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Peer Mentoring Effect on Student Satisfaction at a Two-Year Institution

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Peer Mentoring Effect on Student Satisfaction at a Two-Year Institution

by

Lori Scribner

A dissertation submitted in partial fulfillment of the requirement for the degree of Doctor of Philosophy in Curriculum and Instruction with an emphasis in Career and Workforce Education Department of Leadership, Counseling, Adult, Career, Higher ED College of Education University of South Florida

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ABSTRACT

Student satisfaction has been linked to student persistence with higher retention rates (Edens, 2012). A correlation has been established linking academics, social integration, and retention (Collings, Swanson, & Watkins, 2014). Peer mentoring contributes to student satisfaction by helping students adapt to the culture of the institution. Peer mentoring is a way to help with social integration. Mentoring connects academic integration, social integration, and goal commitment (Collings et al., 2014). A research study examined the relationship between a peer mentoring intervention and student satisfaction with a private two-year higher education institution. The purpose was to answer the following question: Did the addition of a peer mentoring intervention program for first-term students increase student satisfaction with the institution? Fifty-nine first-term Allied Health and Nursing students from a post-secondary private institution participated in the research. A peer mentoring intervention was provided to the treatment group. The ATA Career Education Student Satisfaction survey was used as the measurement instrument. Descriptive analysis examined the differences between the groups. An analysis of covariance (ANCOVA) was then able to investigate a peer mentoring intervention and the effect it had on the student’s perception of satisfaction with the institution. Multiple regression analysis explored correlations between groups, program of study, education status, gender, race, age, and post-test survey. The results were able to determine that there was a significant increase in student satisfaction after a peer mentoring intervention was implemented.
CHAPTER ONE
INTRODUCTION

Student Satisfaction

What is the definition of satisfaction? Student satisfaction commonly is recognized as a temporary mindset that is an outcome from the student’s educational encounters and is repeatedly changed both positively and negatively throughout the duration of educational events (Elliott, 2002). Student satisfaction is enhanced when the institution’s operation meets or exceeds the expectations of the student (Elliott, 2002). Satisfaction as an opinion of the students’ expectations is an abstract concept that can be difficult to measure. The many satisfaction measurement scales have a deficiency with validity because of the possible interaction with other associated concepts such as grades, gender, age, race, and education background (Elliott, 2002). Two-year institutions of higher education have evolved into service industries that must meet the needs of its consumers, the student. Therefore, a larger importance must be placed on connecting the students’ opportunities with the students’ requirements and understanding what the students want (Elliott, 2002). Institutions need to reorganize the function of student satisfaction for survival in that it is dependent on sustaining enrollment and retention. They ought to distinguish themselves from their competitors and have an appreciation of the target markets (De Lourdes Machado, Brites, Magalhães, & Sá, 2011). Allegiance to the institution has been shown to be positively associated to student satisfaction and provides integrity to the institution (Shahsavar & Sudzina, 2017). Two-year institutions must recognize what the student finds important to their education and then produce those wants (Elliott, 2002). Student support services during the
higher education experience, particularly during the first year, have been found to be important for developing strategies for traversing both academic and non-academic challenges that students face. Integration into the culture of the institution is an essential piece for successful transition. Making student support services an innate part of the higher education experience within the classroom will increase the quality of integration (Dadgar, Nodine, Bracco, & Venezia, 2014).

It has been found that a positive impact of student satisfaction has promoted student motivation, retention, and recruiting efforts. Two-year institutions can concentrate on student satisfaction by observing their effectiveness of upholding the students’ expectations (Elliott, 2002). Students have been found to be satisfied with the academic programs and less satisfied with the institution’s support programs. Satisfaction with the institution starts with trust. Trust can be established by regarding all students in a consistent and just fashion. This is accomplished by meeting expectations and managing student issues in a considerate and appropriate manner (Elliott, 2002). Students will recommend their institution to others when expectations are met (Elliott, 2002).

Two-year institutions show a commitment to the students through mission statements, goals, objectives, marketing strategies, and promotional themes (Elliott, 2002). However, there needs to be ways to better support the student in two-year institutions. Support services may help to improve satisfaction with the institution and can increase the student’s chances of being retained at the institution. These services function best when incorporated into the classroom while a separation between support and classroom creates impediments to student success. Integration of student support services and education can take various forms (Dadgar et al., 2014). Social networks launched during the first year are crucial for a positive transition to the institution. The use of student support programs at institutions, such as peer mentoring, provide
an opportunity for new students to be assisted by knowledgeable students which enhance social networking (Glaser, Hall, & Halperin, 2006).

How can student satisfaction be measured? Student satisfaction surveys have developed into a commonly utilized form for collecting student satisfaction perceptions in higher education (Klemenčič & Chirikov, 2015). Higher education institutions use the information obtained to determine evidence-based decisions for improvements. Student satisfaction surveys started as individual course evaluations that were broadened to contain student perceptions of student support services, quality of education, and overall educational experience. The rapidly increasing trend of survey use has created queries of reliability and validity of the student survey data (Klemenčič & Chirikov, 2015). There is not one accepted measurement scale to use for student satisfaction and satisfaction is a multi-dimensional term. Elements related to student satisfaction include: facilities, teaching staff, teaching methods, environment, and support services. Issues that influence student satisfaction include: institutional, extra-curricular, student expectations, and student demographics (De Lourdes Machado et al., 2011).

Reliability issues result from the survey proving stable and consistent results obtained over repeated measures that show results as replicable across different situations. Validity problems arise when survey assumptions are questionable. Surveys are developed to measure and provide data to support the perceptions of the students being surveyed. The use of a satisfaction survey is a screening instrument to discover institution deficiencies (Klemenčič & Chirikov, 2015). Student satisfaction is a guide to the way an institution reacts to students’ requirements and a gauge of institutional success. Determining student satisfaction is important in sustaining and expanding enrollment, strengthening persistence, and alleviating retention concerns (De Lourdes Machado et al., 2011).
Satisfaction and Retention

Student satisfaction has been linked to student persistence with higher retention rates (Edens, 2012). Retention is connected to student involvement especially during the first year (Tinto, 2006). A correlation has been established linking academics, social integration, and retention (Collings et al., 2014). Student satisfaction has been identified as an important factor in student persistence. Students pleased with happenings on campus usually persist to graduation. Two-year institutions can provide a better fit and increase satisfaction by developing programs that meet the needs of the students (Edens, 2012). Many two-year institutions must integrate the campus community through their academic experiences. Student retention is an important indicator of success for higher education institutions. Retention rates measure student persistence to certificate and degree completion. Students that do not persist to completion incur student debt that needs to be paid back. Institutions that lose students are impacted financially with lost tuition (Edens, 2012). For the purpose of this study, the National Student Clearinghouse Research Center (2017) definitions will be used for persistence and retention rates. Persistence rate is defined as the percentage of students who return to any institution for a succeeding year. Retention rate is defined as the percentage of students that return to the same institution for a subsequent year. The persistence rate for students beginning at a two-year public institution in the fall of 2015 was 62%, 49% returned to the same institution (National Student Clearinghouse Research Center, 2017). The retention rate for students at two-year institutions in 2014 was 61%: private for-profit was 66% while private nonprofit and public institutions were both 61%. Twenty-nine percent of first-time, full-time students entering a two-year institution to obtain a certificate or associate degree will complete it within 150% of normal time. This implies that students finished the two-year credential within three years. The breakdown between types of
institutions is as follows: public two-year 22%, private nonprofit 56%, and private for-profit 60% (National Center for Education Statistics, 2017). Retention matters as it is used as an accountability measure (Tinto, 2006).

Two-year institutions have students that generally are commuter students. Commuter students do not live in university-owned housing (National Association of Independent Colleges and Universities, 2017). These students spend limited time on campus with the majority of time spent on campus is in the classroom. The classroom environment is the center of academics and social integration. The quality of the educational experience affects academic integration, institutional commitment, and student persistence (Edens, 2012). Commuter students tend to be non-traditional students that can be lower income and working full time. Students need to feel that they fit in with the dominant culture at the institution. The institution’s culture should be inclusive. This is accomplished by accepting differences and celebrating diversity. It should not value or put a preference on one set of characteristics (Thomas, 2012).

The characteristics of non-traditional students that attend two-year institutions that are at risk for not persisting to completion are: delayed post-secondary enrollment, part-time status, working full or part time, underprepared academically, having children, single-parents, transportation issues, and financial issues (Saret, 2007). The demographics between for-profit private institutions in comparison to public and non-profit institutions vary slightly. The characteristics of for-profit students’ reveal that larger proportions are black or Hispanic, older students, women, and General Education Development GED holders (Arbeit & Horn, 2017). Table one demonstrates the demographic dynamics for for-profit students with public and non-profit students.
Table 1. Demographic Comparison between For-Profit and Public/Non-Profit Institutions

<table>
<thead>
<tr>
<th>2011-2012 Statistics</th>
<th>For-Profit Institutional Data</th>
<th>Public or Nonprofit Institutional Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>64%</td>
<td>55-57%</td>
</tr>
<tr>
<td>Age</td>
<td>Mean age: 27-32</td>
<td>Mean age: 26</td>
</tr>
<tr>
<td>Black</td>
<td>26%</td>
<td>16%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>29%</td>
<td>19%</td>
</tr>
<tr>
<td>White</td>
<td>39-51%</td>
<td>56-65%</td>
</tr>
<tr>
<td>Asian</td>
<td>2-3%</td>
<td>5-7%</td>
</tr>
<tr>
<td>Dependent Student</td>
<td>13-32%</td>
<td>40-67%</td>
</tr>
<tr>
<td>Single Parent</td>
<td>29%</td>
<td>14%</td>
</tr>
<tr>
<td>Parent with Higher Education Degree</td>
<td>23%</td>
<td>38-53%</td>
</tr>
<tr>
<td>Parent did not Graduate High School</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>Military</td>
<td>9%</td>
<td>4%</td>
</tr>
<tr>
<td>Have High School Diploma</td>
<td>75%</td>
<td>82-96%</td>
</tr>
<tr>
<td>Full Time Student</td>
<td>85%</td>
<td>40%</td>
</tr>
<tr>
<td>Receive Pell Grant</td>
<td>60-75%</td>
<td>38%</td>
</tr>
<tr>
<td>Receive Federal Loans</td>
<td>62-75%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Note. Adapted from “A Profile of the Enrollment Patterns and Demographic Characteristics of Undergraduates at For-Profit Institutions,” by C. A. Arbeit and L. Horn, 2017, National Center for Educational Statistics.

There is a gap in research involving two-year institutions with commuter students. Much of current research is conducted within four-year institutions with students that reside on campus.

Mentoring

Mentoring can be traced back to 725 BCE in the epic poem written by Homer The Odyssey. The fictional character Mentor was a friend of King Odysseus and the trusted guide to his son. The earliest emergence in the English language came in 1750 in pre-industrial England with apprenticeships and craftsmen. The industrial revolution ended the individual mentor relationships and was replaced by mass training (Nayab, 2011). Mentoring can be an important aspect for beginning professionals in service professions such as teaching, nursing, and career guidance. Four stages of mentoring have been identified: Homer, classical, Victorian, and modern. Homer mentoring stage is patriarchal and classical involves an older master directing a younger novice. Both are considered powerful mentoring the powerful. The Victorian stage helps
the disadvantaged and is considered powerful mentoring the weak. The modern stage involves the weak or inexperienced mentoring the weak (Colley, 2000). The modern stage of mentoring would be the category for peer mentoring with students mentoring students.

Mentoring in education traditionally involves faculty guiding students. Today peer mentoring is becoming more popular. Mentoring is commonly acknowledged as an approach to assist students with professional advancement and socialization into the culture of the higher education institution. Utilizing mentoring as a component for the professional-socialization methods will encourage students in the growth of their values, skills, knowledge, and attitudes that they require for their academic and professional vocation. In healthcare higher education settings, mentoring has been linked to thriving student experiences that lead to reaching best possible potential as healthcare providers (Pitney & Ehlers, 2004).

**Peer Mentoring**

Peer mentoring is connected to student satisfaction by helping students adapt to the culture of the institution. Peer mentoring is a way to help with social integration. Mentoring connects academic integration, social integration, and goal commitment. Too often new students feel a loss in social support and self-esteem. Peer mentors can give new students the social support in the new environment and boost self-esteem. This will help students adapt and integrate into the institution’s environment. Peer mentors become the integrating mediator by introducing new students to one another and putting them at ease within the social atmosphere of the institution. By providing support to new students, peer mentoring becomes a valuable retention strategy (Collings et al., 2014).

In an article investigating the relationship between higher education classrooms with student persistence and satisfaction, the authors looked at the classroom as a means to student
satisfaction and persistence. The classroom is the fundamental location of higher educational structure where academic and social integration takes place. There is a link between student involvement in classrooms, learning, and persistence. The classroom is the opening to student involvement both academically and socially. Student satisfaction with the learning experience in the classroom is an indicator of persistence. Students who feel that they fit into the culture of the institution will persist. Student expectations for peer involvement academically will contribute to satisfaction and persistence (Demaris & Kritsonis, 2008).

**Satisfaction Theories**

Student satisfaction has been defined as an immediate feeling ensuing from an appraisal of the student’s educational experience, institutional services, and institutional facilities. It is a sense of contentment in which requirements have been rewarded. Many aspects affect the progression of student satisfaction. These include personal aspects of age, gender, employment, preferred learning style, and GPA. There are also institutional aspects which include quality of instruction, promptness of feedback, and teaching style. Relations with other students, campus atmosphere, and social settings also affect student satisfaction (Weerasinghe, Lalitha, & Fernando, 2017).

Fees and loans have created an attitude of consumerism in higher education (Schertzer & Schertzer, 2004). The investment theory of student satisfaction identifies the perceptions of the student’s time, energy, and effort as an investment that they expect a return on. SERVQUAL, a questionnaire developed for the business community, was the thought process of this theory. Noel-Levitz designed the Student Satisfaction Index in 1994 to move the point of view from institutional to a student perspective. Items added for higher education include: faculty services, academic experiences, student support, campus life, and social integration. The Keaveney and
Young (1997) satisfaction model assesses how faculty services, advising staff, and class type influences the satisfaction of students. It was established that student positive experiences equate to higher level of satisfaction while negative experiences lead to lower satisfaction levels (Keaveney & Young, 1997). Figure one shows the connection between faculty, advising staff, and classes as they relate to the student’s college experience that will lead to satisfaction.

![Figure 1. Student Satisfaction and Retention Model (SSRM), (Keaveney & Young, 1997)](image)

Understanding faculty, helpful advising staff, and real-world relevance classes all lead to satisfaction with the college experience. The Happy-Productive theory has student satisfaction directed by the level of stress of the student. Satisfaction is higher when stress is lower. In 2002, a comprehensive student satisfaction inventory was developed addressing eleven dimensions and 116 indicators that measures student satisfaction. The Service Product Bundle was created in 2006 with twelve dimensions to measure satisfaction. Both inventories included academics,
campus environment, financial aid or tuition, student support, and student centeredness (Weerasinghe et al., 2017). Institutions must identify and meet the needs and expectations of students to retain them. Student satisfaction has a positive effect on retention (Schertzer & Schertzer, 2004). Institutions that can improve the satisfaction of their students can hope to improve student retention.

**Retention Theories**

Student satisfaction and retention theories have a connection in that satisfaction leads to persistence. Theories concerning student retention are many. Fifty years ago, student retention was a reflection on the student that lacked the attributes, skills, and motivation to remain in school. During the 1970’s this view began to change by identifying the role of the institution in the student’s decision to leave (Tinto, 2006).

In 1975, Vincent Tinto linked academic setting and social organization of the institution with student retention. This connection was called the Age of Involvement. This theory cited that involvement matters especially during the critical first year (Tinto, 2006). Retention efforts will fluctuate in dissimilar institutional settings. Non-residential or commuter students’ involvement at the institution will normally occur in the classroom. The classroom is the place where they meet other students and the faculty. A generally acknowledged idea is that faculty actions in the classroom are important to institutional efforts to improve retention (Tinto, 2006). Tinto’s theory dictated that students who socially integrate into the campus community increase their commitment to the institution and are more likely to complete their education to obtain either a degree or credential (Demetriou & Schmitz-Sciborski, 2011). Integration will occur when positive relationships are formed with the academic and social systems of the institution. This relationship is an important connection between the student and the institution. An absence of...
integration occurs when the student is substantially at odds with the institution with little to no social interaction (Wild & Ebbers, 2002).

