entire CCS as their instrument to measure classroom community, some researchers have used portions of the CCS or adapted the CCS to suit their studies. Duncan and Barcyzk (2013) used ten items from the CCS to measure feelings of connectedness in their research on the use of Facebook in online courses. Harrison and West (2014) only used Rovai's "connectedness" questions because those most closely fit their research question and they also wanted to avoid possible participant fatigue from using the entire scale. Additionally, Harrison and West (2014) reworded some of the items to better reflect the specific context of their course (p. 6).

Recent doctoral dissertations in distance education have also utilized the CCS. For example, Chapman (2012) chose the CCS for her research into community in online doctoral education because of the "… reliability and validity, and the instrument's recognition by other

scholars as a meaningful measure of community as evidenced by citations in scholarly publications" (p. 53). McPherson (2014) chose the CCS because of its reliability, as well as its readability, in her study of multicultural online classroom community.

Motivation

Self-Determination Theory

Kennedy (2013) points out that institutions of higher education can sometimes be unfairly blamed, or undeservedly credited, for student outcome measures such as retention because some causes for dropout are beyond the control of the institution. For example, a student's academic ability and socioeconomic and demographic characteristics can impact their decision to leave school or drop a course. Kennedy argues that these variables are the most often studied in the retention literature because they are relatively easy variables to measure. However, the variable of motivation can be highly useful in the study of persistence-related behavior.

Ryan and Deci (1999) state that motivation occurs when a person is "moved to do something" (p. 54). However easy it may be to define, motivation is a complex phenomenon. Motivation can be discussed in terms of relative strength (e.g., "a lot" or "a little" motivation), but also in terms of types. Deci and Ryan's (1985) "Self-Determination Theory" (SDT) identifies different types of motivation- intrinsic motivation, extrinsic motivation, and amotivation.

"Intrinsic motivation" takes place when a person does something because it is "… inherently interesting or enjoyable" (Ryan & Deci, 2000, p. 55). In educational settings, a learner would be experiencing intrinsic motivation if they were fascinated with the content of the

subject being taught, for example. Intrinsic motivation in the classroom has been found to result in "high quality learning" (Ryan & Deci, 2000, p. 55).

Several sub-types of intrinsic motivation have been identified in the literature- "Intrinsic Motivation to Know," "Intrinsic Motivation Toward Accomplishments," and "Intrinsic Motivation to Experience Stimulation" (Vallerand, Pelletier, Blais, Briere, Senecal, & Vallieres, 1992). Intrinsic Motivation to Know takes place when a person experiences "… pleasure or satisfaction" with learning something new (Vallerand et al., 1992, p. 1005). A student reading a textbook beyond the chapters which the professor has assigned, simply because they are intrigued by the subject matter, is an example of an outcome of Intrinsic Motivation to Know.

Intrinsic Motivation Toward Accomplishments happens when a person is motivated by the potential of perhaps feeling a sense of achievement (Vallerand et al., 1992, p. 1005). A student striving for not just a high grade, but a perfect score, could be said to have Intrinsic Motivation Toward Accomplishments.

Intrinsic Motivation to Experience Stimulation occurs when thought-provoking sensations are sought after by the learner (Vallerand et al., 1992, p. 1006). A student engaging in a vigorous debate in class might be moved by Intrinsic Motivation to Experience Stimulation, for example.

"Extrinsic motivation" refers to action prompted by "… a sense of obligation, or as a means to an end" (Fairchild, Horst, Finney, & Barron, 2005, p. 331). As with intrinsic motivation, there are sub-types of extrinsic motivation. However, unlike intrinsic motivation, the sub-types of extrinsic motivation form a continuum. These sub-types are ordered from the sub-type least like intrinsic motivation to the sub-type most like intrinsic motivation - external

regulation, introjected regulation, identified regulation, and integrated regulation, in that order (Deci & Ryan, 1985).

"External regulation" happens when someone is motivated by a reward or punishment for an activity that is given by another person. As an example, a student who only does his homework because his parents will take away his video games if he does not do it is motivated by external regulation.

"Introjected regulation" is the type of extrinsic motivation that takes place when someone engages in an activity in order to get the approval or praise of another. For example, a student who does a project in the hope of getting a compliment from their teacher for doing good work is motivated by introjection.

"Identified regulation" takes place when a person is moved to taking action in an activity because they value the potential outcome of an activity. A college student who strives for high grades because high grades will lead to a good job after graduation is an example of motivation by identification.

Finally, "integrated regulation" is essentially a mix of intrinsic and extrinsic motivation. Integration takes place when an activity is simultaneously motivated by a desired outcome and a genuine enthusiasm for the activity. A student who is engaged by the subject matter in her major, but who also desires the credential that coursework in that major will bring could be said moved by integrated regulation (Ryan & Deci, 2000, p. 61).

Amotivation is "… the state of lacking an intention to act" (Ryan & Deci, 2000, p. 61). If someone is experiencing amotivation, they see no value in pursuing an activity, or they may lack confidence in their ability to be successful at the activity. A student dropping a college course

because they believe it is too difficult or will not result in contributing to the achievement of their goals, would be experiencing amotivation.

Intuitively, research has uniformly found that intrinsic motivation for learning results in deeper, "more robust," learning than does extrinsic motivation (Kawachi, 2003, p. 70). Students who are intrinsically motivated engage in activities that promote learning. They are active in class discussions, they seek outside sources of information on the topics that are covered in class, and they find ways to apply what they have learned, for example. Intrinsic motivation also perpetuates itself; a student who is engaged with their learning will likely achieve positive outcomes that strengthen their motivation to continue to learn. Additionally, learners who are intrinsically motivated avoid such pitfalls as boredom and disinterest that decrease motivation (Lei, 2010).

Academic Motivation Scale

The *Echelle de Motivation en Education*, or EME, is a measure of motivation toward education that was developed and validated in French-Speaking Canada. Vallerand et al. (1992) had the survey instrument translated from French into English and renamed the English-language version the "Academic Motivation Scale" or AMS. Vallerand et al. (1992) conducted a series of studies to ascertain the validity of the AMS.

To ensure that the AMS was a valid measure for English-speaking participants, Vallerand et al. subjected the scale to a four-part test. First, the EME was translated from French to English by a process called "back-translation." Back-translation involves, in this case, having a bilingual French and English speaker translate the EME to English, and having another bilingual French and English speaker translate the English version back to French. The back-translation

results confirmed a good translation had been made. Second, the AMS was used in research to assess that the seven subscales contained within the AMS were measuring the intended variables. The seven subscales are meant to measure the three previously mentioned types of intrinsic motivation, three of the previously mentioned types of extrinsic motivation (external, introjected, and identified regulation), and amotivation (p. 1008). Results indicated that the AMS adequately measured these variables. Third, Vallerand et al. (1992) conducted a series of studies to determine that the items on the AMS had appropriate internal consistency, which was confirmed. Finally, Vallerand et al. replicated a study that used the EME as an instrument with French-speaking participants using the AMS with English-speaking participants. Results supported the use of the AMS as a reliable instrument in studies related to motivation and education with English-speaking participants.

A number of studies, while finding some flaws in the AMS, have generally added to the reliability and overall credibility of the AMS. Cokley, Bernard, Cunningham, and Motoike (2001) tested the suitability of the AMS for American participants (the Vallerand et al. (1992) work used Canadian participants). Cokley et al. (2001) hypothesized that academic self-concept, which the authors refer to as "…attitudes or feelings students have about their intellectual or academic skills," would be positively correlated with the intrinsic motivation sub-scales of the AMS and that grade point average would also correlate with intrinsic motivation (p. 111). The results of their study indicated that the hypothesis of academic self-concept and intrinsic motivation were indeed correlated, but that intrinsic motivation was not correlated with grade point average. The authors deemed the AMS useful for American participants.

The suitability of the Academic Motivation Scale (Vallerand et al., 1992) for use in measuring motivation in the context of online courses has been demonstrated in the literature.

Chen, Jang, and Branch (2010) used the Academic Motivation Scale to assess the factors associated with learner motivation and learning outcomes for online students. The researchers used twelve items from the AMS to measure intrinsic motivation. The validity of the AMS was verified by the researchers in two ways: a reliability test and a test-retest. The reliability test indicated "… satisfactory internal consistency" with items ranging from .77 to .96 and the test-retest had "appropriate reliability" with an r= .79 over a month-long period (Chen et al., 2010, p. 39).

Horzum, Kaymak, and Gungoren (2015) used a Turkish translation of the AMS to study the relationship of online learning readiness to academic motivation. Using confirmatory factor analysis the scale was shown to exhibit a "… good fit" with "… Cronbach's alpha internal-consistency coefficients for the scale factors between .73 and .84" (Horzum et al., 2015, p. 763).

Vanslambrouk, Zhu, Lombaerts, Pynoo, and Tondeur (2017) used the AMS to measure the motivation of learners to learn as one of their multiple variables to predict satisfaction and intent to persist in online courses. As with previous users of the AMS in online environments, Vanslambrouk et al. (2017) found the scale to be reliable with Cronbach's Alpha of the subscales between .73 and .88.

Motivation and Persistence

Although not as widely studied as some other variables, the role of motivation in persistence has been studied in the retention literature. Martin, Galentino, and Townsend (2014) conducted a qualitative study of community college graduates and found that "… their intense motivation to succeed" was the "… most evident theme" reported by the participants (p. 230). While not using the actual term in the reporting of their results, many of the findings of Martin et

al. (2014) point to "Intrinsic Motivation toward Accomplishments" as the driving force that pushed the participants to graduation. For example, one participant in Martin et al. (2014) stated: "(c)ollege students should be able to motivate themselves to succeed" and another said that "I just made sure that I stuck with it and tried to push myself" (p. 231). Extrinsic motivation, specifically "identified regulation," was also reported as being important to some of the participants in Martin et al. For example, one participant in Martin et al. (2014) was working as a restaurant server while in college, and indicated that the potential opportunity to switch professions was a motivator:

> You can make good money just by serving tables. I see many people giving up school because they are more attracted to the money made by serving tables. Not many people are willing to study for a job that will potentially pay less initially than serving tables, but could offer you the possibility of a career in the future. (p. 231)

In a study with medical school students, Sobral (2004) found a strong connection between motivation and persistence. Sobral used the AMS to assess motivation in his participants and used a self-report scale to measure intention to persist with medical studies. As would be expected, Sobral found that intrinsic, which he often calls "autonomous," motivation was highly correlated with persistence. Participants in Sobral's study who indicated that they were experiencing amotivation toward their medical studies were likely to report that they did not intend to persist. Extrinsic motivation, which Sobral (2004) often calls "controlled motivation," was not found to have any impact on intention to persist (p. 954).

As with medical school students, nursing school students were also shown to have their intention to persist tied to their intrinsic motivation. Simons, Dewitte, and Lens (2004) found that

the nursing students in their sample were more likely to persist if they were "internally regulated," a term which they use identically to the way other researchers use "intrinsically motivated." As would be expected, nursing students who were found to be "externally regulated" (extrinsically motivated) were less likely to persist (p. 356).

Trevino and DeFreitas (2014) did a literature review of studies that examined the role of motivation on the academic success of first-generation Latino college students. In their review, the authors found that persistence is "strongly related" to intrinsic motivation with their target population (p. 300).

Intent-to-Persist

As discussed previously, for the purposes of this study, "intent to persist" refers to the self-reported likelihood that the student will continue participating in their online course until the course is completed at the end of the academic term. While intent to persist is not the same thing as persistence, there is a great deal of theoretical and empirical evidence that suggests that intent to persist is a good proxy for persistence.

Berger and Braxton (1998) cite a number of studies that have "… demonstrated strong correlational connections between intent to persist and actual measures of persistence" (p. 107). One of the specific studies identified by Berger and Braxton is the work of Cabrera, Nora, and Castaneda (1992). Cabrera et al. found that for participants' in their study that intent to persist had the strongest direct effect on actual persistence, even more so than such other factors as academic performance, financial considerations, academic and social integration, and goal commitment. Bean and Metzner (1985) report that a similar concept to "intent to persist," "intent to leave," has been "highly predictive of actual attrition" (p. 527).

Bean and Metzner cite Fishbein and Ajzen's (1975) Theory of Reasoned Action as a theoretical explanation of the close tie between intent to persist and actual persistence. The Theory of Reasoned Action suggests that one's attitudes lead to intentions and that intentions lead to behaviors (from Bean and Metzner, 1985, p. 493). Additionally, Witt, Schrodt, Wheeless, and Bryand (2014) identify Azjen and Fishbein's (1980) Theory of Planned Behavior as a "… conceptual and practical connection between intent to persist and actual follow-through" (p. 334). The Theory of Planned Behavior posits that taking action is a function of one's attitudes, the attitudes of one's significant others, and the expected difficulty of carrying out the action (from Witt et al., 2014, p. 334). The theories of Azjen and Fishbein have been supported in scholarly research. For example, Godin and Kok (1996) conducted a meta-analysis of fifty six studies of health-related behaviors and found that intentions were the most significant predictor of behavior (p. 92).

A number of survey items and instruments have been used in the persistence literature to measure "intent to persist." Wheeless, Witt, Maresh, Bryand, and Schrodt (2011) used a six-item scale to assess the role of instructor credibility and communication skills on intent to persist. The scale consisted of the question "(My instructor) influenced me to…" followed by six pairs of antonyms (persist/not persist, continue/stop, leave/stay, keep going/give up, go away/remain, persevere/halt). Participants responded on a seven-point scale indicating the extent to which their instructor contributed to their intent to persist. The scale created by Wheeless et al. (2011) was found to be effective, with internal reliability supported by an alpha coefficient of .95 and a confirmatory factor analysis supporting that also supported the measure's validity (p. 324). Owens and Volkwein (2002) examined the influence of instructional delivery and learning outcomes on persistence among prison inmates enrolled in college courses. Owens and

Volkwein asked their participants to rate their confidence in completing their course and their degree on a five-point scale. Both items were found to have a high degree of validity with alphas of .76 for the question course completion item and .92 for the degree attainment item (p. 7).

Multiple item instruments used to measure intent to persist such as that of Wheeless et al. (2011) and Owens and Volkwein (2002) are rare in the literature. Most researchers use a single item to measure intent to persist. Pascarella and Terenzini (1980) measured their freshman participants' intent to persist to the sophomore year with this single item: "it is likely that I will register at this university next fall" (p. 67). Cabrera et al. (1992) borrowed the Pascarella and Terenzini intent to persist items for their research. Porter and Swing (2006) studied the influence of first-year seminars on persistence. Their single item to measure intent to persist was a seven-point Likert scale response to the question: "For the next academic year, to what degree do you plan to return to this college/university?" (p. 96). Burks and Barrett (2009) used the 2003 Your First College Year (YFCY) survey in their study. The YFCY contained a single item on intent to persist. Participants taking the 2003 YFCY were asked the question "What do you think you will be doing in Fall 2003?". Three possible answers were allowed for this question: "attending your current (or most recent) institution," "attending another institution," or "not attending any institution." Tovar (2015) used a five-point Likert scale item in his study of the role of faculty, counselors, and support programs on academic success and intent to persist among Latino/a community college students. Tovar's item asked participants to rate the likelihood of their persistence to degree completion. Bowman and Denson (2014) also used a five-point Likert scale to determine intent to persist, asking participants to indicate the chance that they would graduate from their current university.

Statement of the Problem

Persistence is an important issue in all higher education environments, but particularly so in the contexts that intersect in the research described in this paper- online learning and community colleges. Students who enroll in community colleges are less likely to complete their courses and degrees than their counterparts in four-year colleges and universities. Students who enroll in online courses are less likely to complete their courses and degrees than are students in face-to-face courses. Given the persistence challenges for both community college and online students, it is no surprise that community college students enrolled in online courses are particularly vulnerable to dropping out.

The National Center for Education Statistics (NCES) reported that 81 percent of first time, full-time, students who enrolled in four-year institutions in the fall semester of 2014 returned to the same institution in the fall semester of 2015. For two year colleges, NCES indicated that only 61 percent of first time, full-time, students remained enrolled over the same time period ("Undergraduate retention and graduation rates," 2017).

Lee and Choi (2011) cite a number of studies that have indicated that "… online courses have significantly higher student dropout rates than conventional courses" (p. 594). Bawa (2016) cites earlier research that estimated a 10% to 20% lower completion rate for students in online courses when compared to students in face-to-face courses. Lending some credibility to that estimate, Tanyel and Griffin (2014) conducted a ten-year longitudinal study that found that students were 12% less likely to successfully complete online versions versus face-to-face versions of the same courses.

Xu and Jaggers (2014) state that community college students in online courses achieve "… markedly lower persistence rates" than do those in face-to-face courses, and as mentioned

previously, these persistence rates are already lower than for students at four-year institutions (p. 634). On top of this lower persistence rate across all groups at community colleges, research has indicated that participation in online community college courses exacerbates existing achievement deficits for students with demographic and other characteristics that are more common among students at community colleges than students at four-year institutions. Kaupp (2012), for example, found that Latino students were twice as likely to withdraw from online courses than from face-to-face courses at California community colleges. Additionally, Xu and Jaggers (2013) found that Black students and students with lower levels of academic preparation (which included students with low grade point averages and students who had taken remedial courses) were significantly less likely to complete online courses than face-to-face courses at Washington community colleges.

Conceptual Framework

For the reasons noted above, it is important to understand how online courses can be designed to aid in the retention of students. This study described in this paper was an attempt to discover the extent to which intrinsic motivation and sense of community contribute to academic integration for community college students in online courses and, further, the extent to which academic integration influences intent to persist for those students.

