

SATISFACTION OF NONTRADITIONAL STUDENTS IN HEALTH SCIENCES: A  
CAUSAL COMPARISON STUDY INVESTIGATING INSTITUTIONAL EFFECTIVENESS

by

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Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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### **ABSTRACT**

Nontraditional students have personal obstacles they must overcome in their journey through college. These barriers differ from traditional students and can include feelings of isolation and a sense that their chosen institutions are insensitive and inflexible to the particular nontraditional student needs. In this quantitative, causal-comparative study, the researcher sought to determine if students' satisfaction, as measured by the Student Satisfaction Inventory, differed based on student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) enrolled at technical colleges of Georgia. This study was conducted at technical colleges in Georgia. Participants were students from five colleges enrolled in nursing (six traditional and 19 nontraditional students), dental hygiene (20 traditional and six nontraditional), or radiologic technology programs (9 traditional and 7 nontraditional). A factorial Analysis of Variance was used to determine main effects of each independent variable as well as evaluate any interaction effects of traditional and nontraditional and health science program on student satisfaction.

*Keywords:* nontraditional student, adult learner, persistence, satisfaction, institutional effectiveness

### **Dedication**

This dissertation manuscript is dedicated to my husband, Chad, for his unwavering support, patience, constant encouragement, and well-timed humor.

## **Acknowledgments**

I considered running away more often as an adult, working on this manuscript, than I ever did as a child. I think that classifies this document as the most significant academic challenge of my life. Without the support and guidance of the following people, this research would have not been possible. It is also to them that I owe my most sincere thanks and appreciation.

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**List of Abbreviations**

National Center for Education Statistics (NCES)

Student Satisfaction Inventory (SSI)

## **CHAPTER ONE: INTRODUCTION**

### **Overview**

Research has indicated that student satisfaction within a given institution has an effect on and influences retention of traditional and nontraditional students (Graham, Phillips, Newman, & Atz, 2015; Markel, 2015; Milman, Posey, Pintz, Wright, & Zho, 2015). The choice of the academic program has also shown to be a useful indicator of retention (Nitecki, 2011). However, there is limited research available on whether satisfaction differs by student status and the degree program (specifically health sciences) in which students are enrolled. Chapter One will review the background and theoretical framework including a statement of the problem, research questions, and relevant definitions.

### **Background**

Anywhere from 16-32% of all students on college campuses are nontraditional students that are enrolled full-time (National Center for Education Statistics, 2015). Nontraditional students enrolled part-time number anywhere from 50-75% of all enrolled students (NCES, 2015). This shift in the diversity of the student population, which includes a growing number of adult learners, has the potential to introduce major issues for educational institutions not equipped to serve this demographic of student and their unique needs (Van Rhijn, Lero, Bridge, & Fritz, 2016).

Kasworm's studies over the past 37 years have highlighted the adult student and higher education's lack of support for this demographic. An early review of the literature by Kasworm (1990) suggested that researchers focus on adult undergraduates in higher education and the creation of coherent theoretical frameworks with which to study these students. Since then, higher education has been described as an "elitist environment" that continues to provide a

“privileged place and role for young adult leadership development [that] embraces full-time, residential youth” (Sissel, Hansman, & Kasworm, 2001, p. 18). Privilege and power are going to traditional students, which unfortunately excludes groups that are different, including adult learners and other nontraditional students. Although this is not always intentional, adult learners and nontraditional students are marginalized nonetheless (Sissel et al., 2001).

Later studies by Kasworm focus on facets of the educational institution and how faculty, programs, and policy hinder this demographic. Given society’s need for a more educated workforce, student enrollment patterns continue to change (Kasworm, 2010). In fact, it is estimated that “by 2018, 63% of all jobs will require some level of college education” (Osam, Bergman, & Cumberland, 2016, p. 2). Thus, colleges must make a concerted effort in all departments to adjust to and serve a population of nontraditional students with a diverse set of needs (Osam et al., 2016).

Community colleges are uniquely primed to welcome nontraditional students as these institutions are more affordable and accessible (Hinkson & Butler, 2010). Additionally, community colleges train more than half of all health care workers with the only expectations being for growth in student numbers in these fields (Carnevale & Smith, 2013). Challenges for community colleges hinge on student success, retention, and satisfaction (Howley, Chavis, & Kester, 2013). Such institutions may possess certain advantages to serving nontraditional students if these colleges prepare their faculty, support staff, and administration appropriately through targeted faculty and staff development (Howley et al., 2013). This often places faculty and support staff of a college at a disadvantage as they are seldom formally trained to do anything other than their current job tasks (Wilkerson & Irby, 1998). For example, for faculty, this is an expertise in their particular content area. In order to bridge the gap, faculty and staff

development should be provided to garner and increase in diversity training and thus increase acceptance of complexity of students (rather than generalizing groups of students to a *type*).

Among the advantages of community colleges are their affordability, accessibility, and lack of organizational complexity (Howley et al., 2013). Additionally, smaller colleges partnered with local business enterprises have the potential to build training and degree programs that align with community needs (Howley et al., 2013). The academic program shows potential as a factor affecting retention (Nitecki, 2011). Programs within educational institutions tend to create a unique subculture, a group to which they can belong. Often students feel generalized or marginalized to a certain group status, and programs of study with a cohesive cohort provide a sense of comradery no matter the group dynamics (Nitecki, 2011). This concept of belonging and being part of something greater than the individual may be beneficial for all students, but this has not been fully explored as pertains to adult and nontraditional students (Osgood-Treston, 2001).