Tinto acknowledged three stages for integration. The separation stage is when the student separates from the past communities. The transition stage occurs as the student is separated from the past but not yet connected to the norms and behaviors of the institution. The incorporation stage has the student adapting and adopting the dominant norms and behaviors of the institution. Academic and social integration is established when students believe that they are a part of the academic and social structures of the institution (Milen & Berger, 1997).

Alexander Astin’s model for student retention focuses on involvement rather than integration. Astin defines involvement as the extent of physical and psychological energy spent on the academic experience. The more a student is involved, the larger extent of student learning and personal development (Astin, 1984). Involvement is the drive the student commits to the academic experience. It is the amount of time spent on studying and participating in campus related activities (Saret, 2007). This involvement is evident in the interactions between students, their peers, and the faculty. The interaction occurs in the classroom along with activities related to the classroom such as completing assignments and class projects (Wild & Ebbers, 2002).

Astin identified five areas of involvement. Involvement is an outlay of physical and psychological energy. Involvement happens over a range of time with students outlaying different amounts of energy. Involvement has quantity and quality elements. Learning and personal development correlates to the quantity and quality elements of involvement. Increasing involvement is connected to the success of educational practices. Tinto also agrees that involvement plays a significant part for positive outcomes. Astin’s theory has students
effectively progressing from the transition stage to incorporation by involvement (Milem & Berger, 1997).

The motivational theories for retention are attribution, expectancy, expectancy-value, goal setting, self-efficacy beliefs, academic self-concepts, motivational orientations, and optimism. The attribution theory has emotions experienced in prior learning experiences influencing the choice of future activities. The expectancy theory has motivation stemming from perceived probability that the effort will result in performance while performance will result in a valued outcome. The expectancy-value theory has the ability beliefs with perceived difficulty of performance connected to individual goals. The value students place on their coursework will influence their decision to stay in school. The goal setting theory has individuals who set goals more likely to perform. Self-efficacy beliefs will have the student considering the idea that they can complete the performance for the desired outcome. Academic self-concept is the students’ view of their competence in academics. Motivational orientations will influence performance and desire to remain at the institution. Optimism will have students recognizing positive outcomes as obtainable with the motivation to put forth the effort to obtain goals (Demetriou & Schmitz-Sciborski, 2011).

Bean and Eaton’s retention model looks at academic/social self-efficacy as a means of increasing academic and social integration at the institution which leads to higher retention. Students need to believe that they are effective in their social environment, academically, and in charge of their own outcomes (Bean & Eaton, 2001). By fostering the self-efficacy of incoming students, an increase in confidence will likely enable them to integrate into the community of the institution (Demetriou & Schmitz-Sciborski, 2011). Structural balance theory is a combination of Tinto’s academic/social integration and Bean’s attitude linked with actions. Attitudes are
influenced by social integration (Eckles & Stradley, 2012). Academic integration includes academic ability, past experiences, and goal commitment. Social integration has peer and faculty support as the core of the social network. Attitudes are encompassed within intentions, institutional fit and commitment (Eckles & Stradley, 2012).

As different as the theories are from one another, the one constant is integration into the campus community and being involved as important aspects for student retention. Students need to be motivated to learn, involved in campus activities, and feel that they are a part of the culture of the institution to have a sense of satisfaction that leads to persistence. Mentoring is a way to connect motivation, involvement, and integration with the institution that will enhance satisfaction.

**Mentoring Theories**

Personal learning theory suggests that personal learning develops because of the mentor and mentees qualities. These qualities will encompass learning knowledge, skills, and abilities that enhance personal development. Personal learning involves developmental purposes that assist the learning of skills which involves role modeling and developing a relationship (Schunk & Mullen, 2013).

Collaborative mentoring theory highlights a paired mentoring affiliation or a network of mentors that share the responsibility in a learning partnership with the mentees. Kathy Kram identified four phases of mentoring: initiation, cultivation, separation, and redefinition (Kram, 1983). The mentor relationship theory developed by Kram identified the functions of mentoring as career and psychosocial. By differentiating the functions into career and psychosocial, mentoring is now separated from other learning exchanges. Career knowledge nurtures career development and advancement. This supports mentees with acquiring the organization’s rules
and culture. Psychosocial involves the psychological and social development for the mentee. It is more personal to boost self-efficacy and a sense of identity through emotional support. Mentors model, counsel, show acceptance, and provide validation to their mentee (Schunk & Mullen, 2013).

**Problem Statement**

Student retention and persistence continues to be a concern for two-year higher education institutions (National Center for Education Statistics, 2017). Student retention is an important indicator of success for higher education institutions. Retention rates measure student persistence to certificate and degree completion (Edens, 2012). Student satisfaction is an essential factor in student retention. The students who are satisfied with their educational experiences will continue to graduation (Edens, 2012). The National Student Satisfaction and Priority Report (Ruffalo Noel Levitz, 2017a) identified that students at two-year institutions and career schools reported 64% and 66% satisfied overall with their institution. Figure two displays the overall satisfaction of students from various types of higher education. Students were least satisfied at 53% with four-year public schools while online learners have the highest percentage of satisfaction at 74%. The purpose of this research was to determine whether peer mentoring in a two-year higher education institution would improve student satisfaction with the institution. There is a gap in research where it concerns student satisfaction and peer mentoring with two-year higher education institutions.
This research study will be an attempt to examine the effect that student peer mentoring interventions with first-term students at a two-year private health education institution will have on student satisfaction perceptions of the institution. Much of current research is conducted within four-year institutions with students that reside on campus.

**Conceptual Framework**

The conceptual framework designed for this research study from the literature review is diagrammed in figure three.

**Figure 2.** Satisfaction Percentages (Ruffalo Noel Levitz, 2017a)

**Figure 3.** Conceptual Framework
Satisfaction is affected by institutional attributes such as relationships with other students and personal attributes such as program of study, education level, gender, race, and age (Weerasinghe et al., 2017). The base theories for this study include Tinto’s theory of integration and Astin’s theory of involvement. Tinto’s theory of integration is an important component of the conceptual framework. Social and academic integration into the campus community will enhance positive relationships. This integration occurs in the classroom of two-year institutions (Tinto, 2006). Astin’s model for retention that regards involvement as an essential element is the second component of the conceptual framework. Involvement can be found in the interaction between students and their peers. This involvement also occurs in the classroom for two-year institutions (Wild & Ebbers, 2002). The ATA Student Satisfaction survey will attempt to measure the satisfaction of students in the areas of teaching environment and resources, faculty and staff, and the student’s general day to day experiences, and the student’s overall satisfaction with the institution.

Peer mentoring will help students navigate the three stages of integration that Tinto identified – separation, transition, and incorporation. Peer mentoring enhances the involvement aspect that Astin described to be important – the outlay of physical and psychological energy. Institutions that can meet the integration and involvement needs of the students will lead to higher levels of satisfaction. Peer mentoring is an intervention that can connect integration, involvement, and satisfaction. The personal attributes of the students: program of study (allied health or nursing), education status (high school diploma or general education development), gender (female or male), race (white and other), and age are other factors that may influence satisfaction.
Research Questions

After reviewing the literature, the following research question was examined:

Did the addition of a peer mentoring intervention program for first-term students increase student satisfaction with the institution? The following sub-questions led to the answer:

- Does peer mentored students’ perception of satisfaction with the institution significantly increase from the beginning to end of the term?
- Do peer mentored students, compared with students with no peer mentor, differ significantly in perceptions of satisfaction with the institution at the end of their first term (post-test) after controlling for beginning of term satisfaction perceptions (pre-test)?
- Was the level of student satisfaction for the institution explained by group, program of study, education status, gender, race, and age?

Significance

The significance of this study is first in practice. The results may add insight into peer mentoring programs that can be implemented to raise the success level of first-term students. The study provides theory with the other areas of higher education that mainly involves students that do not live on campus and therefore need to integrate socially by other means. Policy is affected on a school level with possibilities of new guidelines being adopted to promote peer mentoring programs and social integration.

Definition of Terms

Commuter students are students not living in university-owned housing (National Association of Independent Colleges and Universities, 2017).
**Community Colleges** are funded largely by their local and state jurisdiction, and offering career training, two-year associate degree programs, and the first two years of a bachelor degree programs (though some also offer four-year degree programs) (National Association of Independent Colleges and Universities, 2017).

**Mentoring** can be defined as interactions between more experienced mentors and less experienced mentees to promote a positive experience and cultural integration within the organization (Schunk & Mullen, 2013).

**Non-traditional students** have at least one or more of the following characteristics: does not enter postsecondary enrollment in the same year that he or she completed high school, attends part-time for at least part of the academic year, works full time, and is twenty-five years of age or older (Saret, 2007).

**Peer mentoring** is a one-to-one supportive relationship between the student and another person (e.g. older student) of greater ability and experience (Terrion & Leonard, 2007).

**Persistence** of students are the students who return to any institution for their second year (National Student Clearinghouse Research Center, 2017).

**Retention** of students are the students that return to the same institution for their second year (National Student Clearinghouse Research Center, 2017).

**Student perceptions** are the insights and opinions that a student has about an issue (Ruffalo Noel Levitz, 2017a).

**Student satisfaction** is how pleased students are with the institution as well as what issues are important to them (Ruffalo Noel Levitz, 2017a).
**Traditional students** enroll in college immediately after graduation from high school and pursue college studies on a continuous full-time basis at least during the fall and spring semesters (Thomas, 2012).

**Two-year private nonprofit institutions** are independent institutions, governed by its own board of directors (National Association of Independent Colleges and Universities, 2017).

**Two-year private for-profit institutions** are proprietary institutions that often specialize in career and job-related training and generate profits for their owners (National Association of Independent Colleges and Universities, 2017).

Institutions of higher education are being held accountable for retaining their students. Interventions need to be implemented to increase retention rates. Satisfied students are more likely to persist to graduation. Peer mentoring can be linked to higher levels of student satisfaction which in turn will lead to better retention rates for higher education institutions.
CHAPTER TWO
LITERATURE REVIEW

The literature review will examine the connection between mentoring/peer mentoring and student satisfaction with student retention. The importance of student satisfaction will be examined in relation to persistence. The review will look at mentoring benefits, the advantages of peer mentoring, and finish with peer mentoring in health education programs.

Contributing Factors to Student Persistence

Community colleges, for-profit institutions and other two-year educational experiences have unique circumstances that create a different set of factors from the traditional four-year experience. There are academic and non-academic factors that pertain to persistence. Academic factors account for 20% – 30% of lack of persistence while 70% – 80% are non-academic (Saret, 2007). Non-academic factors include general self-concept, institutional commitment, social support and social involvement. Academic integration occurs when a solid connection is made with the institution’s academic setting both in and out of the classroom. This involves interaction with faculty, classmates, and staff. The probability of persistence strengthens when academic and social integration takes place (Lotkowski, Robbins, & Noeth, 2004).

Students spend less time on campus with most of that time being in the classroom. Social integration into the institution will occur in the classroom. With the limited time on campus, supplementary assistance with the library, computer labs, and tutoring need to be available that
fit the schedule of the students. Services should be accessible without imposing added time demands (Edens, 2012).

**Institutional Factors**

Retention factors differ in different institutional settings. The non-residential setting of most two-year institutions has the classroom as the place for social integration (Edens, 2012). Courses and programs that incorporate mentoring and support groups into the classroom blueprint improve student involvement, motivation, and academic self-confidence (Lotkowski et al., 2004). Faculty interactions in the classroom are fundamental to institutional endeavors to improve retention (Tinto, 2006). The relationship between students and faculty is the key to a positive attitude towards learning and coping with academic struggles. The institution’s culture must be inclusive with the acceptance of differences without the creation of ranking one over the other. Students from diverse backgrounds will feel a greater acceptance when diversity is valued (Thomas, 2012).

Student retention is used as an accountability measurement which makes institutional actions with the need to know what to do to help students stay and succeed in school imperative for the institution’s success (Tinto, 2006). Two-year institutions are required to be nationally or regionally accredited. Accreditation standards and reporting guidelines help to inform the community on accountability efforts. Accrediting bodies concentrate on student focused approaches for improvements in regard to retention. Student satisfaction surveys are used to create and enhance programs and services to meet the needs of the students. These enhancements will generate a stronger learning community with a better fit for the students that will increase student satisfaction and persistence (Edens, 2012).
An institution can provide multiple programs to enhance retention. Academic programs include faculty-student mentoring, peer tutoring, academic counseling, and advising programs. Non-academic programs that can be implemented to improve retention are new student orientation, first year seminars, social support groups, and student organizations (Lotkowski et al., 2004).

**Student Factors**

Students are influenced by external factors from their personal lives that can influence their decision to persist in school. For many students it is essential to stay connected to their past communities for persistence while others require developing new communities within the institution. The research has shown that learning communities within the institution has an impact on student retention (Tinto, 2006). Students at risk feel that they do not fit in, are being rejected, and feel that they do not belong - disconnected. Disconnected students need to cultivate a sense of belonging. Factors that lead to a disconnection are: part-time students, full-time working students, and students with family responsibilities (O’Keefe, 2013). Students that believe that they fit into the learning community despite their social, cultural, or academic differences are more likely to persist (Thomas, 2012). Students will persist regardless of poor academics because of their successful social integration and feeling that they belong and are part of the school, they feel that they matter (Lotkowski et al., 2004). Student retention tactics concentrate on keeping students satisfied with their educational experiences (Elliott, 2002).

**Student Satisfaction**

Student satisfaction can be measured by how pleased students are with the institution as well as what issues are important to them (Ruffalo Noel Levitz, 2017a). The literature was able
to show that there is a correlation between student satisfaction and persistence. Educational experiences and cohorts or learning communities were important indicators of student satisfaction.

**Educational Experiences**

A quantitative study discovered that experience-based satisfaction, fulfillment of expectations, and the difference from ideal were the most determining factors in student satisfaction. A questionnaire was given to a probability sample at a Danish University. The reliability of the questionnaire was determined by using Cronbach Alpha which found that five of the seven constructs had a reliability higher than .70. The two constructs lower than the required .70 for Cronbach used the measure suggested by Coulston of .50 since the scale consisted of three or four items. The probability sample consisted of 1030 participants (Shahsavar & Sudzina, 2017).

Satisfaction happens in higher education when perceived performance meets or exceeds the students’ expectations. Satisfaction is being designed constantly by continual happenings that occur at the institution. Factors that been shown to influence satisfaction are academic support and student advisement services. Academic support and advisement are services that help students to be successful which then increases satisfaction (Shahsavar & Sudzina, 2017).

Another quantitative survey research was performed with 13,000 undergraduate students in their first year and final year using a stratified random sampling from several higher education institutions in Portugal. The study was looking at the factors considered important and necessary for student success. The survey included demographic information, expectations, satisfaction, and importance in the following areas: academics, academic support, personal growth,
institutional processes, financial support, and overall perceptions. The findings discovered that students enter higher education institutions to prepare for a career and chose the institution with the best program. The study was able to show perceptions of students from an importance and satisfaction perspective as it relates to the college experience. Using these findings, higher education institutions can apply approaches to improve student satisfaction related to current issues identified by students (De Lourdes Machado et al., 2011).

A quasi-experimental research was conducted to determine if a higher level of involvement both academic and co-curricular have an impact on perceived student satisfaction. The study was conducted at one research-extensive Mid-Atlantic institution. The National Survey of Student Engagement [NSSE] was the instrument chosen to assess engagement and satisfaction. The NSSE was chosen as it has high reliability and validity (Webber, Krylow, & Zhang, 2013).