The conceptual framework hypothesizes that both sense of community and intrinsic motivation contribute to academic integration and that academic integration leads to intent to persist. This framework is illustrated in Figure 1:

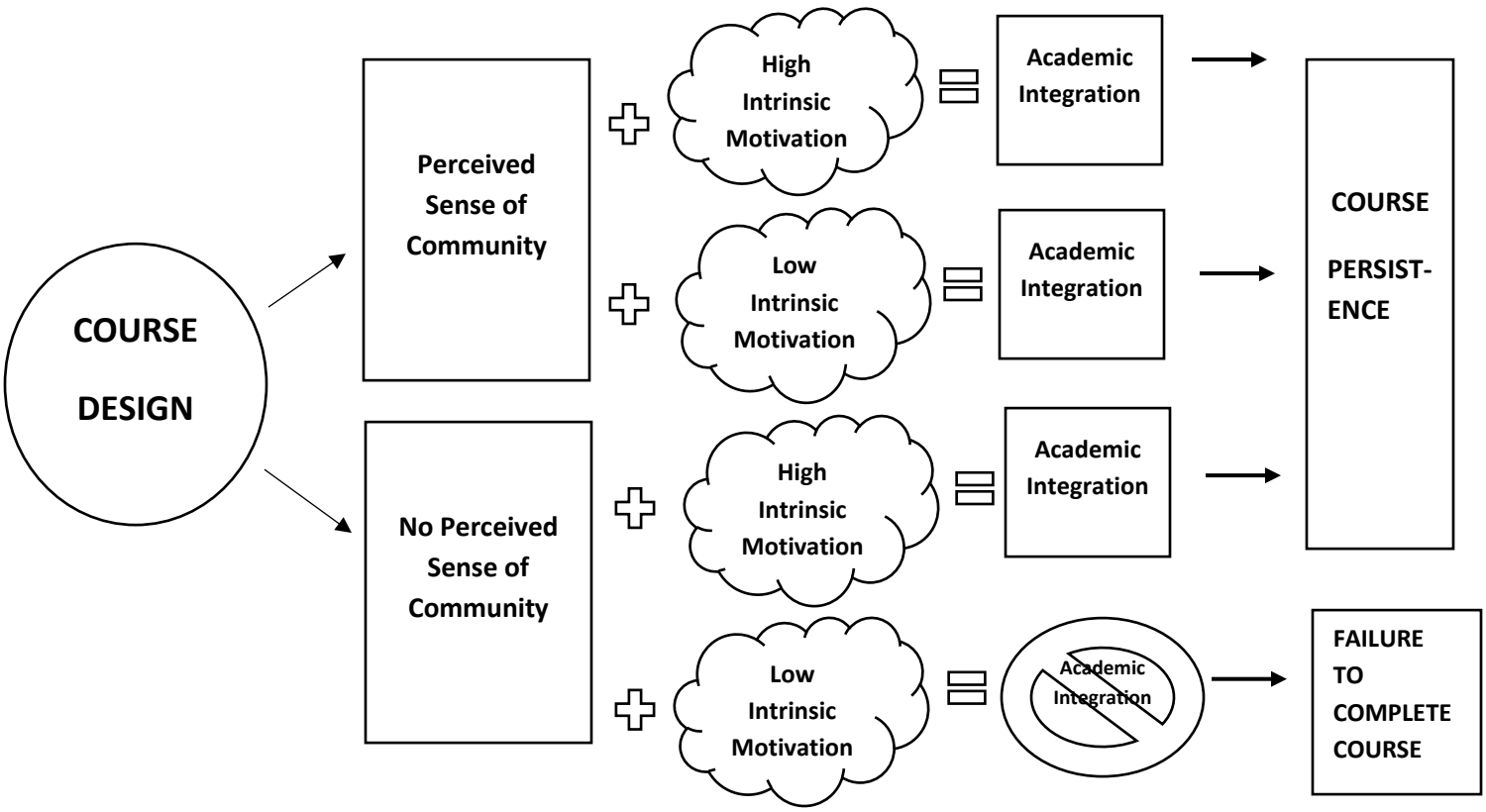

Figure 1. Conceptual Framework.

Research Questions

1. To what extent does sense of classroom community influence academic integration for community college students in online classes?

2. To what extent does intrinsic motivation influence academic integration for community college students in online classes?

3. Which independent variable, sense of classroom community or intrinsic motivation, is a better predictor of persistence for community college students in online classes?

4. To what extent does academic integration influence persistence for community college students in online classes?

5. Is “intent to persist” predictive of actual course persistence?

Chapter 3

METHODOLOGY

Introduction

This chapter details the research methods used to carry out the study. The five sections of this chapter include: Research design, instrumentation, population and sampling, data collection, and data analysis.

Research Design

There are two types of variables- independent and dependent variables. Salkind (2008) defines the independent variable as the "predictor variable" in correlation research (p. 390). The dependent variable, therefore, is the "predicted variable" (Salkind, 2008, p. 389). For Question One, the independent variable is the participant's sense of community in their online course, the dependent variable is their level of academic integration. For Question Two, the independent variable is the participant's level of intrinsic motivation in their online course. The dependent variable for Question Two is the participant's level of academic integration. For Question Three, the independent variables are the participant's sense of classroom community within the online course and the participant's level of intrinsic motivation in their online course. The dependent variable for Question Three is the participant's persistence within their online course. The independent variable for Question Four is the participant's level of academic integration, with the dependent variable being the participant's persistence within their online course. Finally, the independent variable for Question Five is the participant's intent to persist, with the dependent variable being their actual course persistence.

Research Questions One and Two will be addressed using correlation research. Myers, Well, and Lorch (2010) define correlation as "… an index of strength of the linear relationship between two variables" (p. 42). For Questions One and Two, scales using Likert-type surveys will be used to measure the dependent and independent variables. Joshi, Kale, Chandal, and Pal (2015) describe a Likert scale as "… a set of statements" for which "… participants are asked to show their level of agreement" (p. 397). In this research, numerical values were assigned to each response on the Likert scale (e.g. responses of "very strongly disagree" will be assigned a value of 1, responses of "very strongly agree" were assigned a value of 6). The mean value of the responses given by the participants will be used as the independent and dependent variables for Questions One and Two.

All of the variables in Question One and Question Two are continuous variables. Salkind (2008) defines continuous variables as variables that can "… assume any value along some underlying continuum" (p. 75). For Questions One and Two, the Pearson correlation coefficient is used to measure the correlation between the variables. Myers et al. (2010) define the Pearson correlation coefficient as "… a measure of the extent to which two quantitative variables are linearly related" (p. 443).

Due to the nature of the dependent variable (course persistence versus non-persistence) in Questions Three, Four, and Five will be addressed using point-biserial correlation coefficient. Myers et al. (2010) indicate that point-biserial correlation coefficients should be used when one of the variables is "… categorical with two levels" (such as course persistence versus non-persistence in this study) and that numbers, usually 0 and 1, are assigned to each of the dichotomous variables (p. 483). For the analysis of Questions Three, Four, and Five, the value

of “0” will be assigned to students who do not persist within their course, and the value of “1” will be assigned to students who persist.

Instrumentation

Classroom Community Scale

Those questions from Rovai’s (2002b) Classroom Community Scale which are designed to measure “connectedness,” or social community, were used to assess the variable “sense of community”. Participants responded to a six-point Likert-type scale, with the options of “very strongly agree,” “strongly agree,” “agree,” “disagree,” “strongly disagree,” and “very strongly disagree” for each of these questions from the scale:

1. I feel that students in this course care about each other.
2. I feel connected to others in this course.
3. I do not feel a spirit of community in this course. – reverse scored
4. I feel this course is like a family.
5. I feel isolated in this course. – reverse scored
6. I trust others in this course.
7. I feel that I can rely on others in this course.
8. I feel that members of this course depend upon me.
9. I feel uncertain about others in this course. – reverse scored
10. I feel confident that others in this course will support me.

Institutional Integration Scale

Modified questions from Terenzini and Pascarella's (1977) Institutional Integration Scale that are designed to assess "normative integration into the academic system" were used to measure the variable of "academic integration" (p. 28). The questions in the Institutional Integration Scale are written to elicit perceptions about the entire academic program. The questions in this research study address perceptions about an individual online course. Participants responded to a six-point Likert-type scale, with the options of "very strongly agree". "strongly agree," "agree, "disagree," "strongly disagree," and "very strongly disagree" for each of these questions from the scale :

1. I have found this course to be enjoyable.
2. I have found this course to be exciting.
3. I have found this course to be stimulating.
4. I have found this course to be enlightening.
5. I have found this course to be interesting.
6. I have found this course to be rewarding.
7. I have found this course to be good.
8. I have found this course to be provocative.
9. I have found this course to be informative.
10. I have found this course to be irrelevant. – reverse scored
11. I have found this course to be dull. – reverse scored
12. I have found this course to be boring. –reverse scored
13. I have found this course to be useless. –reverse scored
14. I have found this course to be a waste. –reverse scored

15. I have found this course to be necessary.
16. I have found this course to be valuable.
17. I have found this course to be practical.
18. I have found this course to be worthwhile.
19. I have found this course to be relevant.

Academic Motivation Scale

A modified version of Vallerand et al.'s (1992) Academic Motivation Scale was used to measure the variable of intrinsic motivation. The Academic Motivation Scale was created to measure motivation for attending college, these questions are designed to address motivation for taking a particular online class. Vallerand et al.'s version of the questionnaire uses a seven-point Likert scale, this modified version uses a six-point Likert scale to maintain consistency with the other questionnaires used in this research. The options of "very strongly agree," "strongly agree," "agree," "disagree," "strongly disagree," and "very strongly disagree" are used again for each of these questions from the scale:

1. I am taking this course because it will help me get a college degree that will result in a higher-paying job than one I could get with only a high school diploma. –extrinsic
2. I am taking this course because I experience pleasure and satisfaction from learning new things.
3. I am taking this course because it will help me prepare for my future career. –extrinsic
4. I am taking this course because of the intense feeling I get from communicating my ideas to others.

5. I don't know why I am taking this course, I feel I am wasting my time with it. –reverse scored
6. I feel pleasure from exceeding my expectations for myself in this course.
7. I want to pass this course to prove to myself that I can do it.
8. I am taking this course because it will help me get a more prestigious job when I graduate college. –extrinsic
9. I am taking this course for the pleasure I feel when I discover new things.
10. I am taking this course because it will help me enter the job market in a field that I enjoy. –extrinsic
11. I am taking this course for the pleasure I experience when I read interesting information.
12. I once had good reasons for taking this course, now I wonder if I should continue. –reverse scored
13. I am taking this course for the sense of accomplishment I will feel when I complete it.
14. When I succeed in classes like this one, I feel important.
15. I am taking this class because it will help me have a "good life" later on. –extrinsic

Intent to Persist Question

The participants' intent to persist within their course was measured with a single six-point Likert scale item, again with the options of "very strongly agree," "strongly agree," "agree," "disagree," "strongly disagree," and "very strongly disagree." The item is:

1. I intend to remain enrolled and active in this course until the term is completed.

Population and Sampling

Salkind (2012) defines the population in a research study as "… the total of all the individuals who have certain characteristics and are of interest to the researcher" (p. 71). The population of interest in the present study is community college students enrolled in online courses.

The "sample" in a research study refers to the "subset" of the population that the researcher is using in a study (Salkind, 2012, p. 71). Myers et al. (2010) note that "… practical considerations often play a major role" in sampling (p. 7). For the present research, a "convenience sample" was used to find participants. Remler and Van Ryzin (2011) define a "convenience sample" as one "… in which researchers rely on the most readily available participants" (p. 141). Although a researcher cannot claim that a convenience sample definitively represents the population they are studying, the sample can still prove useful for uncovering insight into the questions and hypotheses posed by the researcher (Creswell, 2012).

The author of this dissertation is employed by a community college located in Central Pennsylvania. Through connections made during employment at the college, permission was granted from administrators to solicit online students for participation in the study (see Appendix A for permission acknowledgments).

Data Collection Procedure

Ethical considerations are "inherent" in research (Remler & Van Ryzin, 2011, p. 351). Prior to conducting any of the procedures that follow, permission for the study was obtained from the institutional review boards at both the Pennsylvania State University and the

community college from which the participants were drawn. The institutional review boards reviewed and approved the informed consent form created for the study (see Appendix B for complete informed consent form). The informed consent form for the study includes (from Salkind, 2012, p. 38):

- Purpose of the study
- Disclosure that the option to not participate is available
- Description of the procedures
- Risks of participation
- "Statement of confidentiality"

The use of electronic data collection in quantitative research has become widespread since the advent of the internet and is particularly appropriate when studying a population that frequently goes online, such as online community college students. Several steps were involved in collecting the data for this study:

First, the consent form (see Appendix B) was placed in a Google Forms page accessible only to those people who have an email address and log-in password associated with the community college where the study took place. This was done to meet standards of the Family Educational Rights and Privacy Act of 1974 (FERPA) guidelines, which require that electronic consent signatures be given on a platform which requires participants to use a unique identifier, such as a password, to ensure that they are indeed the one giving consent. Students at the participating community college were invited via an emailed announcement from a college administrator to the Google Forms page. This page included the consent form, to which participants were required to consent and were informed of their rights in the study.

After completing the consent forms, participants clicked on a link that took them a survey hosted on Microsoft Forms. The use of Microsoft Forms for the actual survey instruments was necessary to make sure that the participant responses could not be matched up with any identifiable data about the participant, and also to meet the data storage requirements of the Penn State Office of Information Security. The last five digits of the participant's student identification number were requested on the Microsoft Forms page, this being necessary to match up responses with completion status at the end of the semester. On the Microsoft Forms website, students were asked for some brief demographic data, and then answered the questions from the modified version of the Institutional Integration Scale, the modified version of the Academic Motivation Scale, the modified version of the Classroom Community Scale, and the question about the participant's intent to persist within their online course. The full survey page is available in Appendix C.

After the completion of the academic semester in which the research was conducted, personnel at the registration office of the community college in which the research took place were given a list containing the last five digits of student identification numbers submitted by the participants and the online courses which those participants referenced in their responses to the survey instruments. The registration office provided the researcher with the course grade for each of the participants and the last date of attendance for those students who did receive a grade of "C" or higher.

Data Analysis

The data was analyzed using the Statistical Package for the Social Sciences (SPSS), Microsoft Excel, and online calculators available at socscistatistics.com. Prior to analysis, the

data was cleaned and checked for missing entries. To clean the data, a frequency count was performed for answers to all survey items. When answers appeared outside of the possible range in the frequency count for the survey items, those answers were found and removed from the data set. The data was visually inspected for missing answers to survey items. Participants who failed to supply answers to all survey items were removed from the data set.

Once again, the research questions in this study are:

Research Questions

1. To what extent does sense of classroom community influence academic integration for community college students in online classes?
2. To what extent does intrinsic motivation influence academic integration for community college students in online classes?
3. Which independent variable, sense of classroom community or intrinsic motivation, is a better predictor of persistence for community college students in online classes?
4. To what extent does academic integration influence persistence for community college students in online classes?
5. Is "intent to persist" predictive of actual course persistence?

Descriptive statistics were used to indicate the general tendencies in the data (Creswell, 2012).

Chapter 4

RESULTS

Introduction

This chapter discusses the analysis of the data collected during the study. The purpose of this study was to explore the relationship of such variables as intrinsic motivation, sense of community, and academic integration on persistence for community college students in online courses. The six sections of this chapter include: faculty survey, normality and descriptive statistics, overall results of the various scales, between groups analysis, results by participant age, and research question findings.

Faculty Survey

In an effort to control for the influence of course design and teaching behavior, faculty teaching online courses during the semester in which this research was conducted were asked to respond to two survey instruments. The instrument used to measure the teaching behaviors of faculty participants was based upon the Quality Learning and Teaching Framework developed at the California State University-Northridge ("Quality Learning", 2018). The instrument used to measure course design factors was based upon the sixth edition of the Quality Matters Higher Education Course Design Rubric ("Higher Ed", n.d.). Both instruments can be found in Appendix D.

An email was sent to all faculty teaching online courses during the semester in which the research took place. A total of 22 faculty members participated in the research. Unfortunately,

most of the faculty members who responded to the surveys were not the instructors of courses in which the student participants were enrolled, which made the use of this survey in the final results impractical.

Normality and Descriptive Statistics

Normality

A Kolmogorov-Smirnov Test of Normality was performed on the data collected for all of the independent variables (sense of community, intrinsic motivation, academic integration, and extrinsic motivation) to ensure that the data is normally distributed. Results indicated that data for all of the variables was normally distributed. This analysis is summarized in Table Four.

Table 4. Results of Kolmogorov-Smirnov Test of Normality.

Variable	Mean	SD	Skewness	Kurtosis	K-S	*p*
Community	2.96	0.77	-0.234759	-0.487076	.09462	.50931
Intrinsic	3.81	0.88	-0.207836	-0.271401	.08209	.68608
Extrinsic	3.53	0.87	-0.446174	-0.691463	.12604	.18631
Acad. Int.	4.54	1.23	-1.005272	0.483608	.11527	.27283

Sample

A convenience sample of students enrolled in full-term, fully-online, summer courses at a large Mid-Atlantic community college was used in this study. A total of 115 volunteer participants signed the consent form available on Google Forms. Of these 115 participants, 80 answered at least some of the questions after being redirected to the Microsoft Forms page. Of these 80 participants, 72 provided complete and usable data for this research and were included in the study.

Demographic Characteristics of the Sample

The participants in this study ranged in age from 16 to 61 years old, with a mean age of 30.03 and a median age of 26. The age data provided by the community college where this study took place indicates that the "average" age of all students at the institution is 25 years old, so the sample is fairly representative of the overall population in this respect ("College Fact Sheet," 2018).

The gender of the participants in this study included 19 males (26%) and 52 females (72%) with one participant opting not to indicate gender (1%). The community college at which the study took place reports a population that is 64.4% female and 35.6% male, so this sample is slightly more female than the overall population ("College Fact Sheet," 2018). One possible explanation for this somewhat lower than expected male participation in this research is the type of community college programs in which men and women are likely to enroll. St. Rose and Hill (2013) note that "men are more likely than women" to enroll in community college programs that lead to certificates in such fields as welding, automotive technology, and other non-academic fields (p. 15). The community college at which the research took places offers courses in welding and automotive technology, as well other traditionally male-dominated vocational fields such as commercial truck driving, electrical technology, and heating/ventilation/air conditioning that are not likely to be offered in online formats ("All HACC programs," n.d.).

The participants in this research identified their race/ethnicity as follows: 2 as Asian (3%), 3 as Black/African American (4%), 7 as Hispanic/Latinx (10%), 1 as Pacific Islander (1%), 57 as White/Caucasian (79%), with 1 preferring not to say (1%). This sample includes more Caucasian and fewer African-American participants by percentage than the college as a

whole, which is 67.1% Caucasian and 9.7% African-American ("College Fact Sheet," 2018). This could simply be a result of the sample size, although Shea and Bidjerano (2014) found that African-American community college students were less likely than Caucasian community college students to take online courses (p. 106).

The demographic characteristics of the participants are summarized in Table Five.

Table 5. Demographic overview of participants.