Community colleges are responsible for more than half of the education of allied health professionals (Carnevale & Smith, 2013). The demand for these types of jobs is only expected to increase in the coming years with an estimated 91% of health care careers being in nursing and other supportive care professions (Carnevale & Smith, 2013). This demand is coupled with an influx of adult students, many of whom need to further their education in health care fields to keep up with changing technologies (Hinkson & Butler, 2010). Thus, community colleges must display a willingness and commitment to serve adult students and understand how this demographic differs from the traditional, just out of high school type of student (Pelletier, 2010).

Preparation and accommodation for adult learners and other nontraditional students include an assessment of how well the institution is serving them. Student interpretation of an

institution can be measured as a level of satisfaction (Schreiner & Nelson, 2013). Schreiner and Nelson (2013) suggest regular assessment of student satisfaction of the institution to ensure that student needs are being met (p. 77). This information gathered from student feedback is pertinent to discovering specific features within an institution rather than an institution as a whole. It was also stated that aggregating all student data may “mask important information that would help an institution better serve its students” (Schreiner & Nelson, 2013, p. 105). To avoid masking vital data, Schreiner and Nelson (2013) called for a differentiation of satisfaction ratings by the various types of students (e.g. race/ethnicity, class level, and program). However, there has not yet been research conducted concerning the differences in satisfaction among different student statuses and the health science programs in which the students are enrolled.

Providing appropriate care and consideration concerning the services and programs for nontraditional students brings with it a need for understanding of this demographic of students. *Andragogy* was first coined in 1833 and used to describe the methods of teaching of great scholars (Plato, Confucius, Aristotle, and Jesus) who viewed learning as a process of engaging others to think critically about a topic, question, or situation (Knowles, Holton, & Swanson, 2015). The inquiry and notions of adult learners as a unique body of learners did not grow until after World War I with the founding of the American Association for Adult Education in 1926 (Knowles et al., 2015).

Originally, research regarding adult learners focused on whether adults had the ability to learn at all. Scientific research proved adults could learn new things but did so much differently from children (Armitage et al., 2012). Eduard Lindeman laid the foundation for how adults learn differently in 1926; however, no integrated framework of elements of adult learners was established until the 1970s (Knowles et al., 2015). Knowles established the Adult Learning

Theory in 1968. Among Knowles' statements of adult learners (and his now six elements of adult learners), two major themes emerged: that the life roles of these students greatly affect educational experience and that, while highly motivated, the motivation of these learners is frequently blocked (Knowles et al., 2015). Age and age categorization tend to allow younger individuals to establish an otherness apart from elders naturally separating themselves into groups (Bytheway, 2005). Colleges may not be appropriately prepared to face a changing student demographic that includes the increasing numbers of nontraditional students and thus will continue to treat them differently than a traditionally aged student (Howley et al., 2013).

Adult students often receive labels that, while an easy means of categorization, do not bring with them "respect and dignity for adult student qualities" (Sissel et al., 2001, p. 19). This categorization, while based on true representations of this body of students, may result in denied opportunities and institutional neglect (Sissel et al., 2001, p. 18). The construction of otherness separates adult learners from those considered worthy of time, effort, accommodation, etc., and thus marginalizes nontraditional students (Sissel et al., 2001).

Parkin's Social Closure Theory was established in 1979. *Social closure* is defined as any exclusionary or restrictive practices of the majority (in this case traditional learners) that would hinder and block the minority (in this case nontraditional adult learners). It was noted that this closure is not always intentional and not always based solely on "class" structure (Parkin, 1979). Sissel, Hansman, and Kasworm (2001) assert that regardless of the type of support, "...adult learners face institutional neglect, prejudice, and denial of opportunities" (p. 18).

The existing body of knowledge recognizes that adult learners and other nontraditional students have unique needs. Very generally, these students can be described as having responsibilities that their traditional counterparts do not have (Osgood-Treston, 2001). Having



those responsibilities and filling roles in their lives other than *student* results in unique needs in the educational setting (Deggs, 2011). These needs include but are not limited to such things as a balance in childcare responsibility, office hours of faculty and support staff that do not coincide with a regular nine to five work day of many of these students, or more course offerings in the evenings so as not to interfere with students' work schedules (Deggs, 2011; Panacci, 2015; Milman et al., 2015). Current research also notes that policies, programs, and institutional supports should recognize and adapt to serve these students. There is evidence that satisfaction influences retention. There is also evidence that satisfaction may vary by student status and by program enrolled. The use of Adult Learning Theory coupled with Social Closure Theory might be compatible in explaining student satisfaction across a wide range of student statuses and degree program enrolled.

### **Problem Statement**

At any given time in the semester, nearly 25% of students enrolled full-time are nontraditional students. Nontraditional students that are enrolled part-time number are double to triple that amount (National Center for Education Statistics, 2015). This growing number of adult learners has the potential to introduce major issues for educational institutions not equipped to serve this demographic of student and its unique needs (Van Rhijn et al., 2016). While some of these students' needs overlap with a traditional body of students, where they diverge is what makes the nontraditional student experience exceptional. Nontraditional students may have personal obstacles they must overcome in their journey through college that can be summarized to include feelings of isolation and the feeling that their chosen institutions are insensitive and inflexible to their specific needs. How colleges, teachers, advisors, and other support staff prepare for and approach nontraditional students can have profound effects on their success

(Tovar, 2015). Many colleges gear student services more toward a traditional body of students with minimal customization to fit the needs of nontraditional students (Goncalves & Trunk, 2014). Research supports the effect of satisfaction of nontraditional and traditional students as it relates to retention (Graham et al., 2015; Markle, 2015; Milman et al., 2015). Likewise, the academic programs in which these students are enrolled has shown to be a useful indicator of future retention of a student due to the creation of an inclusive environment within the larger educational institution (Nitecki, 2011). However, it has also been suggested that nontraditional students persist despite their level of satisfaction (Goncalves & Trunk, 2014; Giancola, Munz, & Trares, 2008). The problem is that there is limited research available on the satisfaction of nontraditional students versus their traditional counterparts that is specific to differences in the health science program in which they are enrolled.