The authors discovered that higher levels of interaction contributed to higher levels of perceived satisfaction to the entire academic experience. Students that felt that the institution emphasized nonacademic support and interaction along with students that participated in community service activities were more likely to have a higher level of satisfaction. Activities that create interaction with faculty and peers lead to learning to work well with others and more excitement to the overall experience. There was a difference in time spent on academic activities which correlated with satisfaction with full-time versus part-time students. Full-time students reported spending an increased time with higher satisfaction than part-time students. The unique needs of part-time students may be a contributing factor such as employment or parenting. The main limitation to this study would be the low external validity in that the results cannot be generalized to a larger population. A secondary limitation is the proportion of full-time students
being greater than the part time student respondents. Additional research could be conducted to evaluate class level, gender, and race to examine differences to establish preferences that will lead to beneficial interactions for satisfaction (Webber et al., 2013).

A quasi-experimental research study was conducted using a convenience sample of students from a Midwest university to examine various aspects of the educational experience that impacts student satisfaction. The authors identified a connection between recruitment and retention of students. There are important considerations that need to be addressed on how to attract students and then retain students. The Student Satisfaction Inventory from USA Group Noel-Levitz was used which has a high internal reliability of Cronbach’s alpha .97. The responses were created on a 7-point Likert scale with one being not at all satisfied to seven being very satisfied (Elliott & Healy, 2001). Table two is the synopsis of mean scores concerning the level of satisfaction that were obtained during the research.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean Score</th>
<th>Scale</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Advising</td>
<td>4.87</td>
<td>Campus Life</td>
<td>4.45</td>
</tr>
<tr>
<td>Instructional Effectiveness</td>
<td>4.85</td>
<td>Registration Effectiveness</td>
<td>4.44</td>
</tr>
<tr>
<td>Campus Services</td>
<td>4.76</td>
<td>Recruitment/Financial Aid</td>
<td>4.43</td>
</tr>
<tr>
<td>Student Centeredness</td>
<td>4.6</td>
<td>Service Excellence</td>
<td>4.42</td>
</tr>
<tr>
<td>Campus Climate</td>
<td>4.55</td>
<td>Safety and Security</td>
<td>4.24</td>
</tr>
<tr>
<td>Concern for Individual</td>
<td>4.45</td>
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Students had a higher level of satisfaction for academic advising, institutional effectiveness, and campus services than they did for safety and security. A multiple regression was then conducted to evaluate predictors for student satisfaction. Student centeredness (Beta = -.35648, p < .000) was a strong predictor. Campus climate (Beta = -.26200, p < .01) and Institutional effectiveness
(Beta = -.22268, p < .000) were also significant predictors for satisfaction. The implications that surfaced from the findings included the importance of identifying important educational aspects for recruitment purposes, determining the factors that contribute to the highest level of student satisfaction for retention purposes, and being able to emphasize these aspects of educational experiences for recruitment and retention strategies. The limitations noted were the many factors not addressed in the study that could have an influence on both recruitment and retention such as prestige of the institution and tuition (Elliott & Healy, 2001).

Research was conducted with a convenience sample of 1,805 freshmen, sophomore, junior, and senior students utilizing the Noel Levitz Student Satisfaction Inventory. The researcher used a three-step testing procedure to analyze data: mean scores, stepwise regression for all eleven dimensions of the survey, and a stepwise regression for the two dimensions that had the strongest influence on student satisfaction (Elliott, 2002).

Student centeredness (Beta = .48, p < .0000) and instructional effectiveness (Beta = .23, p < .0000) were the strong, significant predictors of student satisfaction. Vital elements of student satisfaction include a student’s sense of belonging, providing a quality education, wanting to feel important to the institution, and experiencing intellectual growth. A dimension not to be discounted is making the college experience enjoyable to the student. Appreciating classroom activities and being involved in various social events on campus should lead to a higher level of satisfaction with the institution. Students want to be the center of attention with the institution. Further research would help in understanding all the associated problems that impact student satisfaction and resulting student retention (Elliott, 2002).

A qualitative research study engaging focus groups was conducted to establish ways in which student services can be centralized to provide better access to students. Student services
can play a significant role in the level of student satisfaction. A stratified sampling technique was done to maximize the range of diversity of the students. Data were collected by having ten students per focus group answering seven unstructured open-ended questions and completing a short questionnaire. The results proved that students would value a centrally localized area for student services. This could ensure consistent equity of access that could help increase engagement, retention, and satisfaction of educational experiences. Limitations noted were the small number of students to participate in comparison to the overall population of the institution which could lead to the views not being that of the whole institution (Buultjens & Robinson, 2011).

A correlational ex post facto research design study was conducted to explore the association between student satisfaction and retention in online for-profit undergraduate programs. The authors used the Priorities Survey for Online Learners [PSOL] as the measurement instrument. The PSOL has been determined to be reliable with a Cronbach alpha of 0.77. All enrolled students at The Online Institute were invited to participate, 3302 students responded. After screening the data, 2729 student responses were included in the study. The results determined that there was no significant correlation between retention status and the survey items. It did show that if a student was satisfied or dissatisfied with one area, they were more likely satisfied or dissatisfied with the other areas. There were three items on the PSOL that indicated as statistically significant predictors of student retention: clear and reasonable program requirements, student to student collaborations, and adequate frequency of student instructor interactions. Clear and reasonable program requirements: for each one-unit increase in satisfaction increased student’s chances of retention by 15.7%, p = .021. Student to student collaborations: for each one-unit increase in satisfaction decreased the student’s chances of
retention by 12%, p = .015. Adequate student/instructor interaction: for each one-unit increase in satisfaction increased the student chances of retention by 14.7%, p = .040. The predictor of student to student collaboration being detrimental to retention was not surprising as this study was conducted with online students only where peer collaborations are not as meaningful (Page & Kulick, 2016).

Limitations of the study begin with the population that completed the survey which may not accurately represent the population. There was not a section to collect demographic data to assess the population completing the survey. Another limitation is the effectiveness of the survey and if students were honest with their answers. It was noted that student satisfaction made up a small segment of the disparity in retention. The external validity was low and the results cannot be generalized to other populations as the study was conducted at one institution (Page & Kulick, 2016).

A correlational research design study was conducted to determine the contribution of student satisfaction scale scores to see if students would choose the same institution again and to determine the predictive ability of student satisfaction to persistence. It was predicted that higher satisfaction scores are associated with increased institutional commitment and higher academic achievement. Also, higher satisfaction is predictive of student persistence (Schreiner & Nelson, 2013).

The Student Satisfaction Inventory [SSI] was used by obtaining data from sixty-one private and public four-year institutions. The sample size consisted of 29,383 students with equal numbers of class levels, approximately two thirds female, half live on campus, and the age of traditional college students. A hierarchical multiple regression analysis was run to examine the influence of satisfaction levels on the intent to reenroll. A logistic regression analysis was done
to determine the predictive ability of the scores when applied to the student’s enrollment status for the following year. The dependent variable for the hierarchical regression was the student’s intent to reenroll. The dependent variable for the logistical regression was the enrollment status for the following year. Independent variables were student demographics, institutional features, and satisfaction scales. Data were collected from the online administration of the SSI. The SSI is a 79-item inventory of importance to meet student expectations and has satisfaction been met on a 7-point Likert scale. The SSI has a high internal consistency with a coefficient alpha reliability estimate of $\alpha = .98$ for both importance and satisfaction. A three-week test-retest reliability was $r=.87$ (Schreiner & Nelson, 2013).

The results of the hierarchical regression had demographic characteristics accounting for between 8% and 10% of the variance of intent to reenroll. Institutional features accounted for 1% or less of the variance of intent to reenroll. Satisfaction scores accounted for between 35% and 37% of the variance of intent to reenroll. The logistical regression determined that the likelihood of persistence was the same for association with GPA, selectivity of institution, and satisfaction with campus climate. This equates to for each one-unit increase in satisfaction with campus climate, the student’s odds of persistence is between 46% and 64% depending on class level. It was concluded that students’ satisfaction with their institution is what essentially defines their decision to reenroll. Satisfaction levels have a greater influence than student demographics and institutional features on the variance (Schreiner & Nelson, 2013).

The limitations noted with the research are the sample size could not be generalized to other populations along with the SSI used for two-year institutions are different which could lead to different results. Important implications for policy included: regular assessment provide information about student retention and policies can be examined for the impact it has on student
success and satisfaction. Implications for practice has the institution nurturing a sense of community for first year students and creating chances for students to become involved in campus activities (Schreiner & Nelson, 2013).

**Cohorts/Learning Communities**

A quantitative research study was conducted to examine the differences in student satisfaction and engagement between cohort programs and traditional or non-cohort programs by investigating the effect of close bonds between students. Cohorts are a group of students that begin a program of study together and end at the same time. The independent variable, close bonds, was measured using eight components: social interaction and interdependence; developing a common purpose; group and individual learning; cohesiveness; facilitation of collaboration and field experiences; academic performance; interaction with faculty; student retention. The dependent variables are student engagement and student satisfaction. Three statistical measures were employed: t-test, correlations, and regression analysis. The t-test was used to determine a difference in means between the groups for the close bond scale. Correlations were used between close bonds, student engagement, and student satisfaction. The regression analysis examined the predictor factors of close bonds, student engagement, and student satisfaction (Martin, Goldwasser, & Galentino, 2016).

The t-test could show a significant difference between the close bonds developed by cohort students and non-cohort students, $\alpha=.05$ ($p<.033$). The null hypothesis was rejected that there was no difference between close bonds of cohorts and non-cohorts. Correlation between close bonds was strong with student engagement [$r (93) =.50$, $p<.001$] and medium with student satisfaction [$r (89) =.411$, $p<.001$]. This was also significantly significant to reject null...
hypothesis. The regression analysis determined the predictive relationship between close bonds, student engagement, and student satisfaction. For every one-unit increase in close bonds will be a .334-unit increase in student engagement which is statistically significant \((p<.001)\). For every one-unit increase in close bonds there will be a .308 increase in student satisfaction, also statistically significant \((p<.001)\). Close bonds can be used to predict both student engagement and student satisfaction. Limitations of the research included: how the survey was administered, and results can be generalized only to master’s level students. Further research is needed to determine how the bonds are formed between students (Martin et al., 2016).

Health Education

A workshop research study was performed to evaluate student perceptions on receiving early support for health science academics. Many students entering health education programs are lacking in study skills or may have been out of the classroom for many years. Health education students often start their programs without previous understandings of science. This lack of study skills and knowledge leads to a risk for negative educational outcome and a greater risk for student attrition. An important determinant for providing early support to students is their perceptions of not being prepared for the science courses (Thalluri, 2016).

105 students were registered in the workshop with 78 or 74% participating in the survey. The study consisted of a pre-workshop, post-workshop, and after first semester surveys. Prior to the workshop 44% of the students were apprehensive in starting the program, after 95% were feeling positive to the start of academics. The most prevalent purpose that students entered the workshop was to increase basic knowledge of science. Medical terminology was the most useful subject in both the pre-workshop survey and post-workshop survey. 97% of the participants
agreed that it was useful and would recommend to others to participate in the workshop. After receiving early support there has been an increase in reported positive experience (Thalluri, 2016).

Research has found that satisfaction has a connection to involvement, interaction, and retention. The literature was able to determine that satisfaction is met when expectations are met (Shahsavar & Sudzina, 2017); student satisfaction is essential for retention (De Lourdes Machado, 2011); higher levels of interaction lead to higher levels of satisfaction (Webber et al., 2013); student-centeredness and instructional effectiveness have been shown to be important for establishing student satisfaction (Elliott & Healy, 2001); creating close bonds increase student engagement and satisfaction (Martin et al., 2016); and satisfaction increased with an early intervention program (Thalluri, 2016). The research conducted was predominantly at four-year institutions. There is a gap in research at two-year higher education institutions with non-traditional students.

**Mentoring**

Research conducted on mentoring has found that effective mentoring has many benefits. Some of these benefits include: self-directing methods for establishing goals, being able to develop tactics for obtaining goals, managing time, and increasing self-confidence. A research study among 440 hospital workers discovered that the mentees recounted better interpersonal career knowledge than the non-mentored with the role modeling task as being considerably constructive to personal skill development. A regression analysis confirmed that personal skill development mediated the correlation between role modeling and job satisfaction. Mentees that
experience role modeling have a better chance of learning self-directed methods that will lead to job satisfaction (Schunk & Mullen, 2013).

Research has found that the mentoring rapport changes during the relationship. There have been four distinct stages to mentoring identified: initiation, cultivation, separation, and redefinition. Initiation is the stage where the mentor and mentee begin to establish a connection by getting to know each other and explaining expectations. Cultivation is the main period of mentoring in that the career and psychosocial aspects are carried out. The mentee expands their education while the mentor profits from the satisfaction of transferring the information. The mentees gain independence as knowledge grows which lessens the connection during the separation phase. The final phase of redefinition is when the mentor and mentee develop a new relationship of colleagues and friends (Schunk & Mullen, 2013). Interviews with 18 pairs of mentor/mentees were used by researchers during the study. During the initiation stage mentees felt supported and respected by the mentors while the mentors saw their mentees as having potential. Throughout the cultivation stage, the mentors were satisfied that the mentees were being positively inspired. The mentees considered the mentors as role models. The career function of mentoring was being taken care of as the mentees confidence grew in their capability of successfully understanding and maneuvering through the organization. The psychosocial function appeared in the form of counseling and problem solving. The majority of the mentees had the self-reliance and independence to separate from the mentors. The mentors described a feeling of loss along with gratification and fulfillment. Of the 18 pairs, eight experienced redefinition. Research has confirmed the division between career and psychosocial purposes regarding their significance to positive mentoring relationships with desirable mentee outcomes (Schunk & Mullen, 2013).
The conclusions with most of the mentoring research conducted are faltering since the majority of the studies depend on self-reported data such as surveys and interviews. The research provides correlational data that will provide a connection to each other but will not establish a causal link. There is an absence of real time assessments such as observations. Studies also do not track participants over time to observe a change in behavior during the mentoring process (Schunk & Mullen, 2013).

A meta-analysis research study quantitatively reviewed three types of mentoring research: youth, academic, and workplace. The authors explained how they searched for data along with the criteria established to use for the research project. They used two of the authors to screen the articles and two authors code the articles prior to choosing. Limitations would be that it does not have explicit evidence that mentoring causes positive outcomes. The studies used were generally non-experimental, so the useful implications are not known if the connection between mentoring and outcomes reveal causal effect of mentoring (Eby, Allen, Evans, Ng, & DuBois, 2008).

Results could show that mentoring is linked to a wide variety of positive behavioral, attitudinal, health related, relational, motivational, and career outcomes. The largest effect size was between mentoring and helping others, school attitudes, and career attitudes. A medium effect was between academic mentoring and school attitudes. The academic mentoring has a stronger connection to the outcomes than youth and workplace. Further research was noted to explore the connection between mentoring and helping others. It would also benefit research to examine the correlation with academic mentoring and career attitudes. The studies used a presence or absence of a mentor. Other ways to examine could be amount of time, relationship length, or relationship quality (Eby et al., 2008).
Peer Mentoring

Peer mentoring in education is defined as an experienced student providing direction and support to a less experienced student to empower them to traverse through their educational journey. An effective mentoring mediation improves retention, academic success, and the overall educational experience (Terrion & Leonard, 2007).

The mentor relationship theory can be applied to student peer mentoring. The peer mentor model has the mentor serving the functions that are career and psychosocial related. Career or task related function includes information and advisement. The psychosocial function is emotional support (Terrion & Leonard, 2007).

A literature review conducted using fifty-four articles that met the specific criteria with an inter-rater reliability lists the different characteristics found to be important for peer mentoring. There were two characteristics cited serving the career related functions: program of study and self-enhancement motivation. Thirteen percent cited that the relationship was affected by whether the same program of study was shared with greater satisfaction. Mentees tend to look for others with expertise in their field. Five and a half percent reported that mentors who are motivated due to the self enhancement factor will provide better career related support. Characteristics of psychosocial function along with the percent cited include: communication skills (over 35%), supportiveness (30%), trustworthiness (30%), interdependent attitudes (24%), empathy (24%), personality match (15%), enthusiasm (13%), and flexibility (11%).