Characteristic	Frequency	Percent
Age		
<18	4	5.5
18-24	23	31.9
25-29	12	16.6
30-39	18	25.0
40-49	6	8.3
50-59	8	11.1
>59	1	1.3
Race/Ethnicity		
Asian	2	2.8
Black/African	3	4.1
Hispanic/Latinx	7	9.7
Native American	0	0
Pacific Islander	1	1.3
White/Caucasian	57	79.2
Prefer not to say	2	2.7
Other	0	0
Gender		
Male	19	26.4
Female	52	72.2
Prefer not to say	1	1.4

Academic Workload and Employment Characteristics of Sample

The majority of students (N= 41, 57% of the sample) were employed full-time, 40 or more hours per week, during the semester in which the data was collected. This percentage of full-time workers is higher than some of the reported numbers for community college students overall (e.g., American Association of Community Colleges, 2014a), a discrepancy that might have several explanations. Porter and Umbach (2019) found that "work" was the most

commonly identified challenge by community college students as being a detriment to their success, with “work schedule conflicts with classes” and “work schedule not flexible during semester” indicated as frequent explanations (p. 5). This points to the obvious appeal of online classes for students working full-time. A total of 31 participants were employed less than full-time, with 20 (28%) indicating that they worked less than 40 hours per week and 11 (15%) stating that they were not working at all during the current semester.

The number of total classes (both online and face-to-face) that participants were taking during the semester in which the data collected ranged from 1 to 5, with a mean of 2.07 classes and a mode of 2 classes. While the survey instrument did not ask the participants to indicate the number of credits they were enrolled in during the current semester, most online classes at the community college used for the research are three credits and the institution considers a student enrolled in at least a twelve credit workload to be full-time student (“2019-2020 Academic Catalog”). By this criteria, 8 of the 72 participants (11%) were enrolled full-time. This is lower than the overall institution rate of 28.9% full-time students, a difference that can likely be explained by the high number of full-time workers and perhaps by the fact that the research was conducted during a summer semester (“College Fact Sheet,” 2018).

A total of 16 participants (22%) were taking both face-to-face and online courses during the semester in which the research took place, with the remaining majority (N=56, 78%) taking exclusively online classes. The mean number of online classes participants were taking was 1.82.

The academic workload and employment characteristics are summarized in Table Six.

Table 6. Academic workload and employment characteristics.

Characteristic	Frequency	Percent
Employment Status		
Full-Time (40+ hours/week)	41	57.0
Part-Time (<40 hours week)	20	27.8
Unemployed	11	15.2
College Enrollment Status		
Full-Time (12+ credits)	8	11.1
Part-Time (<12 credits)	64	88.9
Mode of Courses Enrolled		
Face-to-Face and Online	16	22.2
Exclusively Online	56	77.8

When responding to the items on the various surveys, the participants were asked to choose a single course to use as the course-of-reference for the research. The courses taken by the participants are summarized in Table Seven.

Table 7. Classes taken by the participants.

Class Name	Frequency	
		STEM
Accounting 101	1	STEM
Accounting 203	1	STEM
Accounting 215	1	STEM
Accounting 275	1	STEM
Architecture 214	2	STEM
Business 101	1	STEM
Business 291	1	STEM
Economics 201	1	STEM
Management 130	1	STEM
Management 226	1	STEM
Management 227	2	STEM
Computer Information Systems 105	1	STEM
Computer Information Systems 108	1	STEM
Computer Information Systems 264	1	STEM
Web Design 102	1	STEM
Web Design 130	1	STEM
Health 101	1	STEM
Physical Education 183	1	STEM
Math 090	1	STEM
Math 100	1	STEM
Math 110	1	STEM
Math 111	1	STEM
Math 122	1	STEM
Math 202	4	STEM
Math 221	1	
		HSS
Communications 101	7	HSS
Communications 253	1	HSS
English 051	1	HSS
English 101	3	HSS
English 102	1	HSS
English 104	1	HSS
English 106	1	HSS
English 207	1	HSS
French 101	1	HSS
Geography 203	1	HSS
History 101	1	HSS
History 104	1	HSS
Human Services 206	2	HSS
Humanities 101	1	HSS
Humanities 108	1	HSS
Music 102	1	HSS
Philosophy 200	1	HSS
Psychology 209	2	HSS
Sociology 201	1	HSS
Spanish 101	1	HSS
Spanish 104	5	HSS

Participant Course Grades

Final grades in the courses of reference that the participants identified were collected at the end of the semester. The institution at which this research took place uses whole letter grades ("A," "B," "C," "D," and "F") without the use of "+" or "-", which translate to the following numbers for the purposes of calculating grade point average: A= 4.0, B= 3.0, C= 2.0, D= 1.0, and F= 0.0. The course grade mean for the participants was 3.46, with a standard deviation of 0.98, and a mode of 4.0. The overall frequency count for course grades is summarized in Table Eight.

Table 8- Participant course grades.

Grade	Frequency	Percent
A (4.0)	48	66.7
B (3.0)	16	22.2
C (2.0)	4	5.6
D (1.0)	1	1.4
F (0.0)	3	4.2

Overall Results on the Various Scales

As described previously, participants in this research completed three survey instruments intended to measure their levels on the various independent variables (intrinsic motivation, sense of community, and academic integration). The individual items for all of the surveys used were presented with a six-item Likert-style scale with which the participants indicated their level of agreement with the statement presented. The participants selected from among the following levels of agreement: "Very Strongly Disagree," "Strongly Disagree," "Disagree," "Agree," "Strongly Agree," and "Very Strongly Agree." For the purposes of the analysis, numbers were substituted for the various responses: 1 for "Very Strongly Disagree," 2 for "Strongly Disagree," 3 for "Disagree," 4 for "Agree," 5 for "Strongly Agree," and 6 for "Very Strongly Agree." For

reverse-scored items on the scales, the opposite pattern for number substitution is used. For example, one of the Classroom Community Scale items is "I do not feel a spirit of community in this course". On that item, agreement with the item indicates a lack of sense of community, so the numbers become 6 for "Very Strongly Disagree," 5 for "Strongly Disagree," 4 for "Disagree," 3 for "Agree," 2 for "Strongly Agree," and 1 for "Very Strongly Agree," so that a high sense of community is still reflected by a high number. Overall, the higher the score on an item or scale, the greater levels of the independent variable are indicated (with a minimum score of 1 and a maximum score of 6).

Academic Motivation Scale (intrinsic)

The individual items used to measure intrinsic motivation from the Academic Motivation Scale (AMS) and the statistics associated with each item can be found in the table below. Overall the mean score for the intrinsic questions on the AMS was 4.51, with a standard deviation of 1.05, and a median of 4.50. The highest participant score on the intrinsic part of the AMS was 6.00, the lowest was 1.40. The scores for the individual AMS intrinsic items are shown in Table Nine.

Table 9- Academic Motivation Scale intrinsic items.

Item	Mean	SD	Median	Mode
9. "I want to pass this course to prove to myself I can do it."	5.32	1.24	6.00	6.00
10. "I am taking this course because I experience pleasure and satisfaction from learning new things."	4.51	1.61	5.00	6.00
12. "I am taking this course because of the intense feeling I get from communicating my ideas to others."	3.32	1.66	3.00	4.00
*13. "I don't know why I am taking this course, I feel like I am wasting my time with it."	5.19	1.49	6.00	6.00
14. "I feel pleasure from exceeding my expectations for myself in this course."	5.00	1.33	6.00	6.00
16. "I am taking this course for the pleasure I feel when discovering new things."	3.86	1.66	4.00	6.00
18. "I am taking this course for the pleasure that I experience when I read interesting information."	3.60	1.66	4.00	6.00
*19. "I once had good reasons for taking this course, now I wonder if I should continue."	5.32	1.31	6.00	6.00
20. "I am taking this course for the sense of accomplishment that I will feel when I complete it."	4.35	1.71	5.00	6.00
21. "When I succeed in classes like this one, I feel important."	4.63	1.59	5.00	6.00

**Items are reverse scored (higher score = more disagreement with statement)*

Academic Motivation Scale (extrinsic)

The individual items used to measure extrinsic motivation from the Academic Motivation Scale (AMS) and the statistics associated with each item can be found in the table below. Overall the mean score for the extrinsic questions on the AMS was 3.53, with a standard deviation of 0.86, and a median of 3.63. The highest participant score on the extrinsic part of the AMS was 4.75, the lowest was 1.75. The individual item scores for the AMS extrinsic items are shown in Table Ten.

Table 10- Academic Motivation Scale extrinsic items.

Item	Mean	SD	Median	Mode
15. "I am taking this course because it will help me get a more prestigous job when I graduate from college."	3.60	1.67	4.00	4.00
17. "I am taking this course because it will help me enter the job market in a field that I enjoy."	4.35	1.72	5.00	6.00
22. "I am taking this class because it will help me have a 'good life' later on."	3.03	1.69	3.00	1.00
23. "I am taking this course because it will help me get a college degree that will result in a higher-paying job…"	3.13	1.67	3.00	1.00

Classroom Community Scale

The individual items used to measure sense of community from the Classroom Community Scale (CCS) and the statistics associated with each item can be found in the table below. Overall the mean score for CCS was 3.31, with a standard deviation of 0.83, and a median of 3.10. The highest participant score on the CCS was 6.00, the lowest was 1.10. For reference, when Rovai (2002a) was validating the CCS, participants in his research had a mean of 2.65 on the same items of the CCS used in this research (p. 203). Rovai, however, used a five-point Likert-scale (strongly agree, agree, neutral, disagree, strongly disagree) while this research uses a six-point Likert (very strongly agree, strongly agree, agree, disagree, strongly disagree, very strongly disagree). The mean score for the participants in Rovai's research translates to a typical response roughly between "neutral" and "agree" for normal scored items. The mean score for this research indicates a mean response roughly between "disagree" and "agree". The scores on the individual items for the CCS are shown in Table 11.

Table 11. Classroom Community Scale items.

Item	Mean	SD	Median	Mode
24. "I feel that students in this course care about each other."	3.39	1.68	3.00	2.00
25. "I feel connected to others in this course."	3.03	1.67	3.00	1.00
*26. "I do not feel a spirit of community in this course."	3.86	1.66	4.00	6.00
27. "I feel this course is like a family."	2.40	1.54	2.00	1.00
*28. "I feel isolated in this course."	4.28	1.64	5.00	6.00
29. "I trust others in this course."	3.26	1.48	3.00	4.00
30. "I feel that I can rely on others in this course."	3.06	1.72	3.00	1.00
31. "I feel that members of this course depend on me."	2.40	1.50	2.00	1.00
*32. "I feel uncertain about others in this course."	4.14	1.58	4.00	6.00
33. "I feel confident that others in this course will support me."	3.29	1.58	3.00	3.00

**Items are reverse scored (higher score = more disagreement with statement)*

Institutional Integration Scale (academic integration)

The individual items used to measure academic integration from the Institutional Integration Scale (IIS) and the statistics associated with each item can be found in the table below. Overall the mean score for the IIS was 4.54, with a standard deviation of 0.49, and a median of 4.00. The highest participant score on the IIS was 5.90, the lowest was 1.74. The individual item scores for the IIS are shown in Table Twelve.

Table 12- Institutional Integration scale items (academic integration).

Item	Mean	SD	Median	Mode
34. "I have found this course to be enjoyable."	4.36	1.44	5.00	6.00
35. "I have found this course to be exciting."	4.00	1.54	4.00	4.00
36. "I have found this course to be stimulating."	4.33	1.52	5.00	6.00
37. "I have found this course to be enlightening."	4.37	1.53	5.00	6.00
38. "I have found this course to be interesting."	4.58	1.45	5.00	6.00
39. "I have found this course to be rewarding."	4.31	1.59	5.00	6.00
40. "I have found this course to be good."	4.65	1.47	5.00	6.00
41. "I have found this cours to be provocative."	3.25	1.78	3.00	1.00
42. "I have found this course to be informative."	4.97	1.65	5.00	6.00
*43. "I have found this course to be irrelevant."	4.85	1.65	6.00	6.00
*44. "I have found this course to be dull."	4.43	1.55	5.00	6.00
*45. "I have found this course to be boring."	4.44	1.51	5.00	6.00
*46. "I have found this course to be useless."	5.10	1.38	6.00	6.00
*47. "I have found this course to be a waste."	5.10	1.46	6.00	6.00
48. "I have found this course to be necessary."	4.54	1.64	5.00	6.00
49. "I have found this course to be valuable."	4.76	1.47	5.00	6.00
50. "I have found this course to be practical."	4.63	1.51	5.00	6.00
51. "I have found this course to be worthwhile."	4.68	1.52	5.00	6.00
52. "I have found this course to be relevant."	4.81	1.49	5.00	6.00

**Items are reverse scored (higher score = more disagreement with statement)*

A Note About Standard Deviations

As described in the data, some of the standard deviations for the items from the three survey instruments are relatively high. These high standard deviations are likely due to the nature of the items in the survey instruments and the size of the sample. Of the forty four survey items used in this research, thirty nine had a mode of either "1" or "6", indicating that participants were more likely to choose polarized responses when indicating their level of agreement or disagreement with the statements rather than responding in ways that indicated more moderate levels of agreement or disagreement. With only seventy two participants in this study, a handful of participants responding to an item in a way that is dissimilar to the overall mean can result in a large standard deviation.

Between Groups Analysis

While outside of the scope of the research questions in this study, the characteristics of the participants in this research allowed an opportunity to explore for possible between-groups differences on the various scales used in the study- the Academic Motivation Scale (intrinsic and extrinsic questions), Classroom Community Scale, and Institutional Integration Scale (academic integration questions).

Myers et al. (2010) state that a "… sample size of 30 is usually 'large enough' to ensure that the normality closely approximates the shape of the sampling distribution" (p. 98). Based on the participant characteristics that allowed two groups sizes of N=~30, between groups analysis was able to be done on the following groups: Those participants employed full-time (40+ hours per week) versus those employed less than 40 hours per week or unemployed and participants in 100-level courses versus those in 200-level courses.

Full-Time Versus Part-Time Workers

Full-time workers (40+ hours per week, N=41) recorded a mean score of 4.57 on the intrinsic portion of the Academic Motivation Scale, with a standard deviation of 1.55. Those participants that work part-time workers (>40 hours per week, N=31) or are unemployed produced a mean score of 4.43 on the intrinsic portion of the AMS, with a standard deviation of 1.46. There was no significant difference for work status at p>.05, $t(70)= 0.57$, p=0.57.

Full-time workers tallied a mean of 3.57 on the extrinsic items of the AMS, with a standard deviation of 0.83. Part-time and unemployed participants scored a mean of 3.48 on those items, with a standard deviation of 0.91. There was no significant difference for work status at p>.05, $t(70)= 0.44$, p=0.66.

On the Classroom Community Scale (CCS), full-time workers produced a mean of 3.51, with a standard deviation of 1.26. Participants who were unemployed or employed part-time scored a mean of 3.05 on the CCS, with a standard deviation of 1.26. There was no significant difference for work status at p>.05, $t(70)= 1.57$, p=0.12.

The mean score of the academic integration items on the Institutional Integration Scale (IIS) for participants who work full-time was 4.62, with a standard deviation of 1.08. For part-time workers and the unemployed, the mean on the IIS items was 4.43 with a standard deviation of 1.38. There was no significant difference for work status at p>.05, $t(70)= 0.65$, p=0.52.

The results of the between groups tests for full-time versus part-time and unemployed workers are summarized in Table Thirteen.

Table 13- Comparison of full-time and less-than-full-time workers.

Scale/Group	Mean	SD	*N*	*t*	*p*	*df*
CCS/ Full-Time	3.51	1.26	41			
CCS/Part-Time	3.05	1.26	31			
				1.57	0.12	70
AMS INT/ Full-Time	4.57	1.55	41			
AMS INT/ Part-Time	4.43	1.46	31			
				0.57	0.57	70
AMS EXT/ Full-Time	3.57	0.83	41			
AMS EXT/ Part-Time	3.48	0.91	31			
				0.44	0.66	70
IIS/ Acad. Int. Full-Time	4.62	1.08	41			
IIS/ Acad. Int. Full-Time	4.43	1.38	31			
				0.65	0.52	70

*p <.05

100-level Versus 200-level Courses

While the institution at which the present study took place has no open-source published official policy on the differences between 100 and 200 level courses, there is a general practice at the college level to use the "100" designation for courses with no-prerequisites, survey courses, introductory courses, etc., and to use the "200" designation for courses with 100-level prerequisites, courses with narrower focus within a discipline, etc. (e.g. "Minutes of the Regular").

In this study, students enrolled in 100-level courses (N=41) scored a mean of 4.46 on the intrinsic items of the Academic Motivation Scale (AMS), with a standard deviation of 1.10.

Students in 200-level courses (N=29) recorded a mean score of 4.10 on the intrinsic portion of the AMS, with a standard deviation of 1.00. There was no significant difference for course level at $p<.05$, $t(68)= -0.13$, $p=0.89$.

On the extrinsic items of the AMS, participants in 100-level courses scored a mean of 3.38, with a standard deviation of 0.93. Participants in 200-level courses scored a mean of 3.75, with a standard deviation of 0.70. There was no significant difference for course level at $p<.05$, $t(68)= -1.75$, $p=0.08$.

The mean on the Classroom Community Scale (CCS) for students in 100-level courses was 3.31, with a standard deviation of 1.26. Students in 200-level courses scored a mean of 3.36 on the CCS, with a standard deviation of 1.20. There was no significant difference for course level at $p<.05$, $t(68)= 0.05$, $p=0.96$.

The results of the academic integration items on the Institutional Integration Scale (IIS) showed that students in 100-level courses attained a mean score of 4.59, with a standard deviation of 1.18. Students in 200-level courses scored a mean of 4.44, with a standard deviation of 1.18 on the IIS. There was no significant difference for course level at $p<.05$, $t(68)= 0.50$, $p=0.61$.

The results of the between groups tests for students enrolled in 100-level versus 200-level courses are summarized in Table Fourteen.

*Table 14- C*omparison of participants in 100-level and 200-level classes.

Scale/Group	Mean	SD	*N*	*t*	*p*	*df*
CCS/ 100	3.31	1.26	41			
CCS/200	3.36	1.20	29			
				0.05	0.96	68
AMS INT/ 100	4.46	1.10	41			
AMS INT/ 200	4.10	1.00	29			
				-0.13	0.89	68
AMS EXT/ 100	3.38	0.93	41			
AMS EXT/ 200	3.75	0.70	29			
				-1.75	0.08	68
IIS/ 100	4.59	1.18	41			
IIS/ 200	4.44	1.18	29			
				0.50	0.60	68

*p <.05

Results by Participant Age

As discussed in Chapter Two, a number of researchers have found that age and time away from high school are both negatively associated with persistence for community college students (e.g., Nakajima et al., 2015). Informed by these previous studies, this study examined the relationship between participant age and scores on the various survey instruments.