### **Purpose Statement**

The purpose of this quantitative, causal-comparative study is to determine if students' satisfaction, as measured by the Student Satisfaction Inventory, differs based on student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) enrolled at technical colleges of Georgia.

The independent variables are student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology). For the purpose of this study, student status is defined by the traditional or nontraditional status of the participants. According to the National Center for Educational Statistics, most full-time undergraduate students are considered young adults and under the age of 25 (Kena et al., 2015). It is important to note that, while these definitions seem like extreme generalizations, age is not the primary classification for traditional or nontraditional. A nontraditional student can certainly be younger;

likewise, a student possessing traits of a traditional student may be older. Thus nontraditional students will be defined as students over the age of 25 years old that also meet one or more of the following: having delayed college entry, having part-time enrollment, having part-time or full-time employment, having financial independence, having dependents, being a single parent, or having received a General Education Diploma (GED) (Kena et al., 2015). A traditional student will be defined as a student less than 25 years of age when they begin college. These students will also meet one of the following: dependence on a parent or guardian for financial support, full-time enrollment, or local to the campus (Kena et al., 2015). For this study, the health science programs of Associate of Science in Nursing (ASN), Dental Hygiene (RDH), and Radiologic Technology (R. T. (R)) will be compared.

The dependent variable is student satisfaction, formally defined as the level of contentment that the college meets a student's needs and operationally defined as the score yielded from the Student Satisfaction Inventory (SSI) (Schreiner & Juillerat, 1994). The Student Satisfaction Inventory measures both importance and satisfaction of various factors within an educational institution (Ruffalo Noel-Levitz, 2015). According to Ruffalo Noel-Levitz (2015), the Student Satisfaction Inventory is designed to aid in the determination of what matters to students and how satisfied they are with the educational institution. Type of college will not be viewed as a confounding or moderating variable, as health science programs in the chosen technical colleges in Georgia are uniform in the curriculum, course completion time, and clinical requirements (Curriculum Program Specialist for Health Sciences, personal communication, January 26, 2017).

### **Significance of the Study**

Research dates back to 1980 (Kasworm, 1980) concerning the experiences, struggles, and successes of adult students. Specifically, accelerated degree programs have been highlighted as beneficial to adult students, but these types of studies only compare the accelerated program to a traditional program and not a difference in student satisfaction within the different types of programs available (Boylston, Peters, & Lacey, 2004). There are currently no specific examples of published research topics that cover satisfaction of the students considered to be already persisting in such programs.

Recent, unpublished studies concerning nontraditional student satisfaction have focused primarily on the influence of satisfaction on retention (Anderson, 2011). As there are several models that address factors affecting traditional student retention, Anderson's (2011) study focused simply on nontraditional student satisfaction and nontraditional student specific demographics. There have been recent unpublished studies concerning nontraditional students (in this case first-generation students) within health science programs and how student status relates to self-efficacy (Stallings, 2011). Ward (2012) acknowledged that few studies seek to differentiate the perceptions of nontraditional students in specific programs, but this study discussed only one health science program and only the nontraditional experience. Further, there is not sufficient evidence of research involving the importance and satisfaction ratings of nontraditional students (as compared to traditional counterparts) in health science programs of career and technical institutions. This study will seek to fill a gap in the literature by quantifying differences in importance and satisfaction ratings of an educational institution by traditional and nontraditional students enrolled in three different health science degree programs.

Additionally, this study has practical significance in the usefulness of the data gained for the institutions involved. The economy is ever changing, and with it comes the emergence of issues of global competitiveness (McCann, Graves, & Dillon, 2012). Government policies that are designed for the United States to lead the world in the proportion of college graduates by 2020 can succeed only if more adults complete their degrees (Pelletier, 2010). Given this need for an educated workforce, colleges must adapt and realign missions, support, and the institutional environment to better serve their student bodies (Kasworm, 2010). Knowledge of the satisfaction levels of students (traditional and nontraditional) is crucial to improving the learning environment for students and subsequently improving policies, procedures, retention, and graduation rates (Schreiner & Nelson, 2013). However, while satisfaction ratings are important to gather they provide only a partial picture and may mask important details. Schreiner and Nelson (2013) insisted that differentiation of satisfaction ratings “across types of students can make student satisfaction assessment even more powerful” (p. 105). This study seeks to add to the body of knowledge by exploring differentiate satisfaction scores based on student status and by health science program in which they are enrolled.

### **Research Questions**

The following research questions were designed to assess the level of satisfaction with the educational institution between nontraditional and traditional students in different health science programs.

**RQ1:** Is there a difference in student satisfaction with an educational institution, as measured by the Student Satisfaction Inventory, based on student status (traditional or nontraditional)?

**RQ2:** Is there a difference in student satisfaction with the educational institution, as measured by the Student Satisfaction Inventory, based on the type of health science program (nursing, dental hygiene, radiologic technology) that the student is enrolled?