Communication skills, supportiveness, and trustworthiness had the highest percentage of importance of all the characteristics. Effective communication skills with the ability to listen and understand, creating a supportive environment that reduces stress and anxiety, along with having a stable relationship seem to be more important than the career related functions. Further
research is indicated to look into the behavioral indicators of the above characteristics: what they look like, are they learned or innate, and how can they be taught to mentors. Limitations mentioned were that the literature reviewed was from North American studies. Transferring the characteristics to other cultures may not translate outside of North America (Terrion & Leonard, 2007).

Another correlational research study was conducted to find the influence of mentoring in the community college. This was a study of relevance since most studies have been with four-year institutions. However, the researcher selected classes that typically have students transferring to four-year institutions. The students in the classes completed surveys that based on prior research have been documented for validity and reliability. The study used a structural equation model (SEM). The sampling size of 320 participants surpassed the recommended number of 150 for a SEM analysis. The participants closely paralleled the demographics as well. The results of the survey showed a positive influence of mentoring on the students’ ability to integrate both academically and socially which leads to higher persistence in college. The findings indicated gender differences in perceptions of mentoring and full-time students more likely to persist than part-time. Both findings require further research (Crisp, 2010).

A quasi-experiment research study was conducted between two universities, one with peer mentoring and the other without peer mentoring. The universities were matched by comparing their withdrawal numbers and the type of university. The students that were selected were chosen by attendance to the welcome week. The researcher felt the sample was robust and unbiased since less than five percent chose not to take part in the study. The questionnaires utilized for the study were valid and reliable tools that have been verified. The results of the study appear to be that peer mentoring is beneficial for integration and persistence. Further
research was recommended to establish student’s pre-university baseline measurements for social support. This may help to develop comprehensive peer mentoring and student retention programs to reach students prior to the start of school. One of the limitations to the study is the inconsistency of the peer mentor commitment (Collings et al., 2014).

A three-year multiple case study mixed methods approach into peer mentoring conducted at six higher education institutions in Norway and the United Kingdom found evidence that peer mentoring has positive benefits. Two surveys were administered, one at the beginning and a follow-up. The quality, validity, and reliability of the surveys were not mentioned. There were no indications on who developed the pilot survey and that the follow-up was developed by the findings of the pilot. The largest part of the study was the qualitative interviews and focus groups that were recorded, transcribed, and coded (Andrews & Clark, 2011). Transitional peer mentoring provides students with a sense of belonging – the students’ main concern during the transition into the university. Following the transitional period, peer mentoring helps academically. The use of more experienced students guiding and advising newer students does much to promote independent learning. A new approach to peer mentoring has been developed and recommended for higher education institutions based upon the study’s findings. The Transition+ Peer Mentoring program provides a social support for students during transition to the university, evolves and develops students academically, and creates longer-term support needs for students. A challenge noted was communication issues. However, the challenges of peer mentoring are outweighed by the benefits. The research findings indicated that seventy-five percent of students surveyed agreed that peer mentoring helped them feel a part of the university. Research supports and shows how important a sense of belonging is in making students feel a part of the university. Around 70% agreed or strongly agreed that participation in peer mentoring
helped to make the most of academic opportunities available. The survey revealed that participation in peer mentoring encourages new students to make the most of support offered by student services (Andrews & Clark, 2011).

A limitation of the study was noted that it did not summarize the challenges of peer mentoring from the institution’s perspective. The study did reveal the value of peer mentoring in promoting the transition into the university along with affording the student a firm base to build their university career. Further research could be to look at the issues of peer mentoring from the institutions point of view to identify, analyze, and solve those problems (Andrews & Clark, 2011).

A quasi-experimental research design study was completed for a master’s theses. The study was conducted to see the effects of peer mentors on first year student’s knowledge of campus resources and GPA. The researcher used a priori power analysis to determine the number of participants to have a sufficient power which was 98. The total number of participants ended up at 91, under the recommended minimum due to many factors. Survey questions were developed by the peer mentors and pretested with the test-retest reliability. The results of the study did not fully support the researcher’s hypothesis that peer mentors would have an effect on knowledge of campus resources and GPA. The research did find that first-year students that did participate felt that the peer mentor experience was positive. Peer mentors were effective in providing information that was relevant to first-year students and that they helped them succeed in their first year of school. Many limitations were noted which included: control group not included for a baseline on campus resource knowledge, lack of random assignment, and lack of forethought regarding factors such as age requirements, faculty consent to participate, and attrition that led to sample size being too small to maintain statistical power. Further research
noted would be to measure time peer mentors were given in class to spend with first-year students (Casey, 2013).

A qualitative research study was conducted to research the area of peer mentoring relationships in higher education. The researchers used multiple data triangulations to increase the validity of the study. The sample size was appropriate for a qualitative study. Data came from researcher participant observations, field notes, mentor weekly reflections, and interviews. The findings led to three areas of significance for mentoring, which included roles, benefits, and risks. The study identified five roles of the peer mentor: connecting link, peer leader, learning coach, student advocate, and trusted friend. The benefits stretched from individual gains to connecting students to the campus. There was an agreement for students and mentors that a mentor led to doing better in school. Risks or challenges were mainly from the irregular use of mentors in the classroom. The hierarchical nature of the student mentor relationship can create misunderstandings or the misuse of power. Future research in areas of gender perceptions as females form relationships and males look at the academics and in the area of the amount of time spent with mentor all need to be examined (Colvin & Ashman, 2010).

**Mentoring/Peer Mentoring in Health Education**

Mentoring in education many times involves faculty and student. A qualitative grounded theory study was conducted with athletic training students being mentored by clinical instructors to provide an insight on the mentoring experience. Sixteen participants from twenty-one rural and metropolitan institutions were purposefully selected based on theoretical sampling and availability. The data were collected by interviews. Trustworthiness was determined by triangulation by peer reviews, member checks, and data sources. Results found that interpersonal
relationships along with educational needs were formed by meeting mentoring prerequisites. Prerequisites for mentoring include accessibility, approachability, and initiative of the mentee. The limitations of this study found that it might not be generalized to all types of contexts as the sample was homogenous (Pitney & Ehlers, 2004).

A study was conducted to evaluate the effectiveness of a peer-assisted study session (PASS) for health science paramedic students at a four-year institution. Two separate cohorts of students were surveyed during the study during the first semester of their first year in the program. Mentors and mentees completed surveys in regard to their experiences in the program using a survey with a Likert scale of five. Mentees responded that the PASS program enabled a superior awareness of the subject being taught and assisted new ways to manage studies (median=5, \( p < 0.001 \)). Mentors developed oral communication skills, understanding of subject, and higher confidence (median=4, \( p < 0.05 \)). There were no reliability and validity information given on the survey. A limitation noted that there was no indication on the level of knowledge the first-year students had before the study. Both groups viewed PASS favorably (Hryciw, Tangalakis, Supple, & Best, 2013).

The literature has shown that peer mentoring can be beneficial to first-year college students. In a correlation study, using volunteer nursing students rating a newly implemented retention program, found the overall results were positive. Of the 218 nursing students, 137 participated. The study examined the retention program which consisted of seven program services: comprehensive orientation, learning communities, individualized academic plans, community nurse mentoring, counseling, peer tutoring, and career counseling. Students that have completed and graduated from the program completed a survey that was developed by program staff to assess individual services and the program as a whole (Fontaine, 2014). It was not
mentioned if the survey had been validated which makes reliability questionable. The author did mention that a limitation of the study was that perceived helpfulness of services was not added to the survey. Also mentioned was further research should be done to establish how to organize retention activities to achieve the greatest results. It was interesting to see that the peer tutoring program had the highest mean satisfaction in comparison to the other services (Fontaine, 2014).

The summary of findings indicates that mentoring/peer mentoring programs lead to positive relationships (Eby et al., 2008, Crisp, 2010, Casey, 2013). Mentoring/peer mentoring is beneficial for integration and persistence (Crisp, 2010, Collings et al., 2016). The results were able to link student satisfaction to mentoring/peer mentoring programs (Schunk & Mullen, 2013, Fontaine, 2014). Peer mentoring has a positive influence on student satisfaction and should be further studied.

Is there a relationship between student satisfaction and peer mentoring at two-year higher education institutions? The literature reviewed is pointing to a link connecting student satisfaction with peer mentoring to increase retention. Student satisfaction with the institution leads to a higher rate of persistence. Peer mentoring can result in higher levels of student satisfaction and help to create learning communities within the institution. Much of the research, however, has been focusing on four-year institutions with traditional students. Research is needed for two-year institutions with non-traditional students regarding student satisfaction and peer mentoring. The gap in literature for two-year commuter higher education institutions is apparent in that much of the research focused on four-year residential universities.
CHAPTER THREE

METHODS

In the previous chapter, a synthesis of literature was compiled on student satisfaction and mentoring. The previous studies have indicated that peer mentoring had a positive impact on student satisfaction. This chapter will detail the approach and design of the study.

Research Design

The research design for this study was quasi-experimental utilizing a pretest/posttest strategy. Creswell (2015) identifies that an experimental approach to research hopes to establish if a specific treatment effects an outcome. The treatment should be afforded to one group and held back from another group. The quasi-experiment was appropriate since the participants were not randomly assigned, there were two groups to compare, there was one intervention, and two observations from each group were completed at the beginning and end of the study – pretest/posttest (Creswell, 2015).

The independent variable was categorical with the peer mentoring intervention: the control group did not have peer mentors (NPM) and the treatment group was assigned peer mentors (PM). The dependent variable comprised the ATA Career Education Student Satisfaction survey (Appendix F). Extraneous variables were controlled by matching student’s attributes and identifying covariates. Covariates identified were program of study (allied health or nursing), gender (male or female), education status (high school diploma or general education development), race (white or non-white), and age.
Creswell (2015) identified that a survey approach to research provided a quantitative explanation of attitudes and opinions of a population by studying a sample of that population. The sample results may be generalized to the population. Potential threats to internal validity for quasi-experiments include maturation, selection, mortality, history, and interaction of selection (Creswell, 2015). Maturation can influence results with participants becoming more experienced and navigating the institution between surveys. Selection is a threat with the groups of participants possibly being from different backgrounds, cultures, and family status in each group. Mortality includes the participants that opt out of the study or may leave the institution. History effects the results as outside influences cannot be controlled. Interaction of selection includes: selection/maturity where participants mature at different levels and selection/history when participants come from different settings (Cook & Campbell, 1979). Figure four clarified the study design using the nonequivalent group with nonrandom selection of participants.

\[
\begin{array}{c|c|c}
O_1 & O_2 \\
\hline
O_1 & X & O_2 \\
\end{array}
\]

**Figure 4.** Research Design: Nonequivalent Quasi-Experiment

*Note. O1=pretest observation, O2=posttest observation, X=treatment, -------- = nonrandom selection of participants*

The nonequivalent group study is a common design used with the quasi-experiment. The use of the pretest and posttest allowed for the estimation of differences between the groups on the posttest scores by adjusting with the pretest scores (Cook & Campbell, 1979).

**Organizational Context**

The study was conducted at ATA Career Education (ATA) located in Spring Hill, Florida. ATA is a private for-profit higher education institution comprised of two educational departments – allied health and nursing. The allied health department has six diploma programs
and three occupational associate degree programs. The allied health diploma programs are ten months in length and consist of: Dental Assisting, Medical Assisting, Medical Billing and Coding, Medical Office Specialist, Phlebotomy, and Limited Medical Radiographer. The allied health occupational associate degree programs are seventeen months in length and consist of: Medical Professional Medical Assisting, Medical Professional Medical Coding, and Limited Medical Radiographer Medical Assisting. The nursing department has one Practical Nursing diploma program and one academic associate degree Registered Nursing program. The Practical Nursing diploma program and the academic associate degree Registered Nursing program are fifteen months in length. The admissions process for the allied health and Practical Nurse programs are known as an open admission policy where any student can enroll if they have a standard high school diploma or general education development. The Registered Nurse program admission process has in addition to the high school diploma or GED applicants must also be licensed practical nurses. The researcher obtained consent to conduct the research and it is in Appendix E.

In the fall of 2016, the institution had a student population of 241 students: 91% female and nine percent male. There was a 60% retention rate for students that began their studies in the fall of 2015 and returned in 2016. Most students are full time, have jobs, family commitments, and commute to the institution. Academic and social integration occurs in the classrooms (National Center for Education Statistics, 2018a). Currently the institution has 289 students, 125 allied health students and 164 nursing students. Demographics from the institution show that students are predominantly white, female, and over the age of 25. Table three shows the demographic characteristics that were available to report.
Table 3. Student Demographics from the Research Institution

<table>
<thead>
<tr>
<th>Race/Age</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Black</td>
<td>1</td>
<td>55</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>Two or more races</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Unknown</td>
<td>7</td>
<td>84</td>
</tr>
<tr>
<td>White</td>
<td>6</td>
<td>106</td>
</tr>
<tr>
<td>18-19</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>20-21</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>22-24</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>25-29</td>
<td>5</td>
<td>62</td>
</tr>
<tr>
<td>30-34</td>
<td>1</td>
<td>44</td>
</tr>
<tr>
<td>35-39</td>
<td>1</td>
<td>38</td>
</tr>
<tr>
<td>40-49</td>
<td>3</td>
<td>39</td>
</tr>
<tr>
<td>50-64</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>65-over</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Demographic information obtained from Student Reports from the institution involved in research

Participants and Sample

The participants were allied health and nursing students from ATA, with a population that ranges from 230-280. The sample was a nonprobability convenience sample utilizing the students currently enrolled at the institution. The NPM control and PM treatment groups were first-term students. The NPM control group consisted of thirty participants while the PM treatment group contained twenty-nine participants.

Participants

A total of sixty-five students participated in the study, sixty first-term and five peer mentors. After analyzing the data, one first-term participant did not answer half of the responses on the survey. Even though the sample size is already small it was appropriate to eliminate the survey from the overall analysis, thus reducing the number of first-term participants to fifty-nine.
Demographics

The fifty-nine first-term participants in the study are categorized by the following demographics: 97% female, 3% male, 47% white, 53% other than white, 85% have high school diplomas, 15% have a General Education Development, 42% are allied health students, 58% nursing students, and the age range is 17 – 53. The five peer mentor volunteers consisted of three allied health and two nursing students. Table four breaks down the demographics by control and treatment groups.

Table 4. Student Demographics between the Control and Treatment Groups

<table>
<thead>
<tr>
<th>Category</th>
<th>Treatment Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program of Study</td>
<td>Allied Health – 52%</td>
<td>Allied Health – 33%</td>
</tr>
<tr>
<td></td>
<td>Nursing – 48%</td>
<td>Nursing – 67%</td>
</tr>
<tr>
<td>Education Status</td>
<td>High School Diploma – 90%</td>
<td>High School Diploma – 80%</td>
</tr>
<tr>
<td></td>
<td>GED – 10%</td>
<td>GED – 20%</td>
</tr>
<tr>
<td>Gender</td>
<td>Female – 97%</td>
<td>Female – 97%</td>
</tr>
<tr>
<td></td>
<td>Male – 3%</td>
<td>Male – 3%</td>
</tr>
<tr>
<td>Race</td>
<td>White – 59%</td>
<td>White – 37%</td>
</tr>
<tr>
<td></td>
<td>Other – 41%</td>
<td>Other – 63%</td>
</tr>
<tr>
<td>Age</td>
<td>17-53 median age of 25</td>
<td>17-47 median age of 25</td>
</tr>
</tbody>
</table>

Note. n=number of participants

The demographic characteristics between the two groups were similar with most students having high school diplomas and were females with a median age of 25. The treatment group had fewer white students than the control group. The treatment group had close to the same number of students in each of the program of study while the control group had a larger number of nursing students.

The treatment participants were matched with a peer mentor during the first week of the term. Treatment participants were assigned a peer mentor that matched their program of study.
and schedule. Schedule refers to day-student matched with a day-student or night-student matched with a night-student.

**Peer Mentor Training**

Prior to the beginning of the term to implement peer mentoring, the five volunteer mentors met for guidance and training on mentoring. The researcher was an active participant with the training and guidance of the mentors. Mentor participation was voluntary. Mentors were students that have successfully completed two ten-week terms in their program of study. Five students volunteered to be peer mentors. Peer mentor training used Kram’s Mentor relationship theory as a basis. Kram’s theory involves nurturing the new student with the institution’s rules and culture while helping to build a sense of identity with the institution. The objectives of peer mentoring training included:

- to cultivate and boost a sense of student identity,
- to become effectively integrated into the institution, support staff, faculty and campus as a whole,
- to develop a sense of purpose about pursuing their program of study, and
- to obtain the essential skills to become independent and successful students.