A Pearson product-moment correlation was run to address the relationship of age to the scores on the various survey instruments. Lorch et al. (2010) describe the correlation coefficient as "… the extent to which two quantitative variables are linearly related" (p. 443). Cohen (1988) offers the following guidelines for interpreting correlation coefficients:

Size of Correlation	Interpretation
.5	Large
.3	Moderate
.1	Small

Academic Motivation Scale (intrinsic)

Intrinsic motivation was found to have a no relationship with age, with a correlation coefficient of $r(70) = -0.03$, $p = .802$. There is no significant effect for age at $p < .05$. This finding is displayed in Figure Two.

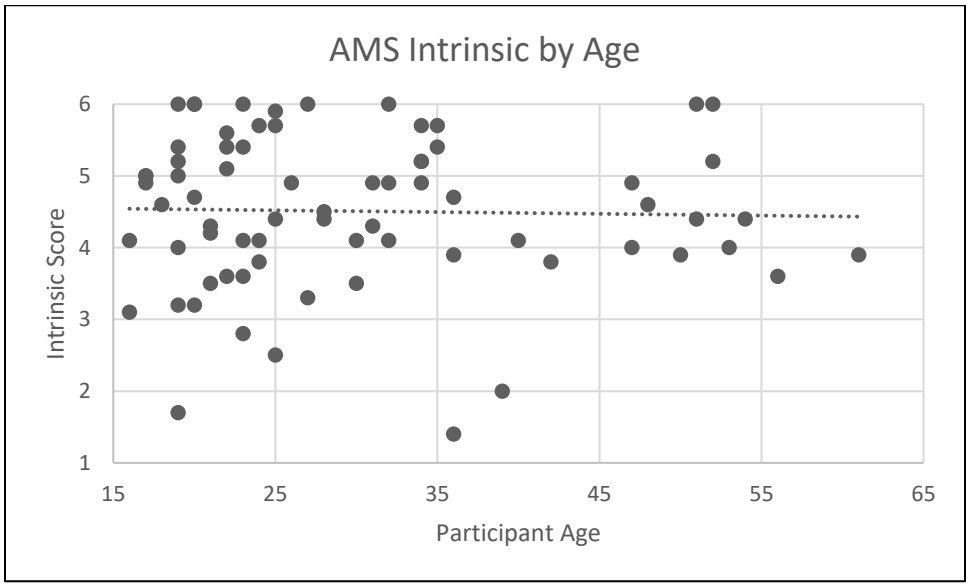

Figure 2. Relationship of age and intrinsic motivation.

Academic Motivation Scale (extrinsic)

Extrinsic motivation was found to have no relationship with age, with a correlation coefficient of $r(70)= 0.07$, $p = .559$. There is no significant effect for age at $p < .05$. This relationship is displayed in Figure Three.

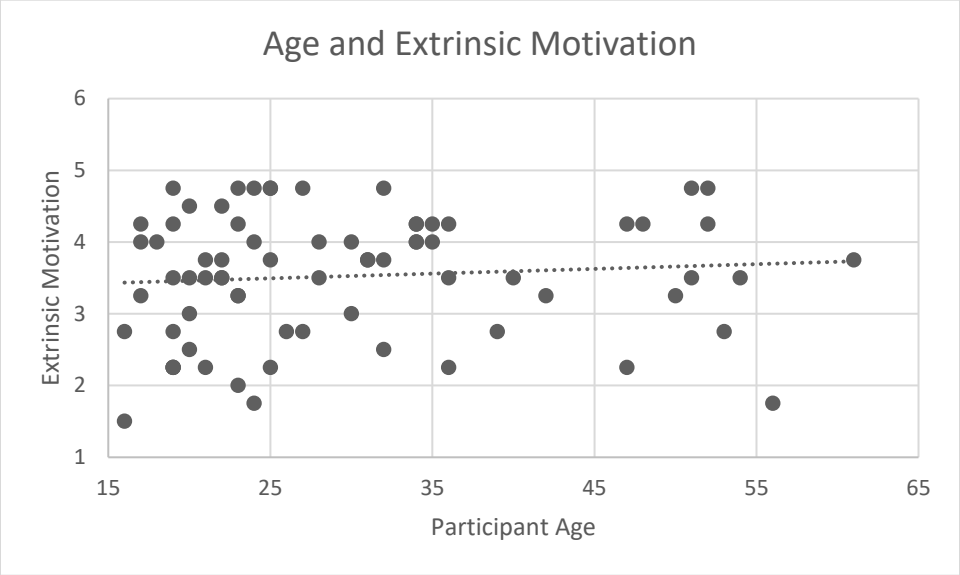

Figure 3. Relationship of age and extrinsic motivation.

Sense of Community

Sense of community was found to have a no relationship with age, with a correlation coefficient of $r(70) = -0.12$, $p = .315$. There is no significant effect for age at $p < .05$. This finding is displayed in Figure Four.

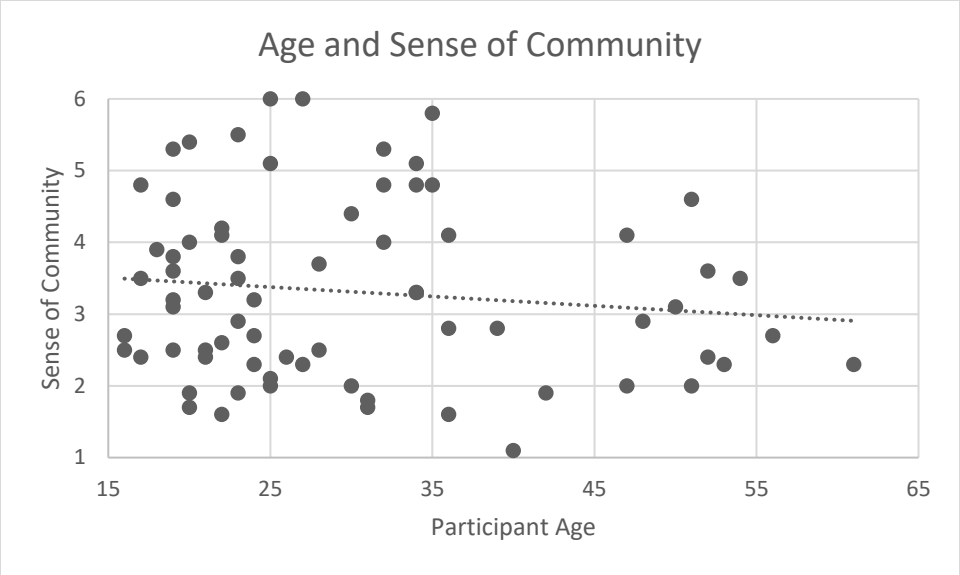

Figure 4. Relationship of age and sense of community.

Academic Integration

Academic Integration was found to have no relationship with age, with a correlation coefficient of. $r(70) = -0.03$, $p = .802$. There is no significant effect for age at $p < .05$. This finding is displayed in Figure Five.

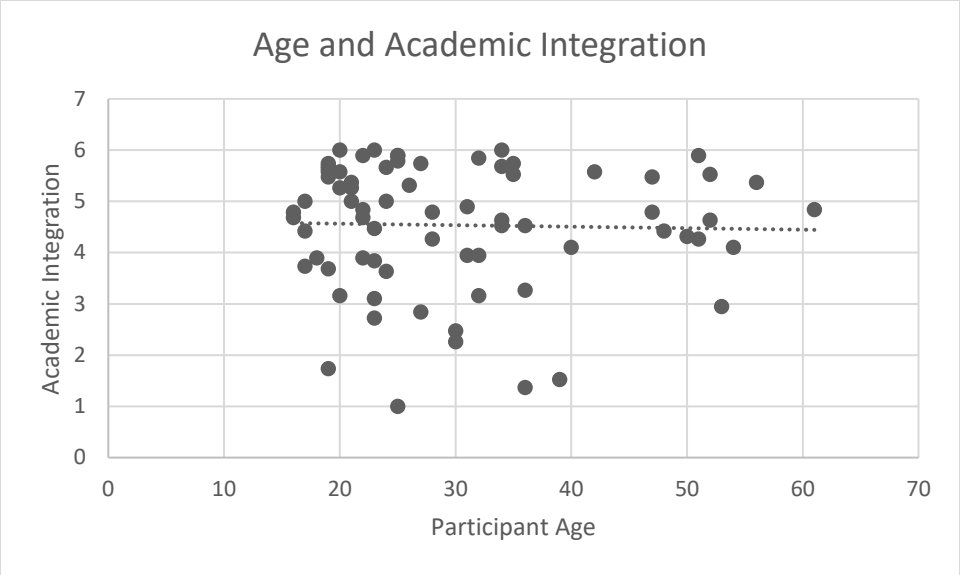

Figure 5. Relationship of age and academic integration.

Research Questions

There are five research questions for this study. Each of these research questions will be addressed in the section that follows.

Research Question #1- To what extent does sense of classroom community influence academic integration for community college students in online classes?

As discussed previously, Pearson product-moment correlation is used to analyze the relationship between two quantitative variables. The variables in Research Question #1 are sense of classroom community (independent) and academic integration (dependent). The value of a correlation coefficient is expressed on a scale of -1.0 to +1.0, and the size of the correlation can be interpreted in the following ways (Cohen, 1988):

Size of Correlation	Interpretation
.5	Large
.3	Moderate
.1	Small

The correlation coefficient for the relationship of sense of community to academic integration was found to be $r(70) = .41$, $p = <.001$, indicating a "moderate" positive relationship between sense of community and academic integration which is significant at $p < .01$. This relationship is expressed in Figure Six.

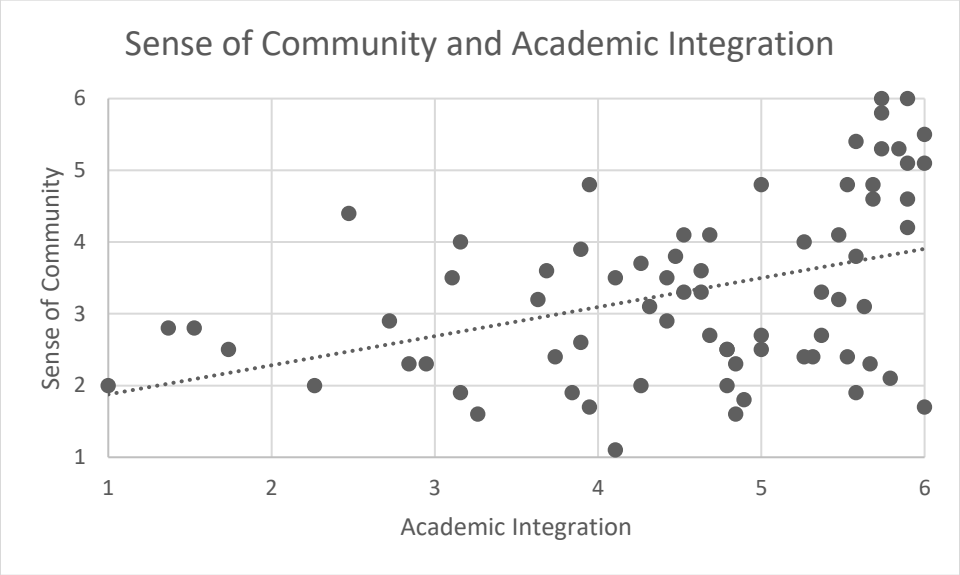

Figure Six. Relationship of sense of community and academic integration.

Research Question #2- "To what extent does intrinsic motivation influence academic integration for community college students in online classes?"

The variables in Research Question #2 are intrinsic motivation (independent) and

academic integration (dependent). A Pearson product-moment correlation was conducted to examine the relationship of the variables for Research Question #3. The correlation coefficient for the relationship of intrinsic motivation to academic integration was found to be $r(70) = .52$, $p = >.001$ indicating a "large" positive relationship between sense of intrinsic motivation and academic integration that is significant at $p < .01$. This relationship is expressed in Figure Seven.

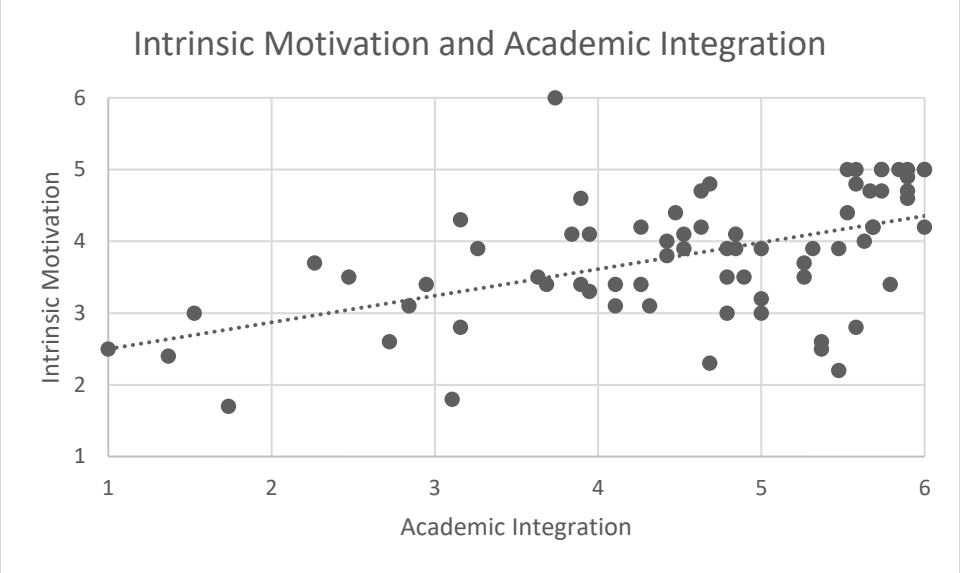

Figure Seven. Relationship of intrinsic motivation and academic integration.

For purposes of comparison, the influence of extrinsic motivation on academic integration was also studied. The correlation coefficient for the relationship of extrinsic motivation to academic integration was found to be $r(70) = .44$, $p = <.001$, indicating a "moderate" positive relationship between sense of extrinsic motivation and academic integration which is significant at $p > .01$. This relationship is expressed in Figure Eight.

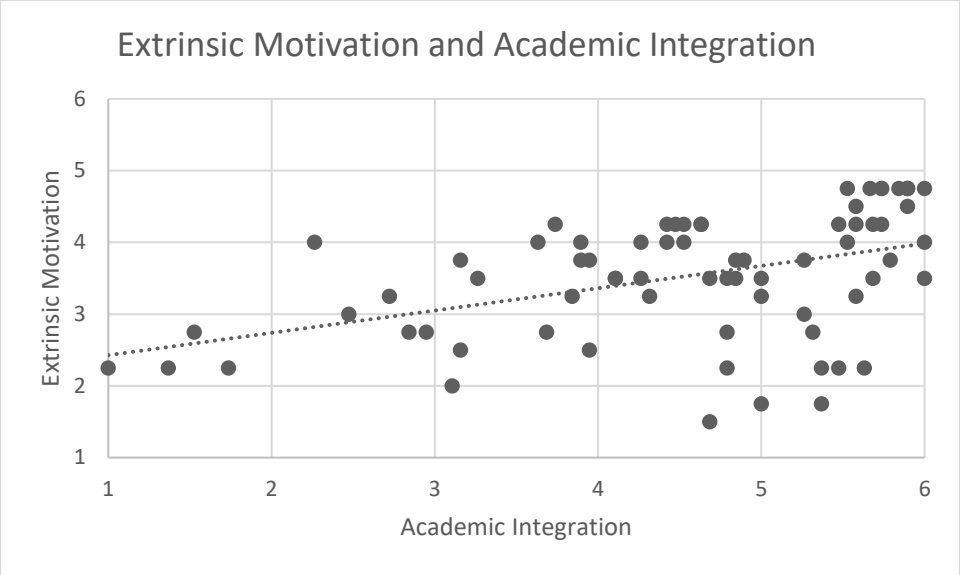

Figure Eight. Relationship of extrinsic motivation and academic integration.

Vansteenkiste, Lens, and Deci (2004) found that intrinsic goal framing leads to "… deeper engagement in learning activities, better conceptual learning, and higher persistence at learning activities" than extrinsic goal framing (p. 2). To examine the influence of a learner potentially having a high level of intrinsic motivation and a low level of extrinsic motivation, the items of the AMS meant to address extrinsic motivation were reverse-scored (e.g., high levels of extrinsic motivation resulted in a lower score). When calculated this way, the correlation coefficient for the relationship of high intrinsic with low extrinsic motivation to academic integration was found to be $r(70) = .76$, $p = <.001$, indicating a "large" positive relationship which is significant at $p > .01$. In this dissertation, this high-intrinsic, low-extrinsic motivation, will hereafter be referred to as "dominant intrinsic motivation". This relationship is expressed in Figure Nine.

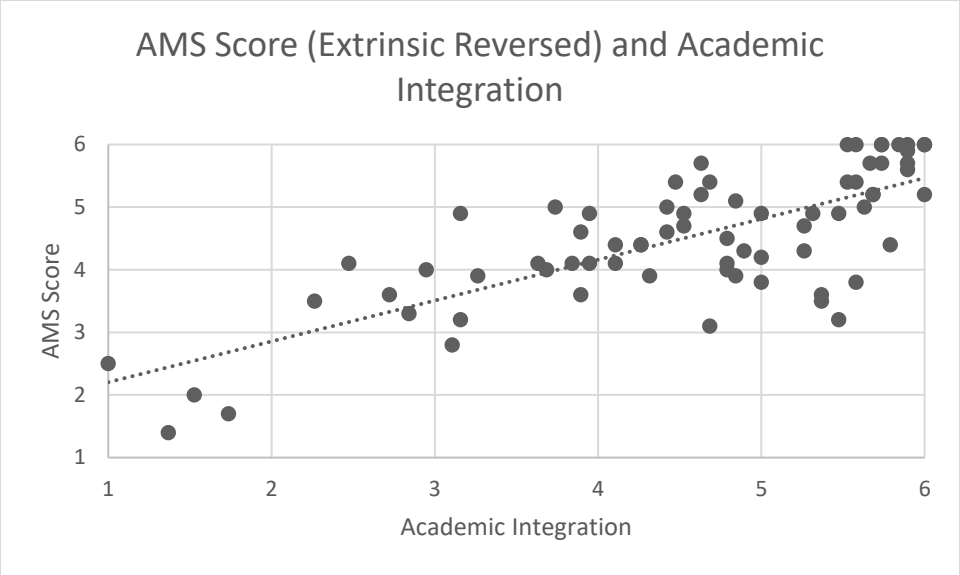

Figure 9. Relationship of AMS score with extrinsic reverse-scored with academic integration (dominant intrinsic motivation).