**RQ3:** Is there an interaction between the Student Satisfaction Inventory scores among traditional and nontraditional students in nursing, dental hygiene, or radiologic technology programs?

### Definitions

1. *Nontraditional student* – A student over the age of 25 that also meets one of the following: having delayed college entry, having part-time enrollment, having part-time or full-time employment, having financial independence, having dependents, being a single parent, or having received a General Education Diploma (GED) (Kena et al., 2015).
2. *Traditional student* – A student under the age of 25 when they begin college. These students are also financially dependent on a parent or guardian, attend college full-time, and (depending on the type of institution) lives on campus or is local to that campus (Kena et al., 2015).
3. *Health science programs* – Allied health programs of study at technical colleges of Georgia. For this study, the degree programs of Associate of Science in Nursing (ASN), Dental Hygiene (RDH), and Radiologic Technology (R. T. (R)) are compared.
4. *Student Satisfaction Inventory* – According to Noel-Levitz (2015), a survey that affords institutions the ability to identify what matters to and what satisfies students.
5. *Andragogy* – A method and practice of teaching adult learners (Knowles et al., 2015).
6. *Social closure* – Monopolization of some opportunity to a limited number of individuals deemed eligible (Parkin, 1979).

## CHAPTER TWO: LITERATURE REVIEW

### Overview

Due to changes in the economy, college campuses across the nation are steadily seeing an increase in the numbers of nontraditional students in their cohorts (Hinkson & Butler, 2010; Pelletier, 2010; Osam et al., 2016). How colleges, teachers, advisors and other support staff prepare for and approach nontraditional students can have profound effects on their success. The various roles on a college campus can affect a student's persistence and his or her desire to complete a program of study (Tovar, 2015). Additionally, the academic program has the ability to influence student persistence. Not only is this an important issue as it concerns nontraditional student success, but it also concerns college retention. Retention in programs (or lack thereof) not only influences a college's federal aid (Nitecki, 2011); it can mean the difference in earnings gaps in a community based on education. Earnings and education directly affect the qualifications of a community's workforce and the economy and lifestyles within a community (Baum, Kurose, & McPherson, 2013). This chapter will examine theory and research addressing nontraditional students in higher education, health science programs and potential barriers to their success.

### Theoretical Framework

One can define a nontraditional student (or adult learner) with a variety of descriptions. There are no fewer than four, official existing definitions of what constitutes an *adult* (Knowles et al., 2015). Additionally, what constitutes an adult might vary from culture to culture. Thus, it is impossible to provide one definition of *adult learner* or *nontraditional student* when the literature covers the noun as broadly as it has the past 40 years (Osgood-Treston, 2001). In education, typically the psychological definition of an adult is one who is employed in a wage



earning occupation. This definition, that an adult is one who is responsible for himself or herself, or self-directing, is crucial to understanding nontraditional students (Knowles et al., 2015). In addition to meeting the definition of adult, many students are considered nontraditional based on a variety of other identifiers they may meet. These include but are not limited to the following: being over the age of 25 years old, having delayed college entry, having part-time enrollment, having part-time or full-time employment, having financial independence, having dependents, being a single parent, or having received a General Education Diploma (GED) (Kena et al., 2015). This shows contrast with traditional students, who are students assumed not to have taken a break in education from high school to tertiary education and to still be dependent on a parent or guardian for financial support (Nilson, 2010).

Many factors affect the success and persistence of nontraditional students. Feelings of isolation and marginalization might affect them socially (Kolb, 2014). These students may also face a sense of immediacy in their degree completion time simply due to the nature of their learning process (Nilson, 2010). These students are often facing major life changes in order to return to college. This includes any change in lifestyle. Sometimes this means divorce. Other times nontraditional students need further education to remain competitive in their current job. Alternatively, a student may be abandoning a career altogether to make a change and may be without a job. Nontraditional students often aim to gather skills that they can employ on the job “now” or that they can obtain quickly enough to reenter the workforce (Chao & Good, 2004). Thus, for many nontraditional students, being a student is not the only role they have to fulfill in life. Many researchers suggest that, due to competing life roles and aforementioned life changes, the nontraditional students may view their education as an obligation rather than an alternative route in life (Forbus, Newbold, & Mehta, 2011). With growing numbers of nontraditional

students, educational institutions should acknowledge the challenges of nontraditional students as well as the many ways the institution may be inadvertently neglecting them.

### **Adult Learning Theory**

Originally, research regarding adult learners focused on whether adults had the ability to learn at all. Scientific research proved adults have the ability, but they learn much differently from children (Armitage et al., 2012). Eduard Lindeman laid the foundation for how adults learn differently in 1926; however, no integrated framework of elements of adult learners was established until the 1970s. Malcom Knowles first introduced the concepts of *andragogy* and adult learning in the United States in 1968. Adult Learning Theory was founded in response to “a need for a defining theory within the field of adult education” (Knowles et al., 2015, p. 3). This theory declares that adults learn differently from children. *Pedagogy* is the set of beliefs regarding the teaching of children. *Andragogy* involves methods of teaching adults. While the andragogic model draws from similar beliefs about learners in general, it has different assumptions than pedagogy about the learners involved. Knowles originally developed four assumptions of adult learners. Over the years, two other assumptions have been added (Knowles et al., 2015).

The core assumptions of adult learners focus on the learners’ need to know, self-concept, prior experience, readiness to learn, orientation to learning, and motivation to learn (Knowles et al., 2015). While the names for the assumptions are identical to the assumptions of the pedagogical model, the descriptions of these assumptions differ particularly with the first and sixth assumptions.