The objectives will connect peer mentoring to the student satisfaction survey. The ATA Student Satisfaction survey includes areas of teaching environment and resources, faculty and staff, and the student’s general day to day experiences, and the student’s overall satisfaction with the institution which align with the objectives for increasing a sense of identity, integrating with the institution, developing a purpose for their program of study, and obtaining the skills to succeed. Training has been an ongoing process. The orientation introduced peer mentors with the
institution’s faculty and staff. Key contact personnel were identified and provided to the mentors. The campus director explained the mission statement, expectations of students, and the various programs. Procedures and processes were discussed: such as access to computer labs, supplies, and the communication process with faculty and staff. Mentor ground rules were established with input from the mentors. The orientation concluded with a tour of the facilities.

The formal training used Clark, Andrews, and Davies (2011) Peer Mentoring Works! Institutional Manual’s training presentation. The fundamental components for the training included:

- an introduction to peer mentoring,
- peer mentors’ responsibilities,
- empathy & understanding,
- communication skills,
- dealing with problems,
- recording and evaluating mentoring.

The Transition+ Peer Mentoring program was created following an assessment of seven peer mentoring programs from twenty-two higher education institutions over a span of three years. The training for the program is a combination of the various programs from the various institutions assessed. Evaluation of the mentoring programs found that the institutions best assets to use to boost new student transition to the institution are the students. The Peer Mentoring training manual, based on observed research findings, offers the information and means necessary to set up a peer mentoring program (Clark et al., 2011). Figure five illustrates the Transition+ Peer Mentoring plan.
The seven components of the Transition+ Peer Mentoring plan create a successful program.

1. Program Features –the components of program features look at transition and retention of all new students as the focus for peer mentoring (Clark et al., 2011).

2. Pre-term Allocation –the selection and training of mentors in an earlier term will support matching the peer mentor with the newly enrolled student (Clark et al., 2011).

3. Activity Management –peer mentoring activities need flexibility and reciprocation between mentor and mentee (Clark et al., 2011).

4. Mentor Preparation –the recruitment and eventual self-sufficient program with peer mentors guiding the next group of peer mentors along with staff support is the long-range goal for mentor preparation (Clark et al., 2011).

5. Relationship Management –the matching process of mentors with mentees is the first step of relationship building. It is important to understand the preferences of the mentee and to practice confidentiality while engaging in the peer mentoring process (Clark et al., 2011).

Figure 5. Transition+ Peer Mentoring Program
6. **Rewards & Recognition**—the peer mentor program is a voluntary activity and it would be beneficial to recognize the peer mentors with a certificate of participation (Clark et al., 2011).

7. **Mentoring Focus**—the focus for peer mentoring begins with the social aspect of fitting in and then moves to the academic quality for success (Clark et al., 2011).

Training was interactive and participative in nature. The presentation focused on the skills, competencies, and behaviors of peer mentors. The presentation slides can be found in Appendix A.

**Sample Size**

The sample size has been guided by using Cohen’s Power Primer (1992). The multiple regression analysis using the $F$ test of the multiple $R^2$ expecting a medium population effect size is $f^2 = .15$. The research has six independent variables, $k$, which will require ninety-seven participants to obtain the necessary power of .80 for $a = .05$ for a medium effect. The fifty-nine participants fell short for this requirement, adjusting to a larger effect size with forty-five required helped the study to fall within the required parameters for participants.

**Diversity**

Diversity and inclusion were addressed in the study. Participants were not excluded from the study for any reason. Participants were matched as best as possible by program of study and time on campus. Age, gender, and race were taken into consideration although not the primary matching goal for peer mentoring.
Data Instrument

The data collection instrument was the ATA Career Education Student Satisfaction survey, found in Appendix F. The researcher obtained permission to use the ATA Career Education Student Satisfaction survey from the campus director of ATA (Appendix G). The survey was constructed by the Director of Education and program directors of ATA Career Education with approval from the Director of Compliance under the guidance of the Accrediting Bureau of Health Education Schools (ABHES). Reliability was tested after the control group completed the pre-test and post-test survey. A Cronbach Coefficient Alpha of .79 was obtained, which leads to reliability of the survey instrument. There were four categories and thirty-two responses on the survey. The categories include: teaching environment and resources, faculty and staff, general experience, and overall satisfaction.

1. Teaching environment and resources are the classrooms, devices, and groups that motivate students to accomplish learning and skills.

2. Faculty and staff are a group of employees either in a teaching capacity or a nonteaching role that support and nurture students.

3. General experience refers to the day to day involvement the student has with the various processes and areas throughout the institution.

4. Overall satisfaction represents the perception of the student in regard to the complete experience encountered at the institution.

The survey was delivered via pencil and paper to the students’ week two and week nine during LAS120A Success Skills for allied health students and LAS120AN Success Skills for nursing students. Success Skills is a first term class that all first-term students are required to complete. The completed surveys were evaluated with the data to run the statistical analysis.
Participants were encouraged to respond to every question to prevent missing data. In the event of missing data, the missing information will be calculated by using the means of the existing data in each category. Table five identifies the thirty-two survey items and where they relate to the four categories.

**Table 5. Linking the Survey Question to the ATA Satisfaction Survey Category**

<table>
<thead>
<tr>
<th>Category</th>
<th>Items on survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Environment and Resources</td>
<td>1.1 Overall, how effective is the teaching/instruction within your program at ATA?</td>
</tr>
<tr>
<td></td>
<td>1.2 How well do the classrooms at ATA meet the learning needs of students?</td>
</tr>
<tr>
<td></td>
<td>1.3 The equipment in the lab facilities is kept up to date.</td>
</tr>
<tr>
<td></td>
<td>1.4 The computer labs are adequate and accessible.</td>
</tr>
<tr>
<td></td>
<td>1.5 How easy it is to obtain the resources you need from ATA’s library or Resource Room?</td>
</tr>
<tr>
<td></td>
<td>1.6 The school shows concern for students as individuals.</td>
</tr>
<tr>
<td></td>
<td>1.7 The quality of instruction in the academic program is excellent.</td>
</tr>
<tr>
<td>Faculty and Staff</td>
<td>2.1 How helpful are the faculty at ATA?</td>
</tr>
<tr>
<td></td>
<td>2.2 The faculty care about me as an individual.</td>
</tr>
<tr>
<td></td>
<td>2.3 The faculty is fair and unbiased in their treatment of individual students.</td>
</tr>
<tr>
<td></td>
<td>2.4 How helpful was the admissions staff at ATA?</td>
</tr>
<tr>
<td></td>
<td>2.5 The admissions staff is knowledgeable.</td>
</tr>
<tr>
<td></td>
<td>2.6 How helpful is Student Services?</td>
</tr>
<tr>
<td></td>
<td>2.7 Student services adequately meet the needs of the students.</td>
</tr>
<tr>
<td></td>
<td>2.8 How helpful is the staff at Financial Aid?</td>
</tr>
<tr>
<td></td>
<td>2.9 Financial aid awards are announced to students in time to be helpful in planning.</td>
</tr>
<tr>
<td></td>
<td>2.10 How useful are the services provided by Career Services?</td>
</tr>
<tr>
<td></td>
<td>2.11 The career services office provides students with the help they need to get a job.</td>
</tr>
<tr>
<td>General Experience</td>
<td>3.1 How easy was the registration process for courses at ATA?</td>
</tr>
<tr>
<td></td>
<td>3.2 Classes are scheduled at times that are convenient for me.</td>
</tr>
<tr>
<td></td>
<td>3.3 How safe do you feel on campus?</td>
</tr>
<tr>
<td></td>
<td>3.4 The school is safe and secure for all students.</td>
</tr>
<tr>
<td></td>
<td>3.5 Parking lots have adequate spaces, are well-lighted, and secure.</td>
</tr>
<tr>
<td></td>
<td>3.6 How is the cleanliness of the classrooms?</td>
</tr>
<tr>
<td></td>
<td>3.7 The business office is open during the hours which are convenient for most students.</td>
</tr>
<tr>
<td></td>
<td>3.8 Bookstore staff is helpful.</td>
</tr>
<tr>
<td></td>
<td>3.9 Channels for expressing student complaints are readily available.</td>
</tr>
<tr>
<td></td>
<td>3.10 The student center is a comfortable place for students to spend their leisure time.</td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td>4.1 Overall, how prepared do you feel you will be when you complete your program based on your studies at ATA?</td>
</tr>
<tr>
<td></td>
<td>4.2 Overall, the school is well-maintained.</td>
</tr>
<tr>
<td></td>
<td>4.3 Overall, most students feel a sense of belonging here.</td>
</tr>
<tr>
<td></td>
<td>4.4 Please rate your overall experience at ATA Career Education.</td>
</tr>
</tbody>
</table>
Pilot Test

A pilot test was conducted using a small sample of students from the allied health program to determine the effectiveness of the ATA Career Education Student Satisfaction survey that was used to measure student satisfaction. Ten allied health students reviewed the survey and provided feedback. All participants, after reviewing the survey, found the survey to be understandable and straightforward to read. The participants agreed that the questions made sense and were easy to answer.

A second pilot test was conducted with six nursing students. The students completed the survey and provided feedback about the understandability of the survey. The students reported that the instructions were easy to follow, the survey items made sense, and that it was easy to complete. Using the data, a Cronbach coefficient alpha was run with SAS. The results of the Cronbach coefficient alpha from the survey results confirm the reliability of the survey with a standardized coefficient of 89%.

Data Collection

The research study was conducted in three phases. The control group of non-peer mentored students was compared to the experimental group that received the treatment of peer mentoring. Other factors that were controlled and examined included age, program of study (allied health or nursing), gender, education status (high school diploma or GED), race, and age.

Phase one consisted of new students at the institution completing the ATA Career Education Student Satisfaction survey (Appendix F) during the second week of their first term during the Success Skills course and at the completion of their first term. These students were the control group of no peer mentor (NPM). Prior to completing the survey students received an
explanation of the research, directions to fill out survey, and signed a non-peer mentor informed consent form (Appendix B) acknowledging acceptance. Students understood that they could opt out at any point of the research.

The second phase recruited and trained volunteer students at the institution to become peer mentors. An institution-wide e-mail invited potential mentors to an informational session that explained the new peer mentoring program that was involved in the research. During the informational session volunteers received the consent form that explains the research and signed the mentor informed consent form (Appendix D). Volunteers understand that they could opt out at any time during the study. The volunteers met with the researcher for training on how to be a peer mentor. The researcher contacted each peer mentor weekly to discuss any achievements and/or challenges that were encountered.

The final phase had the incoming new students assigned a volunteer peer mentor. These students were the peer mentor (PM) treatment group. Since only five students volunteered to be peer mentors matching consisted of program of study and time on campus. The peer mentor met with their mentee throughout the term to guide them through any obstacles that new students may encounter such as: finding help with tutoring, knowing who can help with financial aid questions, and understanding the culture of the institution. The PM treatment group completed the ATA Career Education Student Satisfaction survey during the second week of the Success Skills course and at the completion of the course. The students were provided with an explanation on what the information will be used for, a peer mentor informed consent form to sign, and how to opt out of the study. A copy of the letter provided to the participants is provided in Appendix C. Table six illustrate the timeline for the study.
Table 6. Research Design Timeline

<table>
<thead>
<tr>
<th></th>
<th># of participants</th>
<th>Measure Baseline</th>
<th>Peer Mentor Intervention</th>
<th>Measure Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest-Posttest</td>
<td>Term 3 Term 4</td>
<td>Week 2 Survey</td>
<td>Term 3</td>
<td>Week 9 Survey</td>
</tr>
<tr>
<td>Nonequivalent Groups</td>
<td>N</td>
<td>Term 3 O1</td>
<td>Recruit</td>
<td>Term 3 O2</td>
</tr>
<tr>
<td>Quasi-Experiment</td>
<td>N</td>
<td>O1</td>
<td>Peer Mentors</td>
<td></td>
</tr>
</tbody>
</table>

N=participants, O1=pretest observation, O2=posttest observation, X=treatment, Term=10 weeks in length

The timeline demonstrates how the research was organized with conducting the surveys, recruitment of peer mentors, and the treatment of peer mentoring.

Data Analysis

The data analyzed derived from the ATA Student Satisfaction survey. The thirty-two survey items were scored on a Likert scale of one to five. The level of satisfaction scale is as follows: 1-not satisfied 2-slightly satisfied 3-moderately satisfied 4-very satisfied 5-extremely satisfied.

Data Analyses Methods

The research questions were addressed using descriptive statistics, independent t-tests, ANCOVA, and multiple regression analysis. SAS was utilized to run the various analyses. The first research question: does peer mentored students’ perception of satisfaction with the institution significantly increase from the beginning to end of the term was examined using the descriptive statistics and the independent t-tests? The difference has been recorded and compared between group for an overall group variance. Descriptive statistics summarized the data using the measures of central tendency and measures of variability. The measure of central tendency was able to show mean, median, mode for the survey scores of both groups. The
measure of variability described the standard deviations of the groups. The independent t-test compared the two averages computed to discover if a significant difference was apparent between the groups. The analyses were conducted on the initial survey responses first to inspect the difference that may have occurred prior to the treatment and repeated for the final survey responses to note any differences after the treatment. The results inspected differences between students that have been mentored with students that have not been mentored as it related to perceptions of student satisfaction.

Research question two: do peer mentored students, compared with students with no peer mentor, differ significantly in perceptions of satisfaction with the institution at the end of their first term (post-test) after controlling for beginning of term satisfaction perceptions (pre-test) was tackled by conducting an ANCOVA analysis. The ANCOVA was an appropriate statistical analysis to implement for a nonequivalent quasi-experiment as it adjusted for pre-existing differences in the groups. Participants cannot be made equal through random assignment, so a covariate was used to adjust the scores to make participants similar. The difference between the pre-test survey and post-test survey results were used to adjust for variations that existed between the groups which increased the probability of detecting a significant difference between the groups, increasing power of the test. The ANCOVA results identified the level of satisfaction (higher, lower, or the same) between the NPM and PM groups.

A multiple regression analysis conducted addressed research question three - was the level of student satisfaction for the institution explained by the covariables: group, program of study, education status, gender, race, and age. The regression estimated the relationship between the covariables and the dependent variable by determining if any of the covariables explained the variance of the dependent variable. The categorical treatment variables of group, program of
study, education status, gender, and race were dummy coded. Age was a continuous variable.

The regression analysis illuminated which variables explained the variance. Table seven explains the dummy codes for the categorical variables.

**Table 7. Dummy Codes for the Regression Analysis**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>Treatment=1</td>
</tr>
<tr>
<td>Program</td>
<td>Allied Health=1</td>
</tr>
<tr>
<td>Education</td>
<td>Diploma=1</td>
</tr>
<tr>
<td>Gender</td>
<td>Female=1</td>
</tr>
<tr>
<td>Race</td>
<td>White=1</td>
</tr>
<tr>
<td></td>
<td>Control=0</td>
</tr>
<tr>
<td></td>
<td>Nursing=0</td>
</tr>
<tr>
<td></td>
<td>General Education Development=0</td>
</tr>
<tr>
<td></td>
<td>Male=0</td>
</tr>
<tr>
<td></td>
<td>Other than White=0</td>
</tr>
</tbody>
</table>

The dummy codes were used to run the regression analysis to locate any predictors that may influence survey results. The regression determined which factors can explain student satisfaction. The projected results from the statistical analysis to solve the sub-questions have led to the answering of the main research question: did the addition of a peer mentoring intervention program for first-term students increase student satisfaction with the institution? Table eight summarizes the three sub-questions that were addressed to answer the overall research question.