Research Question #3: "Which independent variable, sense of community or intrinsic motivation, is a better predictor of persistence for community college students in online classes?"

A total of 72 participants were included in the research for this study. Of the 72 participants, 68 successfully completed their course with a grade of "C" or higher, meeting the criteria for "persistence" discussed in Chapter Three of this paper. The participant recruitment method may have resulted in sampling bias that contributed to the higher-than-expected persistence level within the sample. As discussed in Chapter Three, students were recruited through announcements emailed to their student email addresses by administrators at the community college. It can be reasonably speculated that more highly-engaged students were more likely to read and follow through on the requests for study participation than students with

lower levels of engagement. Highly-engaged students are more likely to be academically integrated with their school/program/course and theoretically more likely to persist.

The low number of participants who did not persist in their course makes it impractical to try to definitively address any question with "persistence" as the dependent variable in this study. As a proxy for persistence, another measure of academic achievement was substituted, course grade. York, Gibson, and Rankin (2015) found in their review of the literature on academic achievement that grades were often used as the dependent variable. Essentially, Research Question #3 becomes "Which independent variable, sense of community or intrinsic motivation, is a better predictor of course grade for students in online community college courses?"

Linear regression analysis was used to analyze the data for Question #3. Salkind (2008) describes regression analysis as computing the "… degree to which two variables are related" and using the relationship "… as the basis for the prediction of the value of one variable from the value of the other" (p. 245).

Linear regression was calculated to predict course grade from sense of classroom community (measured by score on the CCS items). Results of the regression equation were not significant at $p < .05$, ($F(1,70) = 2.242$, $p < .139$), with an R^2 of 0.310. Linear regression was also calculated to predict course grade from intrinsic motivation (measured by score on the AMS intrinsic items). Results of the regression equation were not significant at $p < .05$, ($F(1,70) = 0.247$, $p < .620$), with an R^2 of 0.004. Neither sense of community nor intrinsic motivation were found to be reliable predictors of course grade.

Research Question #4- "To what extent does academic integration influence persistence for community college students in online classes?"

As with Research Question #3, the low number of non-persisting students negates the usefulness of using "persistence" as the dependent variable for this research. Also similar to Research Question #3, course grade will be used as a stand-in variable for persistence, as it is another measure of academic achievement. Research Question #4 becomes "Is academic integration influence a predictor of course grade for community college students in online classes?"

Linear regression analysis was conducted to determine if academic integration was a significant predictor of course again. Results indicated that academic integration was not a significant predictor of course grades $p < .05$, ($F(1,70) = 0.044$, $p < .835$), with an R^2 of 0.001.

Research Question #5: "Is "intent to persist" predictive of actual course persistence?"

The low number of non-persisting students in the sample makes reliably answering Research Question #5 impossible. It should be noted, however, that 68 of 72 participants in this study indicated that they "very strongly agreed" with the statement "I intend to remain enrolled and active in this course until the term is completed" so as a group, the participants were highly confident in their persistence, and they persisted at a high rate (94.4%). Three of the participants "very strongly disagreed" with the "intent to persist" statement, all three completed their course with a grade of "C" or higher.

Chapter 5

DISCUSSION AND CONCLUSION

The research discussed in previous chapters of this dissertation examined the role of sense of community, intrinsic motivation, and academic integration on the achievement of community college students in online courses. This chapter is divided in to six sections: A discussion of the findings derived from the research, limitations of this research, suggestions for practice informed by this research, suggestions for future research, a post-hoc conceptual framework, and a conclusion.

Discussion of Findings

As discussed in previous chapters, the independent variables in this study are sense of classroom community, intrinsic motivation, and academic integration. The dependent variables are academic integration and course persistence. The following is a brief review of the definitions from Chapter One for the independent and dependent variables:

Sense of classroom community- The degree to which participants positively perceive "spirit, trust, interaction, and commonality of expectation and goals" within their online course. Measured using the Classroom Community Scale.

Intrinsic motivation- The extent to which a person is doing something because it is "inherently interesting or enjoyable". Measured using the Academic Motivation Scale.

Academic integration- The level to which a participant adopts the norms and values of their classroom community as their own. Measured using the modified academic integration questions from the Institutional Integration Scale.

In addition to the research questions in this study, the characteristics of the sample allowed for between-groups tests to be administered for the following groups: Students working full-time (<40 hours per week) versus students working less than full-time (>40 per week) and students in 100 level courses compared to students in 200 level courses. Additionally, student age was examined for correlations with various scales and outcomes.

Research Question #1

Research Question #1 was "To what extent does sense of community influence academic integration for community college students in online classes?" As discussed in Chapter Four, this research found that there was a moderate to strong positive correlation between "sense of community" and "academic integration" for the participants in this study. The correlation uncovered in this research makes sense when one examines Tinto's (2012) definition of "academic integration:" The "… degree to which a person integrates the values and norms of a community into hers or his own value system" (p. 160). When a student feels a greater part of a classroom (or online classroom, in this case) community, they will be more likely to adopt the norms of the community. If a student feels a lack of connectedness with their instructor and classmates, the increased autonomy will result in a decreased likelihood of adopting the norms of the group.

Research Question #2

Research Question #2 asked: "To what extent does intrinsic motivation influence academic integration for community college students in online classes?" The results of this study found that intrinsic motivation was strongly positively correlated with academic integration.

Interestingly, extrinsic motivation was found to be positively associated with academic integration, but to a somewhat lesser degree than intrinsic motivation (.51 correlation coefficient for intrinsic, .44 correlation coefficient for extrinsic).

Perhaps the most striking finding from this research was the strong positive correlation (.76 correlation coefficient) when extrinsic motivation was treated as a negative factor and intrinsic motivation as a positive factor ("dominant intrinsic motivation") in achieving academic integration. As discussed in Chapter Two, previous research has found that intrinsic motivation is a more vigorous contributor than extrinsic motivation to measures of academic integration (e.g., Kawachi, 2010, and Lei, 2003), and this finding supports those prior findings in the context of online community college students.

Research Question #3

Research Question #3 was originally framed as: "Which independent variable, sense of community or intrinsic motivation, is a better predictor of persistence for community college students in online classes?" As discussed previously, the high number of students who persisted in this research made the use of persistence as the dependent variable impractical, and course grade was substituted as a measure of academic achievement. Neither variable, sense of community nor intrinsic motivation, was found to be significantly predictive of course grade.

Some studies, such as Graff (2006), have found that the influence of sense of community on grades is inconclusive. Previous research is mixed on the influence of intrinsic motivation on academic performance. For example, Baker (2004) found that there was no relationship between intrinsic motivation (or any other type of motivation) and academic performance. However,

others such as Turner, Chandler, and Heffer (2009) have found intrinsic motivation to be a "significant predictor" of academic achievement (p. 343).

Research Question #4

As with Research Question #3, the low number of non-persisting students in the sample made persistence as a dependent variable problematic, so the dependent variable has been switched to course grade for Question #4: "To what extent does academic integration influence persistence for community college students in online courses?" Results indicated that academic integration was not predictive of course grade for the participants in this study. This finding is in contrast to previous findings which found, intuitively, that higher levels of academic integration contributed to higher grade point averages for community college students (e.g. Prospero & Vohra-Gupta, 2007). It should be noted, however, that the participants had a very high overall mean in their course grade (3.46, about halfway between an "A" and a "B") and indicated relatively high overall levels of academic integration (4.54 out of a possible 6.00, indicating a typical score between "agree" and "strongly agree" on most regularly scored items and between "strongly disagree" and "disagree" on most reverse-scored items). By contrast, the overall mean grade point average for all students at the Virtual Campus at which the research took place during the same term was 2.98 (K. Kelsey, personal communication, September 16, 2019).

Research Question #5

Research Question #5 was "Is 'intent to persist' predictive of actual course persistence?" Again, because the 68 of 72 participants persisted in their courses used in this research study, a between groups study or correlation study with useable reliability was deemed impossible.

Anecdotally, all four non-persisters in this study indicated they "strongly agreed" with the statement "I intend to remain enrolled and active in this course until the term is completed."

Between Groups Comparisons

No statistically significant differences were found between the following groups for any of the variables (sense of classroom community, intrinsic motivation, extrinsic motivation, academic integration)- students working full-time versus students working less than full-time and students in 100 levels classes versus students in 200 level classes.

The Influence of Student Age

No statistically significant correlation was found between student age and any of the variables of interest in this study (sense of classroom community, intrinsic motivation, extrinsic motivation, academic integration). This finding is consistent with previous research that found no or little correlation between age and academic integration (e.g., Stage, 1989), sense of community (e.g., Shea, Li, & Pickett, 2006), and intrinsic motivation (e.g., Justice & Dornan, 2001).

Limitations

There are a number of limitations that hinder the generalizability of the findings of this study. Limitations due to the small sample size and number of non-persisting students, the research being conducted at a single community college, the data being collected during a summer semester, and lack of information on course design and course teaching factors impede the overall applicability of this study.

First, the relatively small sample size and the higher-than-expected persistence rate of the participants in this study made it impossible to draw conclusions about the intended dependent variable of persistence. A larger sample size with a sufficient number of students who did not persist would allow for between groups comparisons between persisting and non-persisting students.

Second, this research was conducted at a single community college. While the participants in this research shared generally similar characteristics with the national profile of community college students (see Chapter Two and Chapter Four), conducting similar research across multiple institutions would add to the overall usefulness of the data.

Third, this research was conducted during a summer semester. Although previous research has suggested that the students enrolled in summer courses have no differences in characteristics such as previous grade point average and motivation (Seamon, 2004) or that students in summer courses actually have lower grade point averages than students in regular term courses (Anastasi, 2007), it seems intuitive that students choosing to enroll in summer courses would have a higher-than-expected level of academic integration relative to their institution and program.

Fourth, this research largely fails to account for the influence of course design and course teaching in independent variables such as "sense of classroom community", "intrinsic motivation," and "academic integration." As discussed in Chapter Four, an attempt was made to control for course design and teaching factors by surveying course instructors, but the low number of instructor participants did not allow for it. Previous research has indicated a connection between teaching presence and sense of community, for example (e.g., Shea et al., 2006).

Suggestions for Practice Informed by this Research

The findings from this study have practical applications for various types of practitioners who work with the community college student population including course designers, course instructors, administrators, advisors, and student orientation leaders.

The most actionable findings from this research for practitioners include: the apparent influence of sense of community on academic integration, the apparent influence of intrinsic motivation on academic integration, and the relative strength of intrinsic motivation to extrinsic motivation at contributing to academic integration.

Sense of Community and Academic Integration

Prior research has shown that higher levels of academic integration lead to positive outcomes for students such as persistence (e.g., Thomas, 2000) and higher course grades (e.g., Prospero & Vohra-Gupta, 2007). The research in the current study further strengthens the role of sense of community in fostering academic integration and positive academic outcomes.

A number of scholars have suggested practical interventions in online courses to foster sense of community (and similar concepts). Liu, Gomez, and Yen (2009) found that social presence was "… a significant predictor of course retention and final grade in community college online environments" (p. 172). Liu et al. (2009) recommend the following strategies to increase social presence:

> 1) Early identification of students who are at-risk for feeling isolated in an online course through the administration of self-report tools to measure social presence.
>
> 2) Developing learning communities among online community college students.
>
> 3) Using "blended learning" techniques in courses that utilize a mix of autonomous and collaborative learning activities (p. 172).

The research of Drouin (2008) did not uncover a relationship between sense of community and course grade or course persistence but did indicate that student satisfaction with a course was higher when there was a higher perceived sense of community. Drouin (2008) recommends frequent utilization of an asynchronous discussion board to foster interaction between students and between students and the instructor.

Conaway, Easton, and Schmidt (2005) stress the role of the instructor in fostering what they call "immediacy," which they define as "… the degree of psychological closeness between communicators," a concept similar to sense of community (p. 25). Conaway et al. (2005) found in their research that instructor behaviors were key in developing "immediacy" in the online classroom. The authors recommend several strategies for instructors to use for encouraging immediacy in online classes:

1) Modeling pro-social interaction by leading discussion, summarizing comments, and providing feedback.

2) Putting students in specific roles within the class ("discussion leader," "recorder," etc.).

3) Giving students clear guidelines for interaction expectations.

Additional interventions are recommended to increase sense of classroom community on the course design, course teaching, and institutional policy levels. On the course design level, the use of student and instructor profile pictures or avatars could be incorporated to give members of the course more of a feeling that they are interacting with a "real person" when they participate in an online course. Taylor (2011) found that questions posed by users with avatars in asynchronous online discussions prompted greater interaction and empathy than did questions posed by those who did not use avatars.

Another course design recommendation for increasing sense of community among the students is to create collaborative graded assignments that put students into groups. While the characteristics discussed in Chapter Two (work schedules, family responsibilities, etc.) make synchronous group work difficult for many online community college students, there are a number of online tools that allow for asynchronous collaboration that course designers could utilize for group projects. Among these are "chat" applications that allow users to access stored messages asynchronously, and video applications which allow asynchronous video chats to be created. File sharing and editing applications that allow multiple users to contribute to and edit projects at different times can be useful for collaboration, as well.

Course activities that require students to disclose certain non-intrusive aspects of their real life to the other students can provide an opportunity for students to bond over common experiences, values, and interests. For example, the use of early-semester icebreakers and self-introduction discussions can help students perceive each other as being more "real" in the online environment.

Online community college instructors can aid in the development of sense of classroom community in several ways. Shea et al. (2006) found that there was a "… clear connection of between teaching presence and students' sense of community". Shea et al. (2006) recommend "direct facilitation" by the instructor, through which the instructor "… actively guides and orchestrates the discourse (p. 184).

Another way in which online community college instructors can enhance sense of classroom community is through the use of asynchronous video. Borup, West, and Graham (2012) found that an instructor posting weekly announcement videos had a "substantial impact" on students' perception of instructor social presence.

A final way in which online community college instructors can promote sense of classroom community is through the use of multiple means of learner-teacher interaction. Shackleford and Maxwell (2012) found that instructor use of multiple communication modes (such as email, asynchronous message boards, and synchronous chats) was one of the "most predictive" contributors to sense of community (p. 248).

On the institutional policy side, controlling and limiting class size is one policy that can lead to a greater sense of classroom community among the learners. Rovai (2002a) identifies 8-20 students as being an ideal class size to promote community with enough participants to generate discussion, but not so many that the course essentially becomes independent study (p. 11).

Intrinsic Motivation and Academic Integration

The research conducted for the present study further strengthens the notion established in the literature that intrinsic motivation is positively correlated with academic integration and achievement (e.g., Prospero & Vohra-Gupta, 2007). Deci and Ryan's (1985) Self-Determination Theory suggests that intrinsic motivation can be attained when an individual's needs for "autonomy" and "competence" are met. Autonomy is the belief that one is doing an activity on their own accord, for their own benefit. Competence is the belief that one is performing at a high-level in the undertaken activity (Niemec & Ryan, 2009, p. 135).

Previous researchers have made concrete recommendations for increasing student levels of intrinsic motivation. Trevino and Defrietas (2014) identify several of the methods educators can use to increase motivation among their students including offering verbal rewards (compliments on work, essentially) and challenging students to seek answers to questions on

their own (p. 301). These recommendations are designed to increase competence (verbal rewards) and autonomy (seeking answers on their own).

Goldman, Goodboy, and Weber (2017) found that "personalizing" course material to students' interests increased the student's "intrinsic motivation to learn" (p. 167). Some suggestions on the course design level for increasing the "autonomy" component of intrinsic motivation for community college courses include: giving learners flexibility to choose their own readings and/or assignments, allowing students to choose what they consider relevant topics within the parameters of assignments, and framing assignments in the context of learner career aspirations. For example, in the context of an online public speaking class, learners could choose among a variety of historical speeches to analyze, pick their own speech topics (that fit the assignments), and do speech topics that approximate the type of presentations that they are likely to give in their post-college career.

Some suggestions on the course design level for increasing the "competence" component of intrinsic motivation include soliciting constructive comments from classmates on assignments, making assignments progressively more difficult throughout a course, and spotlighting exceptional work by learners. Again, in the context of an online public speaking class, this could mean having learners identify exceptional elements of a classmates speech, starting the semester with a short, simple, speech and later moving on to longer, more difficult speeches, and giving out ceremonial awards for superlative elements on speech assignments ("best introduction" award, etc.).

Since motivation is clearly tied to academic integration, community college advisors and student orientation leaders should consider motivation as a factor when determining a student's capacity to do well in an online course. Consistent with the results of this study, Hung, Chou,

Chen, and Own (2010) cite several studies (such as Saade, He, and Kura, 2007) which indicated that motivation was a key factor in online learning success. Hung et al. conducted research and developed a scale, the Online Learning Readiness Scale (OLRS) to assess learner readiness for online learning that included motivation as one of five dimensions (along with "computer self-efficacy", "self-directed learning", "learner control", and "online communication self-efficacy") that are critical for online learning success (2010, p. 1087). Advisors and orientation leaders can help students make informed choices about whether online or face-to-face courses are appropriate for them to take by using assessments such as Hung et al.'s OLRS.

Suggestions for Future Research

The results of the research study described in this dissertation prompt significant opportunities for future research. First, replicating this research in a way that addresses some of the study limitations is recommended. One limitation was the sample size and the higher-than-expected level of academic achievement (grades and persistence rates) exhibited by the participants. Conducting similar research with a larger sample would allow groups to be formed and differences between persisting students and non-persisting students to be addressed. A larger sample size would also allow for comparisons between groups on other demographic characteristics such as gender, a characteristic that has previously been found influenced sense of community, for example (Rovai & Baker, 2005).

Another recommendation for future research is to conduct a similar study across multiple institutions. This was a single-site study, and although the participants have characteristics fairly consistent with the national community college student profile, doing the research across multiple institutions will allow for greater generalizability.

Conducting similar research to this during a traditional fall or spring semester would also add to the generalizability of the study. Although the summer semester in which the data was collected was of a similar length to fall or spring semester, student commitment to their academic progress might be greater for students enrolled during the summer term than during fall and spring semesters, as evidenced by the lower enrollment numbers during the summer.

This research was conducted at an institution that only uses whole letters (no "+" or "-") in the course grade. Conducting similar research at a community college that utilizes "+" and "-" in their grades would allow for more nuanced analysis of grade data.