**Need to know.** The need to learn for a child is based on what the child *must* know in order to progress to another level. On the contrary, nontraditional students are not to be viewed

as *blank slates* on which to build new information (Alhassan, 2012). Adult learners want to know why, what, and how their learning will apply to their lives immediately (Goncalves & Trunk, 2014).

Aside from teachers in the classroom, other units of an educational institution could benefit from a shift in their perspectives on adult students. Sharing control over program planning and facilitation with nontraditional students is a potential means to engage these adult students even before the learning process takes place (Knowles et al., 2015). Institutional policies concerning class schedules and office hours are often accommodating for a traditional body of students who do not have responsibilities outside the educational institution (Markle, 2015).

**The learners' self- concept.** Knowles described adults as having a self-concept that centered on taking responsibility for their actions (Knowles et al., 2015). This also includes a fair amount of resistance and resentment when adult students feel directed, or that someone is imposing dependency upon them (Knowles et al., 2015). Authoritative policies and procedures in a college, or within the academic programs within that college, have the potential to prevent adult learners from participating solely because these practices work against adult learners and their self-directing nature in participation (Osam et al., 2016).

**The role of the learners' experiences.** In most cases, nontraditional students come with a variety of experiences simply by having lived longer than their traditional counterparts (Knowles et al., 2015). However, as many other factors can still deem a student nontraditional, a wide range of individual differences can still be present in these students that are not found in a group of traditional students. While this heterogeneous population may come with unusual resilience and coping, they come with unique challenges that need increased levels of support

(Kolb, 2014). These experiences, unlike with children, become defining features for adults and must be accounted for by administrators, support staff, and educators. Adult student learning is often heavily approached through the lens of these students' life experiences. When this experience is acknowledged by instructors and utilized to redefine new goals, adult learning is optimized (Chen, 2014).

**Readiness to learn.** Nontraditional students tend to value quality education because their jobs depend on their having adequate information (Kolb, 2014). In the case of adult learners in a college environment, these students are usually ready to learn those things that will allow them to cope better with their lives and situations (Knowles et al., 2014). These students come to college with a clear focus and full knowledge of the benefit of completing a degree. These tend to be socially or financially predicated which, paradoxically, is often included as the same reasons nontraditional students sometimes do not succeed (Van Rhijn et al., 2015).

**Orientation to learning.** Unlike the subject-oriented education of children and youth, most adult learners are more task- and life-oriented in their learning (Knowles et al., 2014). Nontraditional students do not desire subjects and lectures. They understand concepts through their experiences (Kolb, 2014). By being sensitive to the orientation to learning of adult learners, faculty might better serve these students (Kolb, 2014).

**Motivation.** The aspect of motivation is another that is quite different from the pedagogical model. When it comes to the motivation to learn, nontraditional students are typically motivated by extrinsic *and* intrinsic factors. Extrinsic factors are things that come from others: a support system, caring teachers, and an attentive college support staff. Intrinsic are those factors students possess to maintain zeal for their academics such as determination, perseverance, and hope (Goncalves & Trunk, 2014). The need for direction and support will

vary by student (Knowles et al., 2015). Some students are not deterred by a decrease in extrinsic motivators (Osam et al., 2016). This presents a challenge to educational administration and other leaders as they then find it hard to determine the necessary level of involvement with each student. Some students may be able to navigate the transition into college very easily while others may need more aid. All areas of an educational institution should be able to discern and be attentive to the level of direction and support these students need (Knowles et al., 2015).

### **Social Closure Theory**

*Social closure* is, very basically, exclusion of others based on some group attribute (Parkin, 1979). While stratification and social exclusion by classes are well-documented, *social closure* might not always be so obvious in an educational setting. *Social closure* involves the maximization of rewards for some while restricting access to others (Parkin, 1979). It is well documented in educational institutions that nontraditional students are often neglected in terms of learning interests (Simi & Matusitz, 2016), scheduling (Goncalves & Trunk, 2014; Osam et al., 2016), and general exclusion and marginalization due to their status (Kolb, 2014; Bytheway, 2005).

*Social closure* is not always intentional. In many cases, interactions and procedures with student services (advisement, career counseling, registration and class scheduling) are geared more toward a traditional body of students with very little customization and specialization for nontraditional students (Goncalves & Trunk, 2014). Often, a nontraditional student may not be excluded, but due to the alternative roles and responsibilities (and less time spent on campus) these students may not be aware of available services announced on campus through means such as flyers, telecommunication on campus, and support staff they may encounter while on campus (Van Rhijn et al., 2016). Additionally, adult students often receive labels that, while an easy

means of categorization, do not bring with them “respect and dignity for adult student qualities” (Sissel et al., 2001, p. 19). This categorization, while based on true representations of this body of students, results in denied opportunities and institutional neglect (Sissel et al., 2001, p. 18). It is well documented that a student’s level of integration in the educational institution is directly related to a student’s success (Van Rhijn et al., 2016). Negative experiences with faculty, support staff, and traditional students have the potential to separate adult learners from those considered worthy and ultimately result in marginalization (Sissel et al., 2001).