**Table 8. Summary of Research Analysis with the Research Questions**

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Statistical Analysis</th>
<th>Projected Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the peer mentored students’ perception of satisfaction with the institution significantly increase from the beginning to end of the term?</td>
<td>Descriptive and Independent T-test ANCOVA</td>
<td>Mean differences between the treatment group and control group conducted twice- with pre-test and post-test results. Determine if adding a peer mentoring intervention will increase the satisfaction level of students.</td>
</tr>
<tr>
<td>Do peer mentored students, compared with students with no peer mentor, differ significantly in perceptions of satisfaction with the institution at the end of their first term (post-test) after controlling for beginning of term satisfaction perceptions (pre-test)?</td>
<td>ANCOVA</td>
<td></td>
</tr>
<tr>
<td>Was the level of student satisfaction for the institution explained by group, program of study, education status, gender, age, race, and ethnicity?</td>
<td>Multiple Regression</td>
<td>Discover if group, program of study, education status, race, and age of the student interacts to become an explanation of student satisfaction.</td>
</tr>
</tbody>
</table>
Ethics

Prior to the start of the study, training was completed in the Protection of Human Subjects and approval through the College of Education’s Internal Review Board. A copy of the Citi Program IRB for Human Research is provided in Appendix H. Appendix I provides a copy of the IRB letter of approval for the research IRB# Pro00035902. Ethical clearance has been sought and obtained from the CEO and Campus Director of the institution where the research study was being conducted. Before research commenced, each participant was given a plain language statement describing the proposed research and signed a written consent form. The participants were able to withdraw without any penalty from the research or their program of study if they chose to. All participants were informed that their anonymity would be protected in any publication.
CHAPTER FOUR

RESULTS

The purpose of this quasi-experimental study was to investigate students’ perceptions of satisfaction after a peer mentoring intervention was implemented. This chapter will describe the results from the various statistical analyses conducted with SAS. First, descriptive statistics and the independent t-test were run using data from the pre-test satisfaction survey results and post-test satisfaction survey results. Pre-test survey data were used to discover any differences between the control and treatment group prior to the treatment being implemented. Post-test survey data discerned differences after the treatment was completed. Second, an ANCOVA was completed to examine the level of satisfaction between the control and treatment groups after controlling for the pre-test survey. Finally, a multiple regression was performed to account for any correlation between the student demographics of group, program of study, education level, gender, race, and age with the post-test survey responses.

Research Questions

Three research questions guided this study:

1. Does the peer mentored students’ perception of satisfaction with the institution significantly increase from the beginning to end of the term?

2. Do peer mentored students, compared with students with no peer mentor, differ significantly in perceptions of satisfaction with the institution at the end of their
first term (post-test) after controlling for beginning of term satisfaction perceptions (pre-test)?

3. Was the level of student satisfaction for the institution explained by group, program of study, education status, gender, race, and age?

**Research Question One: Student Perception of Satisfaction**

Does the peer mentored students’ perception of satisfaction with the institution significantly increase from the beginning to end of the term? The descriptive statistics organized and summarized the data while the independent t-test was used for the statistical significance (Gall, Gall, & Borg, 2007). This analysis was able to first compare the data collected and second to establish statistically significant differences, if any, between the groups.

SAS was first used to examine the initial differences if any between the control and treatment group. The control group (non-peer mentored) pre-test survey score mean for each category was: teaching environment and resources (4.48), faculty and staff (4.47), general experience (4.45), overall satisfaction (4.60), and total pre-test survey (4.48). The total pre-test satisfaction survey standard deviation (SD) was .42. The treatment group (peer mentored) pre-test survey score mean for each category was: teaching environment and resources (4.40), faculty and staff (4.52), general experience (4.50), overall satisfaction (4.59), and total pre-test survey (4.49). The total pre-test satisfaction survey standard deviation was .50. Peer mentored students (n=29) did not differ significantly from the non-peer mentored students (n=30) on both variance in pre-test satisfaction scores and mean for pre-test satisfaction scores. Pre-test satisfaction scores were similar in variance between non-peer mentored students (SD = .42) and peer mentored students (SD = .50), $F(28,29) = 1.41$, $p = .36$. A separate variance t-test using the Pooled method showed that the mean initial satisfaction scores were not significantly different.
between non-peer mentored students (M = 4.48) and peer mentored students (M = 4.49), t (57) = -0.08, p = 0.93. The t-test did not show a significant difference a = .05 (p = .93). The descriptive statistics and independent t-test for the pre-test ATA Student Satisfaction survey responses can be found in table nine and ten.

Table 9. Descriptive Statistics for the Pre-Test Survey between the Groups

<table>
<thead>
<tr>
<th>Category/Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Environment &amp; Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>4.48</td>
<td>.43</td>
<td>-.39</td>
<td>-.86</td>
<td></td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>4.40</td>
<td>.50</td>
<td>.64</td>
<td>-.16</td>
<td>-1.25</td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>4.47</td>
<td>.45</td>
<td>-.31</td>
<td>-1.41</td>
<td></td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>4.52</td>
<td>.55</td>
<td>-0.37</td>
<td>-.83</td>
<td>0.06</td>
</tr>
<tr>
<td>General Experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>4.46</td>
<td>.51</td>
<td>-.58</td>
<td>-.74</td>
<td></td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>4.50</td>
<td>.55</td>
<td>-.29</td>
<td>-.81</td>
<td>-.05</td>
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<tr>
<td>Overall Satisfaction</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>4.60</td>
<td>.50</td>
<td>-.87</td>
<td>-.59</td>
<td></td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>4.59</td>
<td>.50</td>
<td>-.63</td>
<td>-1.25</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>4.48</td>
<td>.42</td>
<td>-.39</td>
<td>-1.06</td>
<td></td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>4.49</td>
<td>.50</td>
<td>-.08</td>
<td>-.61</td>
<td>-.59</td>
</tr>
</tbody>
</table>

Note. n=number of participants

Table 10. Independent T-Test for the Pre-Test Survey between the Groups

<table>
<thead>
<tr>
<th>Survey Category</th>
<th>Control (n=30)</th>
<th>Treatment (n=29)</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Environment &amp; Resources</td>
<td>4.48 .43</td>
<td>4.40 .50</td>
<td>.64</td>
<td>.53</td>
<td>.17</td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td>4.47 .45</td>
<td>4.52 .55</td>
<td>-.37</td>
<td>.71</td>
<td>.09</td>
</tr>
<tr>
<td>General Experience</td>
<td>4.46 .51</td>
<td>4.50 .55</td>
<td>-.29</td>
<td>.78</td>
<td>.08</td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td>4.60 .50</td>
<td>4.59 .50</td>
<td>.11</td>
<td>.91</td>
<td>.02</td>
</tr>
<tr>
<td>Total</td>
<td>4.48 .42</td>
<td>4.49 .50</td>
<td>-.08</td>
<td>.93</td>
<td>.02</td>
</tr>
</tbody>
</table>

Note. n=number of participants, M=mean, SD=standard deviation, d = Cohen’s measure of effect size
The results were able to determine that all students, peer mentored and non-peer mentored, have similar satisfaction levels at the start of the study and that there was not a statistically significant difference between the groups. Cohen’s measure of effect size was used as the standard deviation for both groups were similar.

The data for the post-test student satisfaction survey was analyzed using SAS. The control group post-test survey score mean for each category was: teaching environment and resources (4.24), faculty and staff (4.22), general experience (4.13), overall satisfaction (4.19), and total pre-test survey (4.19). The total pre-test satisfaction survey standard deviation (SD) was .70. The treatment group post-test survey score mean for each category was: teaching environment and resources (4.79), faculty and staff (4.68), general experience (4.72), overall satisfaction (4.82), and total pre-test survey (4.73). The total pre-test satisfaction survey standard deviation (SD) was .28. Peer mentored students (n=29) differed significantly from non-peer mentored students (n=30) on both variance in satisfaction scores and mean for satisfaction scores. Satisfaction scores were significantly more variable among non-peer mentored students (SD = .70) than among non-peer mentored students (SD = .28), \( F(29,28) = 6.22, p < .0001 \). A separate variance t-test using the Satterthwaite method reported that the mean satisfaction score was significantly higher among peer mentored students (M = 4.73) than among non-peer mentored students (M = 4.19), \( t(38.36) = -3.95, p = .0003 \). The t-test showed a significant difference \( a = .05 (p = .0003) \). The descriptive statistics and independent t-test for the post-test ATA Student Satisfaction Survey responses can be found in table eleven and twelve.
Table 11. *Descriptive Statistics for the Post-Test Survey between the Groups*

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Environment &amp; Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>4.24</td>
<td>.71</td>
<td>-.77</td>
<td>-.07</td>
<td></td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>4.79</td>
<td>.19</td>
<td>-4.09</td>
<td>-.48</td>
<td>-.07</td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>4.22</td>
<td>.67</td>
<td>-.61</td>
<td>-.37</td>
<td></td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>4.68</td>
<td>.38</td>
<td>-3.25</td>
<td>-1.06</td>
<td>.61</td>
</tr>
<tr>
<td>General Experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>4.13</td>
<td>.79</td>
<td>-1.10</td>
<td>1.15</td>
<td></td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>4.72</td>
<td>.30</td>
<td>-1.02</td>
<td>1.26</td>
<td></td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>4.19</td>
<td>.99</td>
<td>-1.78</td>
<td>3.04</td>
<td></td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>4.82</td>
<td>.27</td>
<td>-1.46</td>
<td>1.52</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>4.19</td>
<td>.70</td>
<td>-.90</td>
<td>.44</td>
<td></td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>4.73</td>
<td>.28</td>
<td>-1.16</td>
<td>1.47</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* n=number of participants

Table 12. *Independent T-Test for the Post-Test Survey between the Groups*

<table>
<thead>
<tr>
<th>Survey</th>
<th>Control (n=30)</th>
<th>Treatment (n=29)</th>
<th>t</th>
<th>p</th>
<th>delta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Environment &amp; Resources</td>
<td>4.23</td>
<td>.71</td>
<td>4.9</td>
<td>.19</td>
<td>-4.09</td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td>4.22</td>
<td>.67</td>
<td>4.68</td>
<td>.38</td>
<td>-3.25</td>
</tr>
<tr>
<td>General Experience</td>
<td>4.13</td>
<td>.79</td>
<td>4.72</td>
<td>.30</td>
<td>-3.87</td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td>4.19</td>
<td>.99</td>
<td>4.82</td>
<td>.27</td>
<td>-3.35</td>
</tr>
<tr>
<td>Total</td>
<td>4.19</td>
<td>.70</td>
<td>4.73</td>
<td>.28</td>
<td>-3.95</td>
</tr>
</tbody>
</table>

*Note.* n=number of participants, M=mean, SD=standard deviation, delta = Gates’ measure of effect size

Students in the treatment group had higher satisfaction scores than those in the control group. Gate’s delta effect size was used as the standard deviations in the groups were different. The t-test was able to demonstrate a statistically significant difference between the groups. The research question was answered in that the peer mentored students’ satisfaction with institution significantly increased from the beginning to end of the term. Figure six displays the mean scores for the different categories surveyed.
The Likert scale four is a satisfactory score. The mean scores are satisfactory, but the difference varies with the final survey between the PM and NPM groups. Figure seven demonstrates the level of satisfaction rising for peer mentored students while decreasing for non-peer mentored students. The effect sizes ranging from .64 to .77 indicates a significant difference between the groups.
Research Question Two: Satisfaction Perception Differences

Research question one was able to determine that peer mentored students’ perception of satisfaction with the institution increased from the beginning to end of the term. Research question two will attempt to determine if peer mentored students, compared with students with no peer mentor, differ significantly in perceptions of satisfaction with the institution at the end of their first term (post-test) after controlling for beginning of term satisfaction perceptions (pre-test). An ANCOVA will examine the influence of the independent variable (peer-mentored or non-peer mentored students) on the dependent variable (post-test ATA Student Satisfaction survey) while removing the effect of the covariate factors (pre-test ATA Student Satisfaction survey).

The data for the comparison of the differences in means for the pre-test and post-test student satisfaction survey was analyzed using SAS. The control group survey score mean difference for each category was: teaching environment and resources (-.24), faculty and staff (-.25), general experience (-.33), overall satisfaction (-.41), and total score (-.29). The total satisfaction survey mean difference standard deviation (SD) was .48. The mean score decreased with the post-test survey. The treatment group survey score mean difference for each category was: teaching environment and resources (.38), faculty and staff (.16), general experience (.23), overall satisfaction (.23), and total score (.24). The total satisfaction survey mean difference standard deviation (SD) was .28. The mean score increased with the post-test survey. The peer mentored group (n=29) and non-peer mentored group (n=30) pre-test student satisfaction surveys differed significantly from post-test student satisfaction surveys on both variance in satisfaction scores and mean difference for satisfaction scores. The non-peer mentored group mean had a statistically significant difference in mean satisfaction scores (SD.48), t(3.34), p=.002. The peer
A one-way ANCOVA was conducted to determine a statistically significant difference between the treatment group and the control group on student satisfaction controlling for pre-test satisfaction survey results. The ANCOVA is frequently used for a non-equivalent control-group design to address the threat to internal validity due to group differences on the post-survey due to pre-existing group differences. The use of the initial survey in the ANCOVA will statistically reduce the effects of initial group differences by making balancing modifications to the final survey means of the two groups (Gall et al., 2007).

There was a significant effect of peer mentoring on student satisfaction after controlling for the pre-test initial survey, $F(3,55) = 36.86, p < .0001$. ANCOVA indicated significant group differences. The ANCOVA is frequently used for a non-equivalent control-group design to address the threat to internal validity due to group differences on the post-survey due to pre-existing group differences. The use of the initial survey in the ANCOVA will statistically reduce the effects of initial group differences by making balancing modifications to the final survey means of the two groups (Gall et al., 2007).

A one-way ANCOVA was conducted to determine a statistically significant difference between the treatment group and the control group on student satisfaction controlling for pre-test satisfaction survey results. The ANCOVA is frequently used for a non-equivalent control-group design to address the threat to internal validity due to group differences on the post-survey due to pre-existing group differences. The use of the initial survey in the ANCOVA will statistically reduce the effects of initial group differences by making balancing modifications to the final survey means of the two groups (Gall et al., 2007).

Table 13. Comparison of Pre-Test/Post-Test Survey Scores of the Non-Peer Mentored and Peer Mentored Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
<th>SD</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Environment &amp; Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>-.24</td>
<td>.58</td>
<td>.33</td>
<td>-.18</td>
<td>.39</td>
<td>-2.13</td>
<td>.03</td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>.38</td>
<td>.40</td>
<td>.16</td>
<td>1.01</td>
<td>1.21</td>
<td>5.16</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>-.25</td>
<td>.47</td>
<td>.22</td>
<td>-.76</td>
<td>-.53</td>
<td>-2.92</td>
<td>.007</td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>.16</td>
<td>.27</td>
<td>.07</td>
<td>1.79</td>
<td>3.14</td>
<td>-3.30</td>
<td>.003</td>
</tr>
<tr>
<td>General Experience</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>-.33</td>
<td>.68</td>
<td>.47</td>
<td>-.35</td>
<td>1.42</td>
<td>-2.64</td>
<td>.01</td>
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<tr>
<td>Treatment (n=29)</td>
<td>.23</td>
<td>.31</td>
<td>.09</td>
<td>1.73</td>
<td>3.86</td>
<td>3.99</td>
<td>.0004</td>
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<tr>
<td>Overall Satisfaction</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>-.41</td>
<td>.78</td>
<td>.60</td>
<td>-1.24</td>
<td>1.24</td>
<td>-2.88</td>
<td>.007</td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>.23</td>
<td>.31</td>
<td>.09</td>
<td>1.02</td>
<td>-.14</td>
<td>4.10</td>
<td>.0003</td>
</tr>
<tr>
<td>Total</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control (n=30)</td>
<td>-.29</td>
<td>.48</td>
<td>.23</td>
<td>-.68</td>
<td>-.21</td>
<td>-3.34</td>
<td>.002</td>
</tr>
<tr>
<td>Treatment (n=29)</td>
<td>.24</td>
<td>.28</td>
<td>.08</td>
<td>1.25</td>
<td>1.86</td>
<td>4.63</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>

Note: n=number of participants, M=mean, SD=standard deviation, p=.05
differences on the Teaching Environment and Resources, $F (3,55) = 17.87, p < .0001$, Faculty and Staff, $F (3,55) = 34.51, p < .0001$, General Experience, $F (3,55) = 16.25, p < .0001$, and Overall Experience, $F (3,55) = 19.43, p < .0001$. The participants in the treatment group scored higher than the participants in the control group on all categories.