Although self-report data was collected from course instructors about course design and teaching, a more robust study of this topic should look closely at the role of these elements in such variables as sense of classroom community, intrinsic motivation, and academic integration.

The research reported in this paper was of a quantitative nature. Qualitative research methods applied to the similar research objectives could potentially uncover more nuanced information about the variables and about persistence, in general. For example, interviews with persisting and non-persisting students about the importance of sense of classroom community and intrinsic motivation to their completion of the course could reveal interesting data

Post-hoc Conceptual Framework

The characteristics of the sample in this research, namely the higher-than-expected number of students who persisted in their community college online course (94.4% of the sample) made the use of "persistence" as a dependent variable impractical. Additionally, the high achievement level of the sample (3.46 average course grade, compared to 2.98 for the population during the same academic term) perhaps skewed some of the conclusions about the

role of sense of classroom community, intrinsic motivation, and academic integration in course achievement. Based on the results of this study, however, and the previous research on these independent variables and academic achievement, a new conceptual framework for understanding academic success for online community students is proposed. This new conceptual framework can be found in Figure Ten.

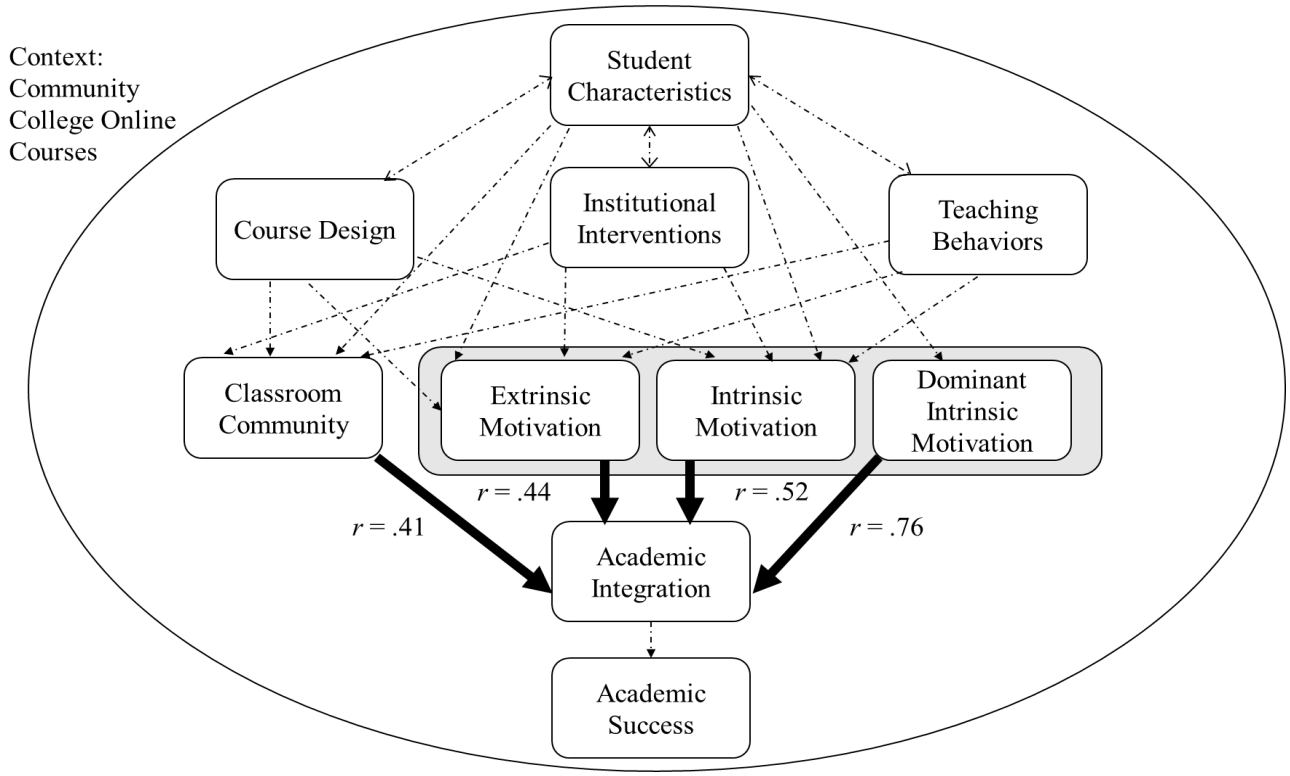

Figure Ten. Post-hoc conceptual framework.

This post-hoc conceptual framework updates and improves upon the conceptual framework proposed in Chapter Three in four ways. First, like the original conceptual framework, it acknowledges the role of course design in fostering sense of classroom community

and extrinsic and intrinsic motivation, but also recognizes the role of other factors (student characteristics, teaching behaviors, and institutional interventions) that have been shown in the literature, as discussed in this dissertation and beyond, to influence those variables in the context of online community colleges. A summary of this literature is displayed in Table 15 (Sense of Community) and Table 16 (Motivation).

Table 15- *Literature on Sense of Community which informs post-hoc framework.*

COURSE DESIGN	INSTITUTIONAL INTERVENTIONS	TEACHING BEHAVIORS	STUDENT CHARACTERISTICS
Use of Avatars Taylor (2011)	***Class Size*** Rovai (2002a)	***Fostering "Immediacy"*** Conaway, Easton, and Schmidt (2005)	***Gender*** Rovai (2002b)
Use of Asynchronous Discussion Drouin (2008)		***Use of "Direct Facilitation"*** Shea et al. (2006)	
		Posting Announcement Videos Borup, West, and Graham (2012)	
		Using Multiple Communication Modes Shackleford and Maxwell (2012)	

Table 16- *Literature on motivation which informs post-hoc framework.*

COURSE DESIGN	INSTITUTIONAL INTERVENTIONS	TEACHING BEHAVIORS	STUDENT CHARACTERISTICS
Personalizing Assignments Goldman, Goodboy, and Weber (2017)		***Giving Verbals Rewards*** Trevino and Defrietas (2014)	***Initial Level of Intrinsic Motivation*** Kawachi, 2003

Second, this updated conceptual framework acknowledges the mutual influence of student characteristics on course design, institutional interventions, and teaching behaviors. One example of this mutual influence with course design could be how course designers consider the student knowledge level of the subject matter when creating assignments, and how certain students might opt to take a course in a different format if the online course design does not match their learning preferences. An example of this mutual influence between student

characteristics and institutional interventions could include how the institutional policy for allowing enrollment in online courses, such as not allowing students to take remedial courses in online formats, could impact student characteristics. On the other side of that mutual influence is student characteristics impacting institutional policies, such a student population with low levels of computer literacy prompting an institution to require mandatory online orientation programs before enrollment in online courses. Examples of teaching behaviors that influence student characteristics could include actions by the instructor to prompt students to participate in the course discussion board. On the other side of that, a class full of students who are naturally inclined to participate on the discussion board might motivate the instructor to take on a passive role in the discussion.

Third, and perhaps most importantly, the research conducted for this study demonstrated a clear correlation between the independent variables of sense of classroom community, extrinsic motivation, intrinsic motivation, and dominant intrinsic motivation and the dependent variable of academic integration. This strong connection is illustrated in the updated conceptual framework.

Fourth, this updated conceptual framework replaces "persistence" as the outcome variable with "academic success." After reviewing the literature on academic outcome measurements, York et al. (2015) created a "… theoretically grounded definition of academic success that is made up of six components: academic achievement, satisfaction, acquisition of skills and competencies, persistence, attainment of learning objectives, and career success" (p. 9). The research conducted for this dissertation initially attempted to address the component of "persistence," but eventually examined the component of "academic achievement" (with course grade as a proxy). By utilizing York et al.'s broader concept of "academic success," the role of

academic integration in producing positive outcomes beyond persistence and course grades is incorporated in to this conceptual framework.

Conclusion

In summary, this study explored the influence of sense of classroom community, intrinsic motivation, and academic integration on achievement (through grades and persistence) for community college students in online courses. The significant findings of this study indicated that sense of community is moderately correlated with academic integration, intrinsic motivation is strongly correlated with academic integration, and lower levels of extrinsic motivation combined with high levels of intrinsic motivation ("dominant intrinsic motivation") are very strongly correlated with academic integration. Additionally, no between groups differences were found for participants with the following characteristics: students in 100-level versus 200-level courses and full-time workers versus less than full-time workers. Finally, age was found to have no influence on sense of classroom community, intrinsic motivation, and academic integration. Limitations of this study include a small sample size (which resulted in relatively high standard deviations), the higher-than-normal achievement level of the participants, and the research being conducted at just one institution.

The results of this study further confirm previous research findings on the role of sense of community and intrinsic motivation on academic integration in the context of online community college courses. Knowledge from this study can be used to inform course design, teaching, advising, and policy-making in the context of online community college courses. Interventions that promote sense of classroom community and intrinsic motivation can enhance academic integration, which research has shown to be a powerful predictor of academic success. This study

also can be used to inspire future research into the role of sense of classroom community, intrinsic motivation, and academic integration in academic success in online community college courses.

The results of this study should also prompt us to rethink some assumptions we may have about online community college courses and the students who enroll in those courses. The importance of intrinsic motivation to academic integration, and the high levels of intrinsic motivation indicated by the participants in this study, cast some doubt in to the narrative that community college students are primarily motivated by extrinsic rewards (namely the credential earned at the community college and the subsequent career advancement). Additionally, the results of this showed that community college students can have high levels of academic integration and academic achievement in the online format.

REFERENCES

2019-2020 Academic Catalog. (2019). Retrieved from https://www.hacc.edu/ProgramsandCourses/CourseCatalog/upload/2019-2020-Academic-Catalog.pdf

All HACC Programs. (n.d.). Retrieved September 09, 2019, from https://www.hacc.edu/ProgramsandCourses/All-HACC-programs.cfm

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.

Allen, I. E., & Seaman, J. (2014). *Grade change: Tracking online education in the United States* (Rep.). Retrieved http://www.onlinelearningsurvey.com/reports/gradechange.pdf

Anastasi, J. (2007). Full-semester and abbreviated summer courses: An evaluation of student performance. *Teaching of Psychology, 34*(1), 19-22.

Aragon, S. R., & Johnson, E. S. (2008). Factors influencing completion and noncompletion of community college online courses. *American Journal of Distance Education, 22*(3), 146-158. doi:10.1080/08923640802239962

Arnold, A. (1999). *Retention and persistence in postsecondary education* (Rep.). Retrieved http://www.tgslc.org/pdf/persistence.pdf

Bailey, T., Jenkins, D., & Leinbach, T. (2005). *Community college low-income and minority student completion summary: Descriptive statistics from the 1992 student cohort* (Rep.). Retrieved May 15, 2015, from Community College Research Center website: http://ccrc.tc.columbia.edu/media/k2/attachments/low-income-minority-completion-study.pdf

Bailey, T. R., & Alphonso, M. (2005). *Paths to persistence: An analysis of research on program effectiveness at community colleges* (Rep.). Retrieved May 17, 2015, from Lumina Foundation for Education website: https://folio.iupui.edu/bitstream/handle/10244/268/PathstoPersistence.pdf?sequence=6

Baime, B., & Baum, A. (2016). *Community colleges: Multiple missions, diverse student bodies, and a range of policy solutions* (pp. 1-20, Rep.). Urban Institute.

Baker, S. (2004). Intrinsic, extrinsic, and amotivational orientations: Their role in university adjustment, stress, well-being, and subsequent academic performance. *Current Psychology, 23*(3), 189-202.

Bambara, C. S., Harbour, C. P., Davies, T. G., & Athey, S. (2009). Delicate engagement: The lived experience of community college students enrolled in high-risk online courses. *Community College Review, 36*(3), 219-238. doi:10.1177/0091552108327187

Bartlett, J. E., & Kotrlik, J. W. (1999). Development of a self-directed learning instrument for use in work environments. *Journal of Vocational Education Research, 24*(4), 185-208.

Battalio, J. (2009). Success in distance education: Do learning styles and multiple formats matter. *American Journal of Distance Education, 23*(2), 71-87.

Baturay, M. H. (2011). Relationships among sense of classroom community, perceived cognitive learning and satisfaction of students at an e-learning course. *Interactive Learning Environments, 19*(5), 563-575. doi:10.1080/10494821003644029

Bawa, P. (2016). Retention in online courses: Exploring issues and solutions- a literature review. *SAGE Open, 6*(1), 1-11. doi:10.1177/2158244015621777

Beach, J. M. (2010). *Gateway to opportunity?: A history of the community college in the United States*. Sterling, VA: Stylus.

Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate Student Attrition. *Review of Educational Research, 55*(4), 485-540. doi:10.3102/00346543055004485

Berger, J. B., & Braxton, J. M. (1998). Revising Tinto's interactionalist theory of student departure through theory elaboration. *Research in Higher Education, 39*(2), 103-119. doi:10.1023/a:1018760513769

Billings, D. M. (1988). A conceptual model of correspondence course completion. *American Journal of Distance Education, 2*(2), 23-35.

Boone, H. N., & Boone, D. A. (2012). Analyzing Likert data. *Journal of Extension, 50*(2).

Borup, J., West, R. E., & Graham, C. R. (2012). Improving online social presence through asynchronous video. *The Internet and Higher Education, 15*(3), 195-203. doi:10.1016/j.iheduc.2011.11.001

Bowman, N. A., & Denson, N. (2013). A missing piece of the departure puzzle: Student–institution fit and intent to persist. *Research in Higher Education Res High Educ, 55*(2), 123-142. doi:10.1007/s11162-013-9320-9

Braxton, J. M. (2000). *Reworking the student departure puzzle*. Nashville, TN: Vanderbilt University Press.

Burks, S. A., & Barrett, T. G. (2009). Student characteristics and activity choices of college freshmen and their intent to persist in religiously affiliated institutions. *Christian Higher Education, 8*(5), 351-392. doi:10.1080/15363750902917276

Burns, K. (2010). Community college student success: A review of the literature. *The Community College Enterprise,* 33-61.

Cabrera, A. F., Castaneda, M. B., Nora, A., & Hengstler, D. (1992). The convergence between two theories of college persistence. *The Journal of Higher Education, 63*(2), 143. doi:10.2307/1982157

Calvin, J., & Freeburg, B. (2010). Exploring adult learners' perceptions of technology competence and retention in web-based courses. *The Quarterly Review of Distance Education, 11*(2), 63-72.

Chapman, T. A. (2012). *Variables associated with sense of community in online and on-ground clinical doctorate education* (Unpublished doctoral dissertation). University of Nebraska.

Chen, K., Jang, S., & Branch, R. (2010). Autonomy, affiliation, and ability: Relative salience of factors that influence online learner motivation and learning outcomes. *Knowledge Management & E-Learning: An International Journal, 2*(1), 30-50.

Cho, S., & Karp, M. M. (2013). Student success courses in the community college: Early enrollment and educational outcomes. *Community College Review, 41*(1), 86-103. doi:10.1177/0091552112472227

Choitz, V., & Reimherr, P. (2013). *Mind the gap: High unmet financial need threatens persistence and completion for low-income community college students* (pp. 1-2, Rep.).

Cokley, K. O., Bernard, N., Cunningham, D., & Motoike, J. (2001). A psychometric investigation of the Academic Motivation Scale using a United States sample. *Measurement and Evaluation in Counseling and Development, 34*(2), 109-119.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum.

Cole, R. A. (2000). *Issues in web-based pedagogy: A critical primer*. London: Greenwood Press.

College Fact Sheet. (2018). Retrieved September 09, 2019, from https://www.hacc.edu/AboutHACC/CollegeFactSheet/index.cfm

Community College FAQs. (n.d.). Retrieved from http://ccrc.tc.columbia.edu/Community-College-FAQs.html

Conaway, R., Easton, S., & Schmidt, W. (2005). Strategies for enhancing student interaction and immediacy in online courses. *Business Communication Quarterly, 68*(1), 23-35

Craig, A. J., & Ward, C. V. (2007). Retention of community college students: Related student and institutional characteristics. *Journal of College Student Retention: Research, Theory and Practice, 9*(4), 505-517. doi:10.2190/cs.9.4.f

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston: Pearson/.

David, K. M., Lee, M. E., Bruce, J. D., Coppedge, B. R., Dickens, D., Friske, J., . . . Thorman, J. (2105). Barriers to success predict fall-to-fall persistence and overall GPA among community college students. *Journal of Applied Research in the Community College, 21*(1), 5-13.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Doherty, W. (2006). An analysis of multiple factors affecting retention in web-based community college courses. *The Internet and Higher Education, 9*(4), 245-255. doi:10.1016/j.iheduc.2006.08.004

Dowd, A. C., & Coury, T. (2006). The effect of loans on the persistence and attainment of community college students. *Research in Higher Education, 47*(1), 33-62. doi:10.1007/s11162-005-8151-8

Drouin, M. (2008). The relationship between students' perceived sense of community and satisfaction, achievement, and retention in an online course. *The Quarterly Review of Distance Education, 9*(3), 267-284.

Duncan, D. G., & Barcyzk, C. C. (2013). Facebook in the university classroom: Do students perceive that it enhances community of practice and sense of community. *International Journal of Business and Social Science, 4*(3), 1-14.

Dupin-Bryant, P. A. (2004). Pre-entry variables related to retention in online distance education. *American Journal of Distance Education, 18*(4), 199-206. doi:10.1207/s15389286ajde1804_2

Eaton, S. B. (2000). *Reworking the student departure puzzle* (1st ed., pp. 48-61) (J. P. Bean, Author; J. M. Braxton, Ed.). Nashville, TN: Vanderbilt University.

Fairchild, A. J., Horst, S. J., Finney, S. J., & Barron, K. E. (2005). Evaluating existing and new validity evidence for the Academic Motivation Scale. *Contemporary Educational Psychology, 30*(3), 331-358. doi:10.1016/j.cedpsych.2004.11.001

Fast facts from our fact sheet. (2014). Retrieved from http://www.aacc.nche.edu/AboutCC/Pages/fastfactsfactsheet.aspx

Fike, D. S., & Fike, R. (2008). Predictors of first-year student retention in the community college. *Community College Review, 36*(2), 68-88. doi:10.1177/0091552108320222

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley Pub.

Garland, M. R. (1993). Student perceptions of the situational, instructional, dispositional, and epistomological barriers to persistence. *Distance Education, 14*(2), 181-198.

Graff, M. (2006). The importance of online community in student academic performance. *Electronic Journal of E-learning, 4*(2), 127-132.