The use of Adult Learning and Social Closure theories together may be compatible to identify whether student status (nontraditional or traditional) is related to satisfaction of an institution of higher learning. This ability of an institution to discern and meet student expectations and needs has been shown to increase overall student satisfaction (Howell, 2012). Student (traditional and nontraditional) satisfaction is well documented in the university system. However, much of this knowledge concerns traditional students. In such competitive environments, and in light of the myriad barriers that nontraditional students must face with the pursuit of higher education, an institution that sets itself apart in its service to this demographic can provide an extreme advantage for nontraditional students (Howell, 2012). Previous studies have shown career and technical colleges in general to be more accessible to nontraditional students due to their affordability and offering of accelerated programs (Carnevale & Smith, 2013; Hinkson & Butler, 2010; Hirschy, Bremer, & Castellano 2011). Unfortunately, there is insufficient knowledge about whether these institutions are truly adapting services to nontraditional students.

Prior research has failed to adequately cover nontraditional student satisfaction within the degree programs of career and technical colleges. This supports the need to define and describe

satisfaction and accommodation of nontraditional students in career and technical institutions. Additionally, this research hopes to shed light on accommodation within the degree programs rather than within the general population of students (which includes certifications and diploma programs).

The demand that educational institutions not only welcome but also accommodate every student is not a novel concept. Career and technical colleges have a unique position in their communities to answer the need of effectively educating the adult population. Career and technical colleges are generally more accessible, relevant, and more cost-effective for nontraditional students than universities (Hinkson & Butler, 2010). Adults returning to college and getting accepted into degree programs should have the same options for successful engagement, retention, and all available resources and opportunities as their traditional counterparts.

### **Related Literature**

Nontraditional students are increasingly becoming a majority on college campuses across in the United States. The National Center for Education Statistics (NCES) reported that 38% of all undergraduate students were aged 25 and older (NCES, U.S. Department of Education, 2015). When referencing community colleges and career and technical colleges, that number is much greater at anywhere from 36.5% to 72.6% of students enrolled depending on the program or certificate (Hirschy et al., 2011). In fact, it has been predicted that nontraditional students will soon outnumber traditional students as they have long outpaced traditionally aged students in enrollment (Chen, 2014). More than age categorization sets the nontraditional students apart. Most important is the fact that nontraditional students have responsibilities that traditional

students do not have. These include competing life roles, financial independence, and urgency of completion of a degree (Deggs, 2011).

### **Defining “Nontraditional”**

The National Center for Educational Statistics classifies a traditional undergraduate student as being under the age of 25 (Kena et al., 2016). As mentioned above, it is an extreme generalization to simply categorize students on age alone. Definitions based on age vary greatly. Osgood-Treston (2001) stated that the difficulty in defining a nontraditional student was due to cultural and historical differences in how groups of people define an *adult* (p. 2). Thus, there are many other classifications that can deem a student nontraditional. Osgood-Treston (2001) stated that this could be summarized to say that nontraditional and traditional students merely have differing responsibilities where Jinkens (2009) and Kolb (2014) referred to *life changing events* primarily separated the two groups of students. The occurrence of a life changing event brings one closer to an operational definition of nontraditional students as these life changing events can occur at any age which is the impetus for the nontraditional student’s return to or late start to gaining a degree (Jinkens, 2009; Jenkins, 2012; Kolb, 2014). Ultimately, as Osgood-Treston (2001) suggested and others supported, there is no *typical* nontraditional student. However, there is research supporting several characteristic roles outside of being a student that this population possesses.

Chung, Turnbull, and Hansen (2014) conducted a systematic review of the literature in an effort to develop a functional definition of a nontraditional student. While the authors concluded that *nontraditional student* does not communicate a distinct label, it was determined that in the 45 different definitions of a *nontraditional student*, all use the definition “students who do not conform to the traditional privileged image” (Chung et al., 2014, p. 1224). Traditional students



were defined as students who enroll in college directly following their secondary education. These students are financially dependent on a parent or guardian, often of a high socioeconomic status, and with few, if any, competing roles (Chung et al., 2014). Again, while the name *adult student* may categorize nontraditional students as being older, age may not always properly identify a nontraditional student for the purpose of meaningful research of nontraditional characteristics. Jinkens (2009) indicated that, at any age, a student might possess other traditional and nontraditional characteristics. Deggs (2011) stated this differently saying that nontraditional students “face challenges different than their traditional-age counterparts and are more likely not to finish courses or their programs of study” (p. 1543). For example, a traditionally aged student may be socioeconomically disadvantaged, a full-time employee, married, and/or a parent. All of these come with responsibilities outside of the educational institution.

Additionally, reasons for attending college in the first place vary between traditional students and nontraditional students. Kolb (2014) emphasized that nontraditional student matriculation is often predicated by life changing events such as a job change, new child, marriage (or divorce), or overall career change. It should be noted that all of these could take place earlier than the often cited age of 25. Researchers describe the nontraditional student experience, persistence, and success based on the following themes: obstacles to success, strengths of these students, and institutional factors that influence success or failure of such students.

### **Barriers to Success**

To discuss nontraditional students is to highlight how the college experience is more of a challenge than for traditional students. Kasworm has contributed much to the understanding of

nontraditional students. In a qualitative review of the literature, Kasworm (1990) developed five major domains of reality that apply to nontraditional students. These domains include a variety of images of college life that could be summarized as barriers to their success. Osam, Bergman, and Cumberland (2016) conducted a review of the literature concerning specific barriers that are involved when nontraditional students returns to college. The barriers are situational barriers, institutional barriers, and dispositional barriers of nontraditional students.

**Situational barriers.** Most situational barriers can be classified as a role strain or financial barrier (Osam et al., 2016). The concept of role strain dovetails well with the summary of definitions by Chung et al. (2016) that include competing roles and sociocultural differences as a major contrasting hindrance that traditional counterparts do not face. For nontraditional students this often involves family, children, or a job. All of these competing roles make education secondary not because it is deemed less important to them but rather for more practical reasons.