The assumption of normality was met by looking at the skewness values (-1.59). The homogeneity of variance was tested by the Levene’s test. Levene’s Test for Homogeneity of the final Variance produced a result of $p = .02$, which was less than .05, meaning that there is a difference between the variances in the population. The assumption for homogeneity of slopes was met. Figure eight demonstrates the linear relationship. Table fourteen summarizes the ANCOVA results.

![Figure 8. Homogeneity of Slopes](image-url)
Table 14. ANCOVA Analysis

<table>
<thead>
<tr>
<th>Measure</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Environment &amp; Resources</td>
<td>9.92</td>
<td>3.31</td>
<td>17.87</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td>13.21</td>
<td>4.41</td>
<td>34.51</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>General Experience</td>
<td>12.11</td>
<td>4.04</td>
<td>16.25</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td>18.59</td>
<td>6.19</td>
<td>19.43</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Satisfaction Survey</td>
<td>13.78</td>
<td>4.59</td>
<td>36.86</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>

Note. SS=sum of squares, MS=mean square, p=.05

Research Question Three: Student Demographic Characteristics and Satisfaction

Was the level of student satisfaction for the institution explained by the group, program of study, education status, gender, race, and age? A multiple regression analysis was employed to help establish which demographic characteristics of students could predict higher ratings of satisfaction with the institution. Multiple regression was used as it can determine the variance between a criterion variable and a combination of two or more predictors (Gall et al., 2007). It was important to determine if the demographic characteristics of the participants led to the increase in final satisfaction scores. Homoscedasticity was examined via several scatterplots and these indicated reasonable consistency of spread through distributions.

Prior to conducting the regression analysis, descriptive statistics on each demographic area was created. Tables fifteen demonstrates the mean post-test survey for each demographic classification by survey category. Figure nine represents the various demographic characteristics in their relationship with each other. It was able to demonstrate the differences between each characteristic in relation to the category of survey responses. It shows that the demographic characteristics treatment group, allied health program of study, high school diploma education, and white female generally had higher post-test survey mean scores.
Table 15. Descriptive Statistics for the Post-Test Survey

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Total Survey</th>
<th>Teaching Environment &amp; Resources</th>
<th>Faculty &amp; Staff</th>
<th>General Experience</th>
<th>Overall Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Treatment</td>
<td>29</td>
<td>4.73</td>
<td>.28</td>
<td>4.79</td>
<td>.19</td>
</tr>
<tr>
<td>Allied Health</td>
<td>25</td>
<td>4.67</td>
<td>.42</td>
<td>4.71</td>
<td>.37</td>
</tr>
<tr>
<td>Nursing</td>
<td>34</td>
<td>4.30</td>
<td>.66</td>
<td>4.36</td>
<td>.67</td>
</tr>
<tr>
<td>General Education</td>
<td>9</td>
<td>4.08</td>
<td>.66</td>
<td>4.46</td>
<td>.35</td>
</tr>
<tr>
<td>Development</td>
<td>50</td>
<td>4.53</td>
<td>.56</td>
<td>4.52</td>
<td>.58</td>
</tr>
<tr>
<td>High School Diploma</td>
<td>31</td>
<td>4.38</td>
<td>.65</td>
<td>4.35</td>
<td>.73</td>
</tr>
<tr>
<td>Other</td>
<td>28</td>
<td>4.55</td>
<td>.53</td>
<td>4.68</td>
<td>.31</td>
</tr>
<tr>
<td>White</td>
<td>57</td>
<td>4.47</td>
<td>.53</td>
<td>4.53</td>
<td>.57</td>
</tr>
<tr>
<td>Female</td>
<td>2</td>
<td>4.06</td>
<td>1.02</td>
<td>4.00</td>
<td>1.21</td>
</tr>
<tr>
<td>Age</td>
<td>59</td>
<td>28</td>
<td>9.62</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. N=number participants, M=mean, SD=standard deviation

Figure 9. Post-Test Results by Demographic Variables
A correlation analysis was performed on the six demographic variables. The correlations between the characteristics were found to be small to moderate. There is a small positive correlation between group and program of study (.19) and race (.22). There is a moderate positive correlation between program of study and race (.28). There is a small to moderate negative correlation between age and gender (-.14) and education (-.32). This indicates that the data is suitably correlated for examination through multiple linear regression to be reliably undertaken.

The multiple regression analysis was conducted using SAS. A separate regression was conducted for each category on the ATA Student Satisfaction survey as well as the total survey results. The regression that was run for the survey categories Teaching Environment & Resources and Faulty & Staff did not yield any statistically significant predictors. The survey category General Experience produced a $R^2 = .43$, $F(10,48) = 3.60$, $p = .001$. The demographic characteristics of group ($b = 1.88$, $p = .01$), education ($b = .83$, $p = .005$), and gender ($b = -1.22$, $p = .04$) were statistically significant predictors for the satisfaction survey category of General Experience. The survey category Overall Satisfaction produced a $R^2 = .41$, $F(10,48) = 3.30$, $p = .003$. The demographic characteristics of group ($b = 2.42$, $p = .008$) and education ($b = 1.40$, $p = .0001$) were statistically significant predictors for the satisfaction survey category Overall Satisfaction. The total post-test survey results produced a $R^2 = .38$, $F(10,48) = 2.92$, $p = .006$. The demographic characteristics of group ($b = 1.59$, $p = .02$) and education ($b = .64$, $p = .02$) were statistically significant predictors for the total results of the satisfaction survey. Tables sixteen and seventeen reviewed the regression analysis.
Table 16. *Regression Analysis of Survey*

<table>
<thead>
<tr>
<th>Source</th>
<th>N</th>
<th>R²</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Environment &amp; Resources</td>
<td>59</td>
<td>.36</td>
<td>2.75</td>
<td>.01</td>
</tr>
<tr>
<td>Faculty &amp; Staff</td>
<td>59</td>
<td>.31</td>
<td>2.19</td>
<td>.03</td>
</tr>
<tr>
<td>General</td>
<td>59</td>
<td>.43</td>
<td>3.60</td>
<td>.001</td>
</tr>
<tr>
<td>Overall</td>
<td>59</td>
<td>.41</td>
<td>3.30</td>
<td>.003</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>.38</td>
<td>2.92</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Note. N=number of participants, R²=total variance, F= F value, p=.05*

Table 17. *Regression Analysis of Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Survey</th>
<th>Teaching Environment &amp; Resources</th>
<th>Faculty &amp; Staff</th>
<th>General Experience</th>
<th>Overall Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>p</td>
<td>b</td>
<td>p</td>
<td>b</td>
</tr>
<tr>
<td>Group- Treatment</td>
<td>1.59</td>
<td>.02</td>
<td>1.76</td>
<td>.09</td>
<td>1.29</td>
</tr>
<tr>
<td>Program of Study1 – Allied Health Education1- High School Diploma</td>
<td>.21</td>
<td>.18</td>
<td>.18</td>
<td>.41</td>
<td>.21</td>
</tr>
<tr>
<td>Race1 – White</td>
<td>-.01</td>
<td>.97</td>
<td>.30</td>
<td>.16</td>
<td>.13</td>
</tr>
<tr>
<td>Gender1 – Female</td>
<td>-.90</td>
<td>.10</td>
<td>-.97</td>
<td>.07</td>
<td>-.76</td>
</tr>
<tr>
<td>Age</td>
<td>.01</td>
<td>.21</td>
<td>.01</td>
<td>.40</td>
<td>.007</td>
</tr>
<tr>
<td>Group_Education1</td>
<td>.59</td>
<td>.16</td>
<td>-.13</td>
<td>.75</td>
<td>-.46</td>
</tr>
<tr>
<td>Group_Race1</td>
<td>.03</td>
<td>.93</td>
<td>-.33</td>
<td>.26</td>
<td>-.15</td>
</tr>
<tr>
<td>Group_Gender1</td>
<td>.75</td>
<td>.33</td>
<td>.91</td>
<td>.24</td>
<td>.88</td>
</tr>
<tr>
<td>Group_Age</td>
<td>-.02</td>
<td>.16</td>
<td>-.02</td>
<td>.32</td>
<td>-.02</td>
</tr>
</tbody>
</table>

*Note. b=parameter estimate, p=.05*
The point of this study was to discover if students from a two-year post-secondary institution would be influenced with satisfaction perceptions after a peer mentoring intervention. Similar to previous research, peer mentoring is beneficial for both academic and social integration into the institution (Crisp, 2010; Collins et al., 2014; Andrews & Clark, 2011). Significant factors of student satisfaction embrace a student’s sense of fitting in or becoming a part of the institution. They want to matter to the institution (Elliott, 2002). Peer mentoring is a retention strategy that aids students in adapting to the academic and social expectations of a higher education institution. This study found that peer mentored students have a higher level of satisfaction within the institution.

**Research Question One: Student Satisfaction**

Does peer mentored students’ perception of satisfaction with the institution significantly increase from the beginning to end of the term? The results from the independent t-test were able to show that the peer mentoring intervention created a higher mean score for the post-test survey along with a significant statistical difference. Peer mentoring had a positive effect on student satisfaction. The pre-test survey data helped to determine that the participants began at the institution with similar satisfaction levels. This information was useful regarding having the participants starting the study with equal satisfaction levels. The mean scores are satisfactory, but the difference varies with the post-test survey between the PM and NPM groups.
Research Question Two: Improved Level of Satisfaction

Do peer mentored students, compared with students with no peer mentor, differ significantly in perceptions of satisfaction with the institution at the end of their first term (post-test) after controlling for beginning of term satisfaction perceptions (pre-test)? ANCOVA was able to answer that the peer mentoring intervention did improve the level of satisfaction for the institution. Results showed that students in the peer mentor treatment group outscored the students in the control group on the overall post-test satisfaction survey score. The total post-test survey results and all categories of the satisfaction survey: teaching environment & resources, faculty & staff, general experience, and overall satisfaction were found to differ significantly with perceptions of satisfaction with the institution at the end of their first-term after controlling for beginning of term perceptions.

Research Question Three: Student Demographics Influencing Satisfaction

Was the level of student satisfaction for the institution affected by the group, program of study, education status, gender, race, and age? The current study investigated the extent to which participants regarded satisfaction with the institution according to demographic characteristics. Most students reported satisfaction with the institution. The general experience category had a variance of 48% with the demographic characteristics, peer mentor treatment group, high school education diploma status, and female gender as the contributing variables. The overall satisfaction category’s variance was 41% with the demographic variables, peer mentor treatment group and high school diploma education status, as the influencing variables. Thirty-eight percent of the variance is explained with the total post-survey student satisfaction results with the
student demographic variables peer mentor treatment group and high school diploma education status.

**Main Research Question: Increased Perceptions of Satisfaction**

Did the addition of a peer mentoring intervention program for first-term students increase satisfaction with the institution? Looking at all the data, students generally begin at the institution with equal satisfaction levels. As they move through the term, students that did not have a peer mentor level of satisfaction dropped slightly. It needs to be noted though that the average scores for satisfaction may have lowered but were still within satisfaction levels. Overall, satisfaction with the institution did increase when students had a peer mentor.

Peer mentoring and higher levels of satisfaction were established that connected results to previous research. Webber, Krylow, & Zhang (2013), found higher levels of interaction contributed to higher levels of satisfaction. Peer mentoring is an intervention that can be implemented at two-year institutions where most of the interaction is conducted in the classroom. Another study by Martin, Goldwasser, & Galentino (2016) investigated close bonds and satisfaction. The results found close bonds could be used to predict satisfaction. Peer mentoring is an intervention that can create close bonds at institutions. As most previous research has been completed at four-year institutions, satisfaction interventions need to be modified to work at two-year institutions. The connection to prior studies enabled this research to show the value of satisfaction and peer mentoring institutions.

This study was able to confirm previous research that the addition of a peer mentoring intervention can increase student satisfaction with the institution. Crisp (2010) showed a positive influence of mentoring on the students’ ability to integrate both academically and socially
leading to higher persistence. Collings, Swanson, & Watkins (2014) found peer mentoring beneficial for integration and persistence. Andrews & Clark (2011) revealed value of peer mentoring in promoting transition into the university. Pitney & Ehlers (2004) found interpersonal relationships along with educational needs were formed by mentoring. Student satisfaction is connected to retention and student persistence with higher education. Successful transition to the institution will help students feel that they belong and are important to the institution.

Limitations/Delimitations

This research study had several limitations. A limitation with this study was the size of the institution. Since the institution was small, the limited number of potential participants created a small sample size. The size may have hindered generalization to other populations. The researcher’s involvement with the institution was a limitation. As with most small schools, everyone knows each other. The students are familiar with the researcher and this may have resulted in students not answering the survey as honestly as they would with no prior knowledge of the researcher.

Time constraints have been a limitation. There was limited time in a ten-week term to accomplish all goals of the peer mentoring program. These time constraints may have encumbered student participation. Limitations related to peer mentoring would be the peer mentor commitment level, mentee expectations, mentor dynamics, mentor-mentee relationship issues, and training (Andrews et al., 2011). Preparation for mentoring was important to the peer mentors to become aware of the role of mentor. More time could have been spent preparing students for this role. The lack of volunteers created a limitation in that there were more new students than mentors. Peer mentors voiced a concern regarding the difficulty of meeting with
their mentees and the toll on their time. They found e-mail to be the most efficient means of communication.

The use of a survey as the only source of data limited the study. Surveys are important but may not be sufficient. Survey data reliability can be increased when used in conjunction with information from other sources such as interviews (Klemenčič & Chirikov, 2015). The survey was a limitation. The ATA Career Education Student Satisfaction survey is utilized only at the various campuses of ATA. The Cronbach Coefficient Alpha was shown to be reliable at 79%, however, being that it was created for use only at ATA limits the validity.

Delimitations to the proposed study included the peer mentoring program being implemented using only first-term students. Students that may be struggling academically or socially would have potentially benefited from a peer mentoring program.

**Implications**

The implications of this study can be helpful in practice, theory, and policy. First looking at practice, the study provided insight into students’ perceptions of satisfaction with the institution after an implementation of a peer mentoring intervention. Findings from this study suggest a need for positive interventions, such as peer mentoring, to enhance a student’s overall satisfaction with the institution. Satisfaction has been linked to persistence and retention. Second in theory, two-year institutions require different strategies for students to integrate academically and socially. The students are mainly non-traditional with campus time spent in the classroom. Interventions must be able to be incorporated at the classroom level. Peer mentoring is one type of intervention that may be conducted via the classroom successfully. Finally, policy, higher education institutions have acknowledged that they are a service industry and must meet the
needs of the consumer, or student. An effective, successful higher education institution must identify and provide to students those experiences that will have the best impact on their educational outcome (Elliott, 2002).

**Need for Further Research**

This study provides insight into two-year institution students’ perceptions of satisfaction after implementing a peer mentoring program. However, the sample was limited in scope and therefore should not be generalized to the overall population of two-year institution students. Yet, there remains a lot to be learned about the perceptions of students regarding satisfaction and peer mentoring.

Future research could use other methodologies, such as interviews and focus groups to study the context of peer mentoring as it is implemented within an institution to gain a more in-depth insight into how peer mentoring improves satisfaction and the experiences of those involved. Previous research mainly involves four-year residential institutions. Further research is needed to look at how interventions such as peer mentoring will affect satisfaction, persistence, and retention at two-year institutions. Interventions implemented at the classroom level are necessary to accommodate students at two-year institutions. Research at the classroom level looking at improving satisfaction greatly expands the knowledge that we currently have regarding two-year institutions.