Godin, G., & Kok, G. (1996). The Theory of Planned Behavior: A review of its applications to health-related behaviors. *American Journal of Health Promotion, 11*(2), 87-98. doi:10.4278/0890-1171-11.2.87

Goldman, Z. W., Goodboy, A. K., & Weber, K. (2017). College students' psychological needs and intrinsic motivation to Learn: An examination of Self-Determination Theory. *Communication Quarterly, 65*(2), 167-191. doi:10.1080/01463373.2016.1215338

Hale, J. M., & Bray, N. J. (2011). The impact of registration timing on student performance. *Community College Journal of Research and Practice, 35*(7), 556-573. doi:10.1080/10668920802289984

Harrell, I. L., & Bower, B. L. (2011). Student characteristics that predict persistence in community college online courses. *American Journal of Distance Education, 25*(3), 178-191. doi:10.1080/08923647.2011.590107

Harrison, J. B., & West, R. E. (2014). Sense of community in a blended technology integration course: A design-based research study. *The International Review of Research in Open and Distributed Learning, 15*(6), 1-13.

Hawley, T. H., & Harris, T. A. (2005). Student characteristics related to persistence for first-year community college students. *Journal of College Student Retention: Research, Theory and Practice, 7*(1), 117-142. doi:10.2190/e99d-v4nt-71vf-83dc

Higher ed course design rubric: Quality Matters. (n.d.). Retrieved from https://www.qualitymatters.org/qa-resources/rubric-standards/higher-ed-rubric

Higher education for American democracy: A report of the President's Commission on Higher Education (Rep.). (1947). Retrieved from http://babel.hathitrust.org/cgi/pt?id=mdp.39015082042329;view=1up;seq=1

Horzum, M., Kaymak, Z., & Gungoren, O. (2015). Structural equation modeling towards online learning readiness, academic motivations, and perceived learning. *Educational Sciences: Theory &Practice, 15*(3), 759-770.

Hoy, W. K. (2010). *Quantitative research in education: A primer*. Los Angeles: Sage.

Hung, M., Chou, C., Chen, C., & Own, Z. (2010). Learner readiness for online learning: Scale development and student perceptions. *Computers & Education, 55*(3), 1080-1090. doi:10.1016/j.compedu.2010.05.004

Jacobson, L., & Mokher, C. (2013). Pathways to boosting the earnings of low-income students by increasing their educational attainment. Retrieved from http://www.cna.org/sites/default/files/research/pathwaystoboosting.pdf

Justice, E., & Dornan, T. (2001). Metacognitive differences between traditional-age and nontraditional-age college students. *Adult Education Quarterly, 51*(3), 236-249. doi:10.1177/07417130122087269

Joshi, A., Kale, S., Chandel, S., & Pal, D. (2015). Likert Scale: Explored and explained. British Journal of Applied Science & Technology, 7(4), 396-403. doi:10.9734/bjast/2015/14975

Kaupp, R. (2012). Online penalty: The impact of online instruction on the latino-white achievement gap. *Journal of Applied Research in the Community College*, *19*(2), 8-16.

Kawachi, P. (2003). Initiating intrinsic motivation in online education: Review of the current state of the art. *Interactive Learning Environments, 11*(1), 59-81. doi:10.1076/ilee.11.1.59.13685

Kember, D. (1995). *Open learning courses for adults: A model of student progress*. Englewood Cliffs, NJ: Educational Technology Publications.

Kennedy, G. J. (2013). The elephant in the hall: Motivating the study of student motivation and self-regulation in studies of academic achievement and persistence in higher education. *International Journal of Higher Education, 2*(4), 179-190.

Kim, K. (2009). Motivational challenges of adult learners in distance education. *Journal of Interactive Learning Research, 20*(3), 317-335.

Kizilcec, R. F., & Halawa, S. (2015, March). Attrition and achievement gaps in online learning. In Proceedings of the 2nd (2015) Conference of Learning at Scale. Retrieved from file:///C:/Users/Adam/Downloads/kizilcec2015attrition%20(1).pdf doi:10.1145/2724660.2724680

Kolb, D. A. (1985). *Learning style inventory: Self-scoring inventory and interpretation booklet*. Boston: McBer.

Kuh, G., Kinzie, J., Buckley, J., Bridges, B., & Hayek, J. (2006). *What matters to student success: A review of the literature* (pp. 1-151, Rep.). National Symposium on Postsecondary Success.

Kuskis, A. (2007). Modes of interaction. In T. Anderson (Author) & M. G. Moore (Ed.), *Handbook of distance education* (pp. 295-309). Mahwah, NJ: Lawrence Erlbaum.

LaPointe, D., & Gunawardena, C. N. (2004). Developing, testing and refining of a model to understand the relationship between peer interaction and learning outcomes in computer-mediated conferencing. *Distance Education, 25*(1), 83-106. doi:10.1080/0158791042000212477

LaPointe, L., & Reisetter, M. (2008). Belonging online: Students' perceptions of the value and efficacy of an online learning community. *International Journal on E-Learning, 7*(4), 641-665.

Lee, H., & Rha, I. (2009). Influence of structure and interaction on student achievement and satisfaction in web-based distance learning. *Educational Technology & Society, 12*(4), 372-382.

Lee, Y., & Choi, J. (2011). A review of online course dropout research: Implications for practice and future research. *Educational Technology Research and Development, 59*(5), 593-618. doi:10.1007/s11423-010-9177-y

Lei, S. A. (2010). Intrinsic and extrinsic motivation: Evaluating benefits and drawbacks from college instructors' perspectives. *Journal of Instructional Psychology, 37*(2), 153-160.

Levinson, D. L. (2005). *Community colleges: A reference handbook*. Santa Barbara, CA: ABC-CLIO.

Lewis, K. O., McVay-Dyche, J., Chen, H., & Seto, T. L. (n.d.). Examining sense of community among medical professionals in an online program. *The Journal of Educators Online*. Retrieved from http://www.thejeo.com/Archives/Volume12Number1/LewisMcVayDycheChenSeto.pdf

Liu, S., Gomez, J., Khan, B., & Yen, C. (2007). Toward a learner-oriented community college online course dropout framework. *International Journal on ELearning, 6*(4), 519-542.

Liu, S., Gomez, J., & Yen, C. (2009). Community college online course retention and final grade: Predictability of social presence. *Journal of Interactive Online Learning, 8*(2).

Malcolm, L. E. (2013). Student diversity in community colleges (S. Kater, Ed.). In J. S. Levin (Ed.), *Understanding community colleges* (pp. 19-35). New York: Routledge.

Martin, K., Galentino, R., & Townsend, L. (2014). Community college student success: The role of motivation and self-empowerment. *Community College Review, 42*(3), 221-241. doi:10.1177/0091552114528972

McKinney, L., & Novak, H. (2012). The relationship between FAFSA filing and persistence among first-year community college students. *Community College Review, 41*(1), 63-85. doi:10.1177/0091552112469251

McPherson, G. D. (2014). *Sense of community in multicultural blended learning college courses and the relationship to intercultural sensitivity* (Unpublished doctoral dissertation). University of Toronto.

Mellow, G. O., & Heelan, C. M. (2008). *Minding the dream: The process and practice of the American community college*. Lanham: Rowman & Littlefield.

Menchaca, M. P., & Bekele, T. A. (2008). Learner and instructor identified success factors in distance education. *Distance Education, 29*(3), 231-252. doi:10.1080/01587910802395771

Miller, G. E. (2010). Organization and technology of distance education. In M. F. Cleveland-Innis & D. R. Garrison (Eds.), *An Introduction to Distance Education* (1st ed., pp. 26-45). New York: Routledge.

Minutes of the Regular Meeting of the Hunter College Senate. (1979). Retrieved from http://www.hunter.cuny.edu/senate/repository/files/resolutions/GuidelinesforCollegewideDefinitionofCourseLevelsAssumptionsandExpectations.pdf

Moore, M. G., & Kearsley, G. (2005). *Distance education: A systems view*. Belmont, CA: Wadsworth Cengage Learning.

Moore, M. G. (1989). Editorial: Three types of interaction. *American Journal of Distance Education, 3*(2), 1-7. doi:10.1080/08923648909526659

Morris, L. V., Wu, S., & Finnegan, C. L. (2005). Predicting retention in online general education courses. *American Journal of Distance Education, 19*(1), 23-36.

Muller, T. (2008). Persistence of women in online degree-completion programs. *International Review of Research in Open and Distance Learning, 9*(2), 1-18.

Mullins, C. (2007). *Handbook of distance education* (pp. 491-500) (M. G. Moore, Ed.). Mahwah, NJ: L. Erlbaum Associates.

Muse, H. E. (2003). The Web-based community college student: An examination of factors that lead to success and risk. *The Internet and Higher Education, 6*(3), 241-261. doi:10.1016/S1096-7516(03)00044-7

Myers, J. L., Well, A., & Lorch, R. F. (2010). *Research design and statistical analysis*. Mahwah, NJ: Lawrence Erlbaum Associates.

Nakajima, M. A., Dembo, M. H., & Mossler, R. (2012). Student persistence in community colleges. *Community College Journal of Research and Practice, 36*(8), 591-613. doi:10.1080/10668920903054931

Nathans, L. L., Oswald, F. L., & Nimon, K. (2012). Interpreting multiple linear regression: A guidebook of variable importance. *Practical Assessment, Research & Evaluation, 17*(9), 1-19. Retrieved from http://pareonline.net/getvn.asp?v=17&n=9

Nguyen, A., Hays, B., & Wetstein, M. (2010). Showing incoming students the campus ropes: Predicting student persistence using a logistic regression model. *Journal of Applied Research in the Community College, 18*(1), 16-21.

Niemiec, C., & Ryan, R. (2009). Autonomy, competence, and relatedness in the classroom. *Theory and Research in Education, 7*(2), 133-144.

O'Bannion, T. (2012). Late registration: May it rest in peace. *Community College Journal, 83*(1), 26-31.

Ortagus, J. C. (2017). From the periphery to prominence: An examination of the changing profile of online students in American higher education. *The Internet and Higher Education*, *32*, 47-57. doi:10.1016/j.iheduc.2016.09.002

Owens, K. A., & Volkwein, J. F. (2002). *The impact of instructional delivery on learning outcomes and intent to persist* (Rep.).

Palloff, R. M., & Pratt, K. (2003). *The virtual student: A profile and guide to working with online learners*. San Francisco: Jossey-Bass.

Palmer, P. B. (2009). Regression analysis for prediction: Understanding the process. *Cardiopulmonary Physical Therapy Journal, 20*(3), 23-26. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2845248/#B15

Parker, A. (1999). A study of variables that predict dropout from distance education. *International Journal of Education Technology*, *1*(2). Retrieved from http://www.ascilite.org.au/ajet/ijet/v1n2/parker/index.html

Pascarella, E. (1985). College environmental influences on learning and cognition: A critical review and synthesis. In *Higher education: Handbook of theory and research* (Vol. 1). New York: Agathon.

Pascarella, E. T., & Terenzini, P. T. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *The Journal of Higher Education, 51*(1), 60. doi:10.2307/1981125

Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students*. San Francisco: Jossey-Bass.

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

Poellhuber, B., Chomienne, M., & Karsenti, T. (2008). The effect of peer collaboration and collaborative learning on self-efficacy and persistence in a learner-paced continuous intake model. *Journal of Distance Education, 22*(3), 41-62.

Porter, S. R., & Swing, R. L. (2006). Understanding how first-year seminars affect persistence. *Research in Higher Education, 47*(1), 89-109. doi:10.1007/s11162-005-8153-6

Porter, S. R., & Umbach, S. D. (2019). *What challenges to community college success do students face* (Rep.). Raleigh, NC: Percontor.

Powell, R., Conway, C., & Ross, L. (1990). Effects of student predisposing characteristics on student success. *Journal of Distance Education, 5*(1), 5-19.

Prospero, M., & Vohra-Gupta, S. (2007). First generation college students: Motivation, integration, and academic achievement. *Community College Journal of Research and Practice, 31*(12), 963-975.

Quality learning and teaching. (2018). Retrieved from https://www.csun.edu/it/qlt

Radford, A. W. (2013). *Learning at a distance: Undergraduate enrollment in distance education courses and degree programs*. NCES. Retrieved from http://nces.ed.gov/pubs2012/2012154.pdf

Reason, R. D. (2009). An examination of persistence research through the lens of a comprehensive conceptual framework. *Journal of College Student Development, 50*(6), 659-682. doi:10.1353/csd.0.0098

Recommendations of the Ohio Higher Education Funding Commission (pp. 1-14, Rep.). (2012).

Remler, D. K., & Van Ryzin, G. G. (2011). *Research methods in practice: Strategies for description and causation*. Thousand Oaks, CA: Sage.

Renn, K. A., & Reason, R. D. (2013). *College students in the United States: Characteristics, experiences, and outcomes*. San Francisco: Jossey-Bass.

Rovai, A. (2002a). Building sense of community at a distance. *International Review of Research in Open and Distance Learning, 3*(1), 1-16.

Rovai, A. P. (2002b). Development of an instrument to measure classroom community. *The Internet and Higher Education, 5*(3), 197-211. doi:10.1016/S1096-7516(02)00102-1

Rovai, A. P. (2003). In search of higher persistence rates in distance education online programs. *The Internet and Higher Education, 6*(1), 1-16. doi:10.1016/s1096-7516(02)00158-6

Rovai, A., & Baker, J. (2005). Gender differences in online learning: Sense of learning, perceived learning, and interpersonal interactions. *Quarterly Review of Distance Education, 6*(1), 31-44.

Rowntree, D. (1995). Teaching and learning online. A correspondence education for the 21st century. *British Journal of Educational Technology*, *26*(3), 205-215.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54-67. doi:10.1006/ceps.1999.1020

Saadé, R. G., He, X., & Kira, D. (2007). Exploring dimensions to online learning. *Computers in Human Behavior, 23*(4), 1721-1739. doi:10.1016/j.chb.2005.10.002

Salkind, N. J. (2008). *Statistics for people who (think they) hate statistics*. Thousand Oaks, CA: SAGE Publications.

Salkind, N. J. (2012). *100 questions (and answers) about research methods*. Thousand Oaks, CA: Sage.

Seamon, M. (2004). Short- and long-term differences in instructional effectiveness between intensive and semester-length courses. *Teachers College Record, 106*, 852-874.

Settle, J. (2011). Variables that encourage students to persist in community colleges. *Community College Journal of Research & Practice, 35*(4), 281-300. doi:10.1080/10668920701831621

Shackleford, J. L., & Maxwell, M. (2012). Sense of community in graduate online education: Contribution of learner to learner interaction. *The International Review of Research in Open and Distance Learning, 13*(4), 228-249.

Shea, P. (2006). A study of students' sense of learning community in online environments. *Journal of Asynchronous Learning Networks, 10*(1), 35-44.

Shea, P., & Bidjerano, T. (2014). Does online learning impede degree completion? A national study of community college students. *Computers & Education, 75*, 103-111. doi:10.1016/j.compedu.2014.02.009

Shea, P., Li, C. S., & Pickett, A. (2006). A study of teaching presence and student sense of learning community in fully online and web-enhanced college courses. *The Internet and Higher Education, 9*(3), 175-190. doi:10.1016/j.iheduc.2006.06.005

Simons, J., Dewitte, S., & Lens, W. (2004). The role of different types of instrumentality in motivation, study strategies, and performance: Know why you learn, so you'll know what you learn. *British Journal of Educational Psychology, 74*(3), 343-360. doi:10.1348/0007099041552314

Smith, A. B., Street, M. A., & Olivarez, A. (2002). Early, regular, and late registration and community college student success: A case study. *Community College Journal of Research and Practice, 26*(3), 261-273. doi:10.1080/106689202317245455

Sobral, D. T. (2004). What kind of motivation drives medical students' learning quests? *Med Educ Medical Education, 38*(9), 950-957. doi:10.1111/j.1365-2929.2004.01913.x

Soloman, B. A., & Felder, R. M. (1999). Index of learning styles questionnaire. Retrieved from http://www.engr.ncsu.edu/learningstyles/ilsweb.html

Sorey, K. C., & Duggan, M. H. (2008). Differential predictors of persistence between community college adult and traditional-aged students. *Community College Journal of Research and Practice, 32*(2), 75-100. doi:10.1080/10668920701380967

Spangler, J. M., & Slate, J. R. (2014). Texas community college graduation as a function of student ethnicity. *Community College Journal of Research and Practice, 39*(8), 741-753. doi:10.1080/10668926.2013.878261

Stillman, M. (2009). Making the case for the importance of student retention. Retrieved from https://www.pacrao.org/docs/resources/writersteam/StillmanMakingTheCaseForStudentRetention.pdf

St. Rose, A., & Hill, C. (2013). *Women in Community Colleges* (Rep.). Retrieved September 09, 2019, from AAUW website: https://www.aauw.org/files/2013/05/women-in-community-colleges.pdf

Stage, F. (1989). Reciprocal effects between the academic and social integration of college students. *Research in Higher Education, 30*(5), 517-530. doi:10.1177/07417130122087269

Stuart, G. R., Rios-Aguilar, C., & Deil-Amen, R. (2014). "How much economic value does my credential have?": Reformulating Tinto's Model to study students' persistence in community colleges. *Community College Review, 42*(4), 327-341. doi:10.1177/0091552114532519

Tanyel, F., & Griffen, J. (2014). A ten year comparison of outcomes and persistence rates in online versus face-to-face courses (Rep.). Retrieved from https://www.westga.edu/~bquest/2014/onlinecourses2014.pdf

Taylor, L. D. (2011). Avatars and emotional engagement in asynchronous online communication. *Cyberpsychology, Behavior, and Social Networking, 14*(4), 207-212. doi:10.1089/cyber.2010.0083

Terenzini, P. T., & Pascarella, E. T. (1977). Voluntary freshman attrition and patterns of social and academic integration in a university: A test of a conceptual model. *Research in Higher Education, 6*(1), 25-43. doi:10.1007/bf00992014

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

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

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

Thomas, S. (2000). Ties that bind: A social network approach to understanding student integration and persistence. *The Journal of Higher Education, 71*(5), 591-615.