Familial responsibilities are something that cannot be put on pause like a hobby. Nontraditional students often have to balance childcare, children's homework, bed times, renegotiation of roles within a marriage, and the guilt of their unavailability (Forbus et al., 2011; Jinkens, 2009; Kolb, 2014; Stephenson, 2012). Often, these roles and responsibilities external to student life significantly conflict with a nontraditional student's role as a learner (Alhassan, 2012). Thus, participation in on-campus activities tends to be rare for this special population of students. Unfortunately, this also means that this body of students also tends to have less involvement in collaborative learning and fewer meaningful interactions with faculty (Goncalves & Trunk, 2014). Many times this lack of time on campus inhibits nontraditional students from accessing student support services as well (Milman et al., 2015).

Whether single parent or married parent, the different divisions of work and familial responsibility often lead to financial strain. Many nontraditional students do not have the luxury of not working while returning to college. This is another way the titles of nontraditional and traditional can become confusing. Nontraditional students who *must* maintain a job for financial security are much different from traditional students that have part-time jobs for extra cash to play with. The primary difference is the *necessity* of that part-time or full-time job.

One of the major definitions of nontraditional students, as noted by Chung et al. (2014), was the title of employee or worker (p. 1227). This was something not given to traditional students in many cases as it was not a defining role in those students' lives. While the added obligation of work for nontraditional students is often a strain, having a job has been shown to give these students increased time-management behaviors (Forbus et al., 2011). Additionally, for nontraditional students, maintaining at least a part-time job allows these students a form of stress relief as they often remain less worried about finances (Kolb, 2014). Alternatively, the inability to quit work to go to college can present itself as a challenge as students have fewer study hours (Kolb, 2014; Stephenson, 2012). These factors are true for both men and women. Thus, financial strain is arguably one of the most glaring issues that face nontraditional students (Osam et al., 2016).

**Institutional barriers.** Osam et al. (2016) defined institutional barriers as any college policy or procedure that operates (even if unintentionally) against the nontraditional student. Needs of nontraditional students are often unmet in many ways by on-campus student services (Milman et al., 2015; Goncalves & Trunk, 2014). As mentioned above, many nontraditional students have roles and responsibilities external to the educational institution. Role strain, coupled with the reality that many of these students have been out of college for many years,

means that nontraditional students may be underprepared and need more institutional support than their traditional counterparts need. Unfortunately, many student support services still operate in a way that is geared toward a more traditional student population (Kasworm, 2010; Markle, 2015, Milman et al., 2015; Osam et al., 2016). Goncalves and Trunk (2014) found that nontraditional students struggle with access to student support services due to their hours of operation and general accessibility. If a student had a job, often he or she would be at work before or after class and could not access the registrar, financial aid, or advising personnel (Goncalves & Trunk, 2014). Additionally, it was found that emailing these individuals with specific needs would not suffice as “they leave out details and explain very little” unless the students are able to visit in person (Goncalves & Trunk, 2014, p. 167). Milman et al. (2015) had similar findings, noting that an overwhelming number of students rate such services as important but also note their satisfaction of these services as being very low (p. 61). However, Milman et al. (2014) and Osam et al. (2016) noted that some support services vary by race, gender, and ethnicity.

With perception to institutional barriers showing variance by sociocultural factors as well as general role strain, this could mean that socioeconomic or minority status might lead some students to perceive more inattentiveness than others (Milman et al., 2015; Hollifield-Hoyle & Hammons, 2012). In fact, Graham, Phillips, Newman, and Atz (2016) concluded that integration and socialization were greatly impacted by prejudice and discriminatory practices. Regardless of the institutional barrier, common recommendations from prior research were for stronger staff development for administrative and support staff roles.

There is evidence to support that administration and support staff must adjust and adapt in order to accommodate or, at the very least, complement their nontraditional students. The idea

for specialized staff concerning special populations of students is not a novel idea. “Having an advisor(s) aware that the needs of nontraditional students differ from traditional students may alleviate scheduling difficulties and be more personalized to specific needs” (Goncalves & Trunk, 2014, p. 169). This is not to say that a college must know everything about every specific student but an assessment of the composition of each student cohort might allow for better awareness and sensitivity as an institution (Bednarz, Schim, & Doorenbos, 2010).

**Dispositional barriers.** Among the definitions summarized by Chung et al. (2014) is the description of nontraditional students as having some gap in their studies. Southall, Wason, and Avery (2016) referred to going to college as a time of “separation and incorporation” (p. 4) for *all* students. Gaps in education for nontraditional students may compound and extend feelings of isolation. These gaps may be between high school and enrollment in their tertiary institution or simply a hiatus in their college education. This gap may range in length of time from one or two years to several. Regardless of the length of time, numerous studies indicate that increased time out of college equates to nontraditional students having decreased confidence in their academic abilities (Kolb, 2014; Osam et al., 2016).

Unlike other barriers that can be alleviated by others, overcoming fear of failure, insecurities about not fitting in well in class, and feelings of isolation must all be conquered from within (Osam et al., 2016). Nontraditional students may see their special populations’ designation as inferior to or less desirable than traditional students. This negative evaluation can be worsened by the institutional barriers listed above causing nontraditional students to experience great feelings of social rejection (Kolb, 2014).