**Conclusion**

Looking back at the literature reviewed, this study supports the theory that peer mentoring can be beneficial for integration and persistence since it confirms the satisfaction rates were raised after peer mentoring. The literature demonstrated that close bonds increase
engagement and satisfaction. Most studies conducted focused on four-year institutions, this research helped to shed knowledge on two-year institutions where satisfaction linked to retention needed attention. It will become increasingly important to look at two-year institutions. According to the National Center for Education Statistics (2018b), there is a projected increase in enrollment during the years 2016-2027 for two-year institutions to increase enrollment by 12% while four-year institutions will decrease by 2%. Most two-year or less institutions, 92%, have open admission policies (NCES, 2018b). Open admission policies benefit non-traditional students as the criteria for admittance is a standard high school diploma or GED. The first year of college has the greatest significance in the academic life of students in terms of satisfaction, involvement, retention, and success. Adverse events in the first year can lead to failure or withdrawal (Thalluri, 2016). These students profit from interventions used to increase satisfaction and involvement.

Peer mentoring programs offer an opportunity for new students to be supported by a current more knowledgeable student. Students that participate in a peer mentoring experience will obtain substantial advantages which include a smoother transition to the institution and community within the institution (Glaser et al., 2006). Retention approaches need to concentrate on keeping students satisfied with their educational experience and institution (Elliott, 2002). Non-traditional commuter students have a need to connect to the institution to improve retention. Peer mentoring can encompass involvement, persistence, and satisfaction which all have been shown to increase retention. Peer mentoring can connect new students to the institution and to other students.
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Appendix A:

Transition+ Peer Mentoring


An Introduction to Peer Mentoring

1. What makes a good mentor: discuss how each of the points contributes to ‘good mentoring’.
2. How a good mentor should conduct themselves: discuss examples of good practice in mentoring based around each of the points.
3. What makes a poor mentor: behavior not appropriate for mentors?

[SLIDE 1] What is Peer Mentoring?

Peer mentoring involves students helping other students succeed at the institution: including helping new students settle in, to acting as an informal link between the institution and peer mentees.

[SLIDE 2] Peer Mentoring Training: What is a ‘good’ peer mentor?

Break into groups of two or three and discuss …

1. What skills a ‘good’ peer mentor should have?
2. How a ‘good’ peer mentor should conduct themselves?
3. What makes a ‘poor’ peer mentor?

[SLIDE 3] What Makes a Good Peer Mentor? Skills, Competencies and Behaviors:

- Good communication skills
- Reliable – willing to give time to help other students
- Friendly & Approachable
- Knowledgeable – about the institution & student life
- Willing to act as an ambassador for the institution
- Positive attitude – towards studying and student life
- Enthusiasm & Energy
- Trustworthy – know when to refer problems onwards, when to ask for help & when to keep a confidence
- Responsible attitude – able to make decisions and put others first


- Make new students feel at home – welcoming / friendship
• Listen and talk – knowing when to maintain ‘confidentiality’
• Share experiences and insights while helping new students navigate around the campus
• Finding classrooms
• Using the library
• Accessing labs and other areas
• Provide advice using their own experience – But know when a problem needs to be shared with a staff member
• Act as a friend - Accompany peer mentees to social events & to see academic tutors if needed
• Point peer mentees in the ‘right direction’ if needed

• Miss appointments with peer mentees
• Mislead or misinform peer mentees
• Help with academic content
  o Encourage plagiarism
  o Collusion
  o Show mentees work previously undertaken by themselves
• Act inappropriately

[SLIDE 6] Peer Mentoring Training: Empathy & Understanding
Working in small groups …
1. Remember what it felt like to be a ‘new student’
   - What were you most worried about?
   - What were you least worried about?
   - How did you feel at the beginning of welcome week?
   - How did you feel at the end?
   - What was the most difficult part of the first few weeks?
   - How did it feel walking into a lecture theatre for the first time?
   - What was the most difficult part of the first few weeks?
   - What did you miss the most from home?
   - What would have made the experience ‘better?’

[SLIDE 7] Peer Mentoring Training: Listening & Sharing
Working in pairs
1. Sit back-to-back: decide who is going to talk first and who is going to listen. One person should talk for five minutes about how an important event in your life affected you… for example
   - Taking important exams: Leaving school: Starting work
3. Face each other & discuss the conversation
4. Exchange roles
5. Consider how it felt to have a conversation without any eye contact or body language? What worked? What didn’t?
What makes good communication?

[SLIDE 8] Peer Mentoring Training: What happens if…
Working in small groups …
1. Discuss what how you would deal with one of the following situations… Your Peer Mentee…
   • Wants to quit because of performing poorly on an exam
   • Has failed the first piece of coursework and is distraught having always achieved highly before
   • Tells you he has a disability that he has not told the institution about
   • Tells you they feel depressed

[SLIDE 9] Peer Mentoring Training: Keeping a Record
Working in small groups
1. Discuss why it is important that you keep a record of your mentoring sessions
2. Think about what you might record, why, and when
Why is reflection important? How can we use reflection to improve and inform future actions and activities?
Appendix B:

Non-Peer Mentor Informed Consent

Informed Consent to Participate in Research Involving Minimal Risk and Authorization to Collect, Use and Share Your Health Information

Pro # 00035902

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.

We are asking you to take part in a research study called:
Peer Mentoring Effect on Student Satisfaction at Two-year or Less Institutions.
The person who is in charge of this research study is Lori Scribner. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. She is being guided in this research by Dr. Johanna Lasonen.

The research will be conducted at ATA Career Education.

Purpose of the study
The purpose of this study is to see if adding a peer mentoring program at two-year or less institutions, such as ATA, will improve the satisfaction of students.

Why are you being asked to take part?
We are asking you to take part in this research study because you are a student of ATA Career Education.
Study Procedures:
If you take part in this study, you will be asked to:

- Complete a student satisfaction survey that includes your opinions on the teaching, faculty, staff, and general items during your first term at ATA.
- The survey takes about 20 minutes to complete and will be given to students during their Success Skills class.
- The survey will be given on 2 separate occasions – once at the beginning of the term and the second at the end of the term.
- The research will take place on the ATA campus during regular school hours, both day and evening classes.

Total Number of Participants
About 70 individuals will take part in this study at USF.

Alternatives / Voluntary Participation / Withdrawal
You do not have to participate in this research study. You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Your decision to participate or not to participate will not affect your student status, course grade, recommendations, or access to future courses or training opportunities.

Benefits
There are no potential benefits of participating in this research study.

Risks or Discomfort
This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

Compensation
You will receive no payment or other compensation for taking part in this study.

Costs
It will not cost you anything to take part in the study.

Conflict of Interest Statement
There is no conflict of interests related to this study.
Privacy and Confidentiality

We will do our best to keep your records private and confidential. We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law. Certain people may need to see your study records. These individuals include:

- The research team, including the Principal Investigator, study coordinator, research nurses, and all other research staff.
- Certain government and university people who need to know more about the study, and individuals who provide oversight to ensure that we are doing the study in the right way.
- Any agency of the federal, state, or local government that regulates this research. The USF Institutional Review Board (IRB) and related staff who have oversight responsibilities for this study, including staff in USF Research Integrity and Compliance.

We may publish what we learn from this study. If we do, we will not include your name. We will not publish anything that would let people know who you are.

Your personal information collected for this research will be kept as long as it is needed to conduct this research. Once your participation in the research is over, your information will be stored in accordance with applicable policies and regulations. Your permission to use your personal data will not expire unless you withdraw it in writing. You may withdraw or take away your permission to use and disclose your information at any time. You do this by sending written notice to the Principal Investigator at the following address:

Lori Scribner
1912 Saginaw Ct
Oldsmar, FL 34677

While we are conducting the research study, we cannot let you see or copy the research information we have about you. After the research is completed, you have a right to see the information about you, as allowed by USF policies.

If you have concerns about the use or storage of your personal information, you have a right to lodge a complaint with the data supervisory authority in your country.

You can get the answers to your questions, concerns, or complaints

If you have any questions, concerns or complaints about this study, or experience an unanticipated problem, call Lori Scribner at 727-686-1359.

If you have questions about your rights as a participant in this study, or have complaints, concerns or issues you want to discuss with someone outside the research, call the USF IRB at (813) 974-5638 or contact by email at R SCH-IRB@usf.edu.
Consent to Take Part in this Research Study
And Authorization to Collect, Use and Share Your Health Information for Research

I freely give my consent to take part in this study. I understand that by signing this form I am agreeing to take part in research. I have received a copy of this form to take with me.

_____________________________________________  _______________________
Signature of Person Taking Part in Study                        Date

Printed Name of Person Taking Part in Study

Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect from their participation. I confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in their primary language. This research subject has provided legally effective informed consent.

_______________________________________________________________
Signature of Person obtaining Informed Consent
Date

Printed Name of Person Obtaining Informed Consent
Appendix C:

Peer Mentor Informed Consent

Informed Consent to Participate in Research Involving Minimal Risk and Authorization to Collect, Use and Share Your Health Information

Pro # 00035902

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.

We are asking you to take part in a research study called: Peer Mentoring Effect on Student Satisfaction at Two-year or Less Institutions.

The person who is in charge of this research study is Lori Scribner. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. She is being guided in this research by Dr. Johanna Lasonen.

The research will be conducted at ATA Career Education.

Purpose of the study

The purpose of this study is to see if adding a peer mentoring program at two-year or less institutions, such as ATA, will improve the satisfaction of students.

Why are you being asked to take part?

We are asking you to take part in this research study because you are a student of ATA Career Education.
Study Procedures:
If you take part in this study, you will be asked to:

- Complete a student satisfaction survey that includes your opinions on the teaching, faculty, staff, and general items during your first term at ATA.
- The survey takes about 20 minutes to complete and will be given to students during their Success Skills class.
- The survey will be given on 2 separate occasions – once at the beginning of the term and the second at the end of the term.
- Be assigned a peer mentor at the beginning of the term.
- The research will take place on the ATA campus during regular school hours, both day and evening classes.

Total Number of Participants
About 70 individuals will take part in this study at USF.

Alternatives / Voluntary Participation / Withdrawal
You do not have to participate in this research study. You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Your decision to participate or not to participate will not affect your student status, course grade, recommendations, or access to future courses or training opportunities.

Benefits
There are no potential benefits of participating in this research study include.

Risks or Discomfort
This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

Compensation
You will receive no payment or other compensation for taking part in this study.

Costs
It will not cost you anything to take part in the study.

Conflict of Interest Statement
There is no conflict of interests related to this study.
Privacy and Confidentiality

We will do our best to keep your records private and confidential. We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law. Certain people may need to see your study records. These individuals include:

- The research team, including the Principal Investigator, study coordinator, research nurses, and all other research staff.
- Certain government and university people who need to know more about the study, and individuals who provide oversight to ensure that we are doing the study in the right way.
- Any agency of the federal, state, or local government that regulates this research. The USF Institutional Review Board (IRB) and related staff who have oversight responsibilities for this study, including staff in USF Research Integrity and Compliance.

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And Authorization to Collect, Use and Share Your Health Information for Research

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Signature of Person Taking Part in Study                      Date

Printed Name of Person Taking Part in Study

Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect from their participation. I confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in their primary language. This research subject has provided legally effective informed consent.

Signature of Person obtaining Informed Consent
Date

Printed Name of Person Obtaining Informed Consent
Appendix D:

Mentor Informed Consent

Informed Consent to Participate in Research Involving Minimal Risk and Authorization to Collect, Use and Share Your Health Information

Pro # 00035902

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About 70 individuals will take part in this study at USF.

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Costs
It will not cost you anything to take part in the study.

Conflict of Interest Statement
There is no conflict of interests related to this study.
Privacy and Confidentiality

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- The research team, including the Principal Investigator, study coordinator, research nurses, and all other research staff.
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And Authorization to Collect, Use and Share Your Health Information for Research

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_____________________________________________  ______________
Signature of Person Taking Part in Study          Date

Printed Name of Person Taking Part in Study

Statement of Person Obtaining Informed Consent

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_____________________________________________  ______________
Signature of Person obtaining Informed Consent  Date

Printed Name of Person Obtaining Informed Consent
Appendix E:

Permission to Conduct Research

June 18, 2018

This letter is to confirm that Lori Scribner, Doctoral Candidate from the University of South Florida, has the support of ATA Career Education to conduct research concerning student satisfaction and peer mentoring.

Thank you,

Kyle Weber, Campus Director ATA Career Education
Appendix F:
ATA Career Education Student Satisfaction Survey

Instructions: each item below describes an expectation about your experiences at this school. The response on the right tells us how **satisfied** you are that your institution has met this expectation.

<table>
<thead>
<tr>
<th>Demographics:</th>
<th>Ratings scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:__________________</td>
<td>1-not satisfied</td>
</tr>
<tr>
<td>Male or Female</td>
<td>2-slightly satisfied</td>
</tr>
<tr>
<td>High School Diploma or GED</td>
<td>3-moderately satisfied</td>
</tr>
<tr>
<td>Program of Study- Allied Health or Nursing</td>
<td>4-very satisfied</td>
</tr>
<tr>
<td>Ethnicity/Race: Hispanic/Latino Black White</td>
<td>5-extremely satisfied</td>
</tr>
<tr>
<td>Other__________________</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1. Teaching Environment and Resources</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Overall, how effective is the teaching/instruction within your program at ATA?</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1.2 How well do the classrooms at ATA meet the learning needs of students?</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1.3 The equipment in the lab facilities is kept up to date.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1.4 The computer labs are adequate and accessible.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1.5 How easy it is to obtain the resources you need from ATA's library or Resource Room?</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1.6 The school shows concern for students as individuals.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1.7 The quality of instruction in the academic program is excellent.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Faculty &amp; Staff</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 How helpful are the faculty at ATA?</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2.2 The faculty care about me as an individual.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2.3 The faculty are fair and unbiased in their treatment of individual students.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2.4 How helpful were the admissions staff at ATA?</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2.5 The admissions staff are knowledgeable.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2.6 How helpful is Student Services?</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2.7 Student services adequately meet the needs of the students.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2.8 How helpful is the staff at Financial Aid?</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
2.9 Financial aid awards are announced to students in time to be helpful in planning.  

2.10 How useful are the services provided by Career Services?  

2.11 The career services office provides students with the help they need to get a job.  

3. General Experience  

3.1 How easy was the registration process for courses at ATA?  

3.2 Classes are scheduled at times that are convenient for me.  

3.3 How safe do you feel on campus?  

3.4 The school is safe and secure for all students.  

3.5 Parking lots have adequate spaces, are well-lighted, and secure.  

3.6 How is the cleanliness of the classrooms?  

3.7 The business office is open during the hours which are convenient for most students.  

3.8 Bookstore staff are helpful.  

3.9 Channels for expressing student complaints are readily available.  

3.10 The student center is a comfortable place for students to spend their leisure time.  

4. Overall Satisfaction  

4.1 Overall, how prepared do you feel you will be when you complete your program based on your studies at ATA?  

4.2 Overall, the school is well-maintained.  

4.3 Overall, most students feel a sense of belonging here.  

4.4 Please rate your overall experience at ATA Career Education.
Appendix G:

Consent to Use Survey

Lori Scribner, University of South Florida doctoral student, has permission to use the student satisfaction survey created by ATA Career Education for her dissertation research.

Kyle Weber, Campus Director
ATA Career Education Spring Hill, FL
Appendix H:

IRB CITI Program Certificate

Certificate of Completion

Lori Scribner

Completed the IRB Members Basic Course

on Sunday, July 24, 2016

CITI Certificate ID#: 51587
Appendix I:

IRB Letter of Approval

10/25/2018

Lori Scribner
Teaching and Learning
1912 Saginaw Ct
Oldsmar, FL 34677

RE: Expedited Approval for Initial Review
IRB#: Pro00035902
Title: Peer Mentoring Effect on Student Satisfaction at Two-year or Less Institutions

Study Approval Period: 10/24/2018 to 10/24/2019

Dear Ms. Scribner:

On 10/24/2018, the Institutional Review Board (IRB) reviewed and APPROVED the above application and all documents contained within, including those outlined below.

Approved Item(s):
Protocol Document(s):
- IRB Protocols with revisions

Consent/Assent Document(s)*:
- Non-Peer Mentor Informed Consent Form.pdf
- Peer Mentor Informed Consent.pdf

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent documents are valid until the consent document is amended and approved.
It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110 and 21 CFR 56.110. The research proposed in this study is categorized under the following expedited review category:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) business days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Melissa Sloan, PhD, Vice Chairperson
USF Institutional Review Board