Tovar, E. (2014). The role of faculty, counselors, and support programs on Latino/a community college students' success and intent to persist. *Community College Review, 43*(1), 46-71. doi:10.1177/0091552114553788

Traver, A. E., Volchok, E., Bidjerano, T., & Shea, P. (2014). Correlating community college students' perceptions of community of inquiry presences with their completion of blended courses. *The Internet and Higher Education, 20*, 1-9. doi:10.1016/j.iheduc.2013.09.001

Trevino, N. N., & Defreitas, S. C. (2014). The relationship between intrinsic motivation and academic achievement for first generation latino college students. *Social Psychology of Education Soc Psychol Educ, 17*(2), 293-306. doi:10.1007/s11218-013-9245-3

Turner, E. A., Chandler, M., & Heffer, R. W. (2009). The influence of parenting styles, achievement motivation, and self-efficacy on academic performance in college students. *Journal of College Student Development, 50*(3), 337-346. doi:10.1353/csd.0.0073

Undergraduate retention and graduation rates. (2017, April). Retrieved from https://nces.ed.gov/programs/coe/indicator_ctr.asp

Unemployment rates and earnings by educational attainment. (2018, March 27). Retrieved from https://www.bls.gov/emp/ep_chart_001.htm

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C. B., & Vallières, É F. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and Psychological Measurement, 52*, 1003-1016.

Vanslambrouck, S., Zhu, C., Lombaerts, K., Pynoo, B., & Tonduer, J. (2017). Adult learner characteristics as predictors of performance, satisfaction and intent-to-persist in online and blended environments. *ICEL 2017: Proceedings of the 12th International Conference on E-Learning*.

Vansteenkiste, M., Lens, W., & Deci, E. (2004). *Intrinsic versus Extrinsic Goal Contents in Self-Determination Theory: Another look at the quality of academic motivation* (Rep.). University of Lueven.

Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research, 23*(3). Retrieved from https://blogs.commons.georgetown.edu/cctp-505-fall2009/files/computer-mediated-communication23.pdf

Watts, A. L. (2001). Education and the common good: Social benefits of higher education in Kentucky. Frankfort, KY: Kentucky Long-term Policy Research Center.

Wheeless, V. E., Witt, P. L., Maresh, M., Bryand, M. C., & Schrodt, P. (2011). Instructor credibility as a mediator of instructor communication and students' intent to persist in college. *Communication Education, 60*(3), 314-339.

The White House Summit on Community Colleges (Rep.). (2011). Washington, DC.

Witt, A. A., Wattenbarger, J. L., Gollattscheck, J. F., & Suppiger, J. E. (1994). *America's community colleges: The first century*. Washington, D.C.: Community College Press.

Witt, P. L., Schrodt, P., Wheeless, V. E., & Bryand, M. C. (2014). Students' intent to persist in college: Moderating the negative effects of receiver apprehension with instructor credibility and nonverbal immediacy. *Communication Studies, 65*(3), 330-352. doi:10.1080/10510974.2013.811428

Workman, J. J., & Stenard, R. A. (1996). *Student support services for distance learners*. Retrieved from https://learningdesign.psu.edu/assets/uploads/deos/deosnews6_3.pdf

Xu, D., & Jaggers, S. S. (2011, March). *Online and hybrid course enrollment and performance in Washington state community and technical colleges* (Working paper). Retrieved

http://ccrc.tc.columbia.edu/media/k2/attachments/online-hybrid-performance-washington.pdf

Xu, D., & Jaggars, S. (2013). *Adaptability to Online Learning* (Rep.). Retrieved https://ccrc.tc.columbia.edu/media/k2/attachments/adaptability-to-online-learning.pdf

Xu, D., & Jaggars, S. S. (2014). Performance gaps between online and face-to-face courses: Differences across types of students and academic subject areas. *The Journal of Higher Education, 85*(5), 633-659. doi:10.1353/jhe.2014.0028

Yen, C., & Liu, S. (2009). Learner autonomy as a predictor of course success and final grades in community college online courses. *Journal of Educational Computing Research, 41*(3), 347-367. doi:10.2190/EC.41.3.e

York, T., Gibson, C., & Rankin, S. (2015). Defining and Measuring Academic Success. *Practical Assessment Research & Evaluation, 20*(5). Retrieved from http://pareonline.net/getvn.asp?v=20&n=5

Yukselturk, E., & Bulut, S. (2007). Predictors for student success in an online course. *Educational Technology & Society, 10*(3), 71-83.

Zhou, R. A. (2000). Intentions and goals at the community college: Associating student perceptions and demographics. *Community College Journal of Research and Practice, 24*(3), 219-233. doi:10.1080/106689200264178

Appendix A
Permission

HACC
Founded in 1964
CENTRAL PENNSYLVANIA'S COMMUNITY COLLEGE

One HACC Drive, Harrisburg, PA 17110-2999
www.hacc.edu

May 23, 2019

Dear Mr. Jenkins,

I have reviewed your proposal to conduct research on the influence of intrinsic motivation and sense of community on college student persistence in online courses. You have presented your research proposal to our faculty who teach online classes, and you will recruit both faculty and students to participate in your survey. Using a portion of our student identification number as an identifier, you will request student final grades in the class. No student names will be used and once the grade is linked to the survey responses, the identifier will be removed from your data set. In exchange for their voluntary participation, students can choose to enter into a drawing for a $25 gift card.

Your proposal has been approved. Please accept this letter as both permission to conduct your research at HACC and an indication of a positive review of the ethical treatment of human participants and the data collected as outlined in your proposal.

You will have two points of contact here at HACC. For communication with online students and faculty, your key contact will be Dr. Doreen Fisher-Bammer[redacted], Associate Provost of Virtual Learning. To obtain final grade information, your point of contact will be Ms. Kim Kelsey, ([redacted] Assistant Director of Institutional Research. We ask that you share a copy of your research report or eventual publication of your results with Dr. Fisher-Bammer upon completion of your study.

Good luck with your research. If you have any questions regarding this approval, please contact me at [redacted]

Sincerely,

Kathleen T. Doherty, Ph.D.
Associate Provost and Professor of Psychology

Cc: Doreen Fisher-Bammer
Kim Kelsey

GETTYSBURG 717.337.3855 | HARRISBURG 717.780.2400 | LANCASTER 717.293.5000 | LEBANON 717.270.4222 | VIRTUAL 717.221.1300 x1510 | YORK 717.718.0328

Appendix B
Consent Form

CONSENT TO PARTICIPATE

Title of Study: "The Influence of Intrinsic Motivation, Sense of Community, and Academic Integration on Persistence for Community College Students in Online Courses"

Researcher: Adam Jenkins (primary)- awj101@psu.edu

Overview: You are being asked to participate in a research study conducted by Adam Jenkins, a D. Ed. candidate in Lifelong Learning and Adult Education at Penn State University. This research is required for the dissertation phase of the researcher's D.Ed. degree. Your participation in this research is entirely voluntary. You may elect not to participate in this research, and you may end your participation in this research at any time (see "Participation and Withdrawal" section). The purpose of this research is to add to the existent knowledge base about factors which lead to course persistence (finishing a class with a passing grade) for students in online courses at community colleges.

Research Procedures: If you opt to participate in this research, you will be asked to answer questions which are designed to measure your levels of intrinsic motivation toward your course material, sense of community within an online course you are taking this semester, and your level of academic integration within that online course this semester. Additionally, there is one question related to your intent to persist within the course. At the end of the semester, the researcher will collect data from your institution indicating whether or not you successfully completed the online course which you identified in this survey and what grade you received in the course.

Time Required: There are a total of 55 survey questions to be answered. The entirety of your participation should take approximately 5-15 minutes.

Benefits to Participants: As an incentive to participate, those who participate will have the opportunity to be entered in to a drawing to win one of eight $25 gift cards to your campus bookstore or Amazon.com.

Benefits to Others: The results of this research may guide decision-making about online community college course design in the future.

Risks: There are no risks of physical harm from your participation in this research. Since your name is not connected to your answers or your completed status, there is no risk of your privacy being compromised.

Confidentiality: No names will be collected or available to anyone involved in this study. All information collected will only be accessible to the researchers, and will be securely stored. After an appropriate amount of time has passed, all of the information collected for this research will be destroyed. Subject data will not be used for future research studies.
In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared.

We will do our best to keep your participation in this research study confidential to the extent permitted by law. However, it is possible that other people may find out about your participation in this research study. For example, the following people/groups may check and copy records about this research:

• The Office for Human Research Protections in the U. S. Department of Health and Human Services
• The Institutional Review Board (a committee that reviews and approves research studies) and Penn State's Office for
Research Protections.

Participation and Withdrawal: As mentioned previously, your participation in this research is entirely voluntary. You may choose not to participate, and you may choose to end your participation at any time, for any reason, with no consequences. You may access this consent information at any time by revisiting this web address while logged in to your HACC account.

Questions about the Study and Study Results: If you have questions or concerns about the research in which you are participating, would like to receive an electronic copy of the dissertation upon completion, or would like to withdraw from the study, you can contact the researcher in the following ways:

Adam Jenkins
270 West Market Street
Marietta, PA 17547

717-817-0397

awj101@psu.edu

You may also contact the Penn State Office of Research Protections with concerns about this research study at 814-865-1775 or at orp@psu.edu.

My Consent: I have read this consent form and I understand my rights and role in this research study. I am giving my free and voluntary consent to participate in this study. Type full name and today's date below to give consent.

Appendix C
Student Survey

1.Enter the LAST FIVE DIGITS of your HACC ID #
The value must be a number

2.Enter the name of the online course that you are taking this semester that you will be using for this survey (e.g. COMM 101, etc.).
Enter your answer

3.Enter the CRN (section) number of the online course you are taking this semester that you will be using for this survey. The CRN is the last five or six digits on the course D2L homepage url (https://ehacc.hacc.edu/d2l/home/204532, for example).
Enter your answer

4.The number of fully online courses I am taking this semester is
1
2
3
4
5

5.The number of total courses (online and face-to-face) that I am taking this semester is
1
2
3
4
5

6.My employment status this semester is
Employed Full-Time (40 or more hours per week)
Employed Part-Time (under 40 hours per week)
I am not working this semester

7.My primary reason for taking college classes this semester is
To enhance my employment prospects
For personal enrichment
Other

8.My gender is
Male
Female
Prefer not to say

Other
9.I identify my ethnicity as
Asian
Black/African
Hispanic/Latinx
Native American
Pacific Islander
White/Caucasian
I prefer not to say
Other

10.My age this semester is
The value must be a number

11.I intend to remain enrolled and active in this course until the semester is over (further to the left signifying more disagreement with the statement, further to the right signifying more agreement with the statement).
1 2 3 4 5 6

Motivation
In reference to the online course that you identified in Questions #2 and #3, rate your level of agreement or disagreement with the statements below (further to the left signifying more disagreement with the statement, further to the right signifying more agreement with the statement).

12.I want to pass this course to prove to myself that I can do it.
1 2 3 4 5 6

13.I am taking this course because I experience pleasure and satisfaction from learning new things.
1 2 3 4 5 6

14.I am taking this course because it will help prepare me for my future.
1 2 3 4 5 6

15.I am taking this course because of the intense feeling I get from communicating my ideas to others.
1 2 3 4 5 6

16.I don't know why I am taking this course, I feel like I am wasting my time with it.
1 2 3 4 5 6

17.I feel pleasure from exceeding my expectations for myself in this course.
1 2 3 4 5 6

18.I am taking this course because it will help me get a more prestigious job when I graduate from college.
1 2 3 4 5 6

19.I am taking this course for the pleasure I feel when discovering new things.
1 2 3 4 5 6

20.I am taking this course because it will help me enter the job market in a field that I enjoy.
1 2 3 4 5 6

21.I am taking this course for the pleasure that I experience when I read interesting information.
1 2 3 4 5 6

22.I once had good reasons for taking this course, now I wonder if I should continue.
1 2 3 4 5 6

23.I am taking this course for the sense of accomplishment that I will feel when I complete it.
1 2 3 4 5 6

24.When I succeed in classes like this one, I feel important.
1 2 3 4 5 6

25.I am taking this class because it will help me have a "good life" later on.
1 2 3 4 5 6

26.I am taking this course because it will help me get a college degree that will result in a higher-paying job than one I could get with only a high school diploma.
1 2 3 4 5 6

Classroom Community

In reference to the online course that you identified in Questions #2 and #3, rate your level of agreement or disagreement with the statements below (further to the left signifying more disagreement with the statement, further to the right signifying more agreement with the statement).

27.I feel that students in this course care about each other.

1 2 3 4 5 6

28.I feel connected to others in this course.

1 2 3 4 5 6

29.I do not feel a spirit of community in this course.

1 2 3 4 5 6

30.I feel this course is like a family.

1 2 3 4 5 6

31.I feel isolated in this course.

1 2 3 4 5 6

32. I trust others in this course.

1 2 3 4 5 6

33. I feel that I can rely on others in this course.

1 2 3 4 5 6

34.I feel that members of this course depend on me.

1 2 3 4 5 6

35.I feel uncertain about others in this course.

1 2 3 4 5 6

36.I feel confident that others in this course will support me.

1 2 3 4 5 6

Academic Integration

In reference to the online course that you identified in Questions #2 and #3, rate your level of agreement or disagreement with the statements below (further to the left signifying more disagreement with the statement, further to the right signifying more agreement with the statement).

37.I have found this course to be enjoyable.
1 2 3 4 5 6

38.I have found this course to be exciting.
1 2 3 4 5 6

39.I have found this course to be stimulating.
1 2 3 4 6

40.I have found this course to be enlightening.
1 2 3 4 5 6

41.I have found this course to be interesting.
1 2 3 4 5 6

42.I have found this course to be rewarding.
1 2 3 4 5 6

43.I have found this course to be good.
1 2 3 4 5 6

44.I have found this course to be provocative.
1 2 3 4 5 6

45.I have found this course to be informative.
1 2 3 4 5 6

46.I have found this course to be irrelevant.
1 2 3 4 5 6

47.I have found this course to be dull.
1 2 3 4 5 6

48. I have found this course to be boring.
1 2 3 4 5 6

49.I have found this course to be useless.
1 2 3 4 5 6

50.I have found this course to be a waste.
1 2 3 4 5 6

51.I have found this course to be necessary.
1 2 3 4 5 6

52.I have found this course to be valuable.
1 2 3 4 5 6

53.I have found this course to be practical.
1 2 3 4 5 6

54.I have found this course to be worthwhile.
1 2 3 4 5 6

55.I have found this course to be relevant.
1 2 3 4 5 6

Appendix D

Instructor Survey

Instructor/Course Survey
* Required

Name of your course (e.g. COMM 101) *

Your answer

Section number of your course *

Your answer

I am (check all that apply)
The instructor of this course
The course designer of this entire course
The course designer of some of this course
Other:

NEXT

Online Teaching Behaviors

In reference to the online course that you identified in the first section of this survey, please rate your level or agreement or disagreement with the following statements (further left signifying more disagreement with the statement, further right signifying more agreement with the statement).

1) I help identify areas of agreement and disagreement on the discussion board.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

2) I help guide the class toward understanding course topics.

Very Strongly Disagree

1
2
3
4

5
6

Very Strongly Agree

3) I help keep students engaged.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

4) I help keep students participating in productive dialogue.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

5) I encourage students to explore new concepts.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

6) I help focus discussions on relevant issues.

Very Strongly Disagree

1
2
3
4
5

6

Very Strongly Agree

7) I provide detailed feedback on assignments.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

8) I respond to student questions within a day or two.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

9) I send communications about important goals and course topics.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

10) I send the students timely reminders about due dates.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

11) I send the students instructions about learning activities to keep the students on task.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

12) The teaching of this course leads to student mastery of learning objectives.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

Course Design

In reference to the online course that you identified in the first section of this survey, please rate your level or agreement or disagreement with the following statements (further left signifying more disagreement with the statement, further right signifying more agreement with the statement).

13) The design of this course (course navigation, etc.) is made clear to the students at the start of this course.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

14) At the course and module (unit, week, etc.) level, learning objectives are clearly stated.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

15) At the course and module (unit, week, etc.) level, learning objectives are measurable.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

16) Assessments (exams, assignments, etc.) in this course accurately measure student mastery of the course learning objectives.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

17) Instructional materials (textbook, videos, etc.) in this course contribute to learner mastery of course learning objectives.

Very Strongly Disagree

1
2
3

4
5
6

Very Strongly Agree

18) The learning activities (discussions, projects, etc.) in this course lead to student interaction and engagement.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

19) The learning activities (discussions, projects, etc.) in this course lead to student mastery of learning objectives.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

20) The technology (web applications, learning management system, etc.) used in this course promotes the ability of the learners to master course learning objectives.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

21) The course design makes it easy for students to access institutional support services such as the library, IT help desk, academic advising, etc.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

22) The design of this course attempts to make course materials accessible and usable for students with diverse abilities.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

23) This design of this course leads to student mastery of the course learning objectives.

Very Strongly Disagree

1
2
3
4
5
6

Very Strongly Agree

Vita

Adam W. Jenkins

awj101@yahoo.com
270 West Market Street, Marietta, PA 17547
(717) 817-0397

Professional Experience:

Speech Instructor, January 2004-present
Department of Communication, Arts, and Social Sciences, *HACC- Central Pennsylvania's Community College*- Lancaster Campus, Lancaster, PA

Instructor of Communications, January 2004-May 2004, August 2005-May 2010, August 2012-May 2013, January 2014-present
Department of Communication and Theatre, *Millersville University*, Millersville, PA

Instructor of Human Communication Studies, August 2010- December 2010, August 2012- December 2012, August 2013- December 2013, August 2014- December 2014, January 2016-present
College of Arts and Sciences, *Shippensburg University*, Shippensburg, PA

Online Public Speaking Instructor, January 2008-present
Communication and Fine Arts Department, *Allen County Community College*, Iola, KS

Speech Communication Instructor, January 2010-May 2017
RN to BSN Program, *Eastern Mennonite University-Lancaster Center*, Lancaster, PA

Lecturer in Communication, August 2007-May 2017
Music, Art, and Communication Department, *York College of Pennsylvania*, York, PA

Online Communication Instructor, July 2007-August 2011
School of Arts and Sciences, *City University of Seattle*, Bellevue, WA

Graduate Teaching Assistant, August 2001- May 2003
Department of Communication Studies, *Ball State University*, Muncie, IN

Public Speaking Instructor, May 2002-August 2002
Department of English and Humanities, *Ivy Tech State College*, Muncie, IN

Substitute Teacher, January 2001-June 2001
York Country Day School, York, PA

Academic Preparation:

D. Ed. in Adult Education, *The Pennsylvania State University*, University Park, PA, anticipated graduation in December 2019

M.A. in Communication Studies, *Ball State University*, Muncie, IN, 2003

B.A. in Mass Communication, *York College of Pennsylvania*, York, PA, 2000