Many institutions attempt to create activities and events to alleviate the strain of this period. Unfortunately, as previously indicated, many of these events are at the exclusion of

nontraditional students or such students do not have the time to attend such activities (Goncalves & Trunk, 2014; Southall et al., 2016). The inability to participate in college functions outside of class time further contributes to less social capital and engagement (Kolb, 2014). However, networks of nontraditional students, campus supports geared specifically for this demographic, and efforts to increase these students' socialization are all factors that may allow these students to overcome these barriers if educational institutions would implement them (Goncalves & Trunk, 2015; Kolb, 2014; Milman et al., 2015). Osgood-Treston (2001) proposed, that "...if students feel comfortable in and accepted by the campus community, they tend to [persist]" (p. 120).

It is important to note, as Osam et al. (2016), that not all barriers should be perceived as negative, permanent hindrances (p. 4). Nontraditional students often possess a cognitive maturity different from traditional students (Kolb, 2014). In turn, this gives them a variety of strengths that allow them to overcome their barriers to higher education. Research demonstrates that nontraditional students have an unusual sense of resiliency, determination, and higher intrinsic motivation in their academic pursuits than do their traditional counterparts (Johnson & Nussbaum, 2012; Kolb, 2014; Markle, 2015; Osam et al., 2016; Shillingford & Karlin, 2013). In fact, it is because of and in spite of the barriers that they face that nontraditional students persist.

Where it involves finances and the role strain of beginning (or returning to) college, nontraditional students have a resolve that they have "already invested or sacrificed too much to give up" (Markle, 2015, p. 278). This investment, and the knowledge that completion of a degree will lead to financial stability and a more marketable skill set, causes nontraditional students to press on despite the current hardships (Markle, 2015). While having to maintain a job impacts available study time, social inclusion, and campus involvement, nontraditional

students have been shown to have better adaptive coping strategies for time management and planning for the free time that they do have (Kolb, 2014). Even in the face of doubts about themselves, the acknowledgement of educational weaknesses by these students translates into nontraditional students studying harder to make up for gaps in their knowledge (Kolb, 2014, p. 38).

Reflecting upon the barriers to success for nontraditional students makes it clear that for nontraditional students to succeed, the educational institutions should provide more avenues for that success (Osam et al., 2016). Nontraditional students need the same supports as traditional students. Advisors, financial aid, faculty, and other support staff serve the same roles for nontraditional students. However, as previously described, the demographic of nontraditional students is highly diverse. No matter the specific definition of nontraditional, the role of institutional agents directly influences the persistence and success of nontraditional students. Thus, these college roles must be direct and deliberate in their approach with these students in order to be discerning of their specific and unique needs (Goncalves & Trunk, 2015; Milman et al., 2015; Schroeder & Terras, 2015).

### **Factors Affecting Student Success, Persistence and Satisfaction**

Nontraditional students often place more value on services available to them in an educational institution. They are older and experienced in different careers and often have higher expectations of how these systems should operate within an educational institution (Nilson, 2010). For this reason, it is important that those services satisfy this demographic. To what degree each service (e.g., teaching, counseling or advising) is utilized varies within the body of nontraditional students (gender, race, ethnicity, culture) but the theme is consistent no matter the type of college (Forbus et al., 2011; Goncalves & Trunk, 2015; Kimmel, Gaylor, &

Hayes, 2014; Milman et al., 2015; Schroeder & Terras, 2015). In addition to various barriers listed above, institutional factors such as instructional support and the degree of satisfaction a student has with his or her college institution represent well-documented barriers to student success, persistence, and satisfaction.

**Instructional support.** Some prior research has focused on conforming teaching styles to reach nontraditional students. This leads to repeating the narrative of *andragogy* and what it means to be considered nontraditional (Jinkens, 2009). These learners are developmentally distinct from the young adults that are considered traditional students. The learning process for nontraditional students is greatly impacted when their specific barriers to success and life experiences prior to entering a classroom are acknowledged and utilized in the classroom (Chen, 2014). Adult students are often more pragmatic than their traditional counterparts (Alhassan, 2012). Having had careers and dealing with problems in the real world, nontraditional students often have a practical approach to problem solving rather than a theoretical view alone. Following from Knowles' defining traits of adult learners, the orientation to learning of adult students can be greatly impacted by their instructors and instructor willingness to approach teaching to fit the nontraditional student approach to learning (Alhassan, 2012).

Nontraditional students are greatly limited in their time on campus outside of their scheduled instructional time (Goncalves & Trunk, 2014; Panacci, 2015). Education is not their primary job (Jenkins, 2012). These students also have a tendency to view their educational experience through the frame of career advancement and an immediacy that is not found with traditional students (Panacci, 2015). These students aim to build upon their existing academic and work experiences and often view learning as a way to learn new things that can be immediately applied on the job or applied toward getting a new job (Leigh, Whitted, &



Hamilton, 2015; Osam et al., 2016). This need to actively learn and apply affects nontraditional students' perceptiveness toward the traditional, passive approach of lecture being the primary means of course material (Nilson, 2010; Chen, 2014; Panacci, 2015). With all that being said, it is important to note that adult students prefer student-directed learning rather than passively accepting information from faculty in the form of modes such as lecture and notetaking (Kenner & Weinerman, 2011).

There are many elements that an instructor dealing with nontraditional students might adopt and implement in his or her teaching. These include, but are not limited to, planning and designing classes with diverse students in mind, active instructional time that involves learning inquiry and independent study on the part of the student, and utilization of students' prior experiences and overall shared responsibility (Chen, 2014; Panacci, 2015; Leigh et al., 2015). Adult learners have often experienced some form of gap in their learning process that, the more pronounced and wider the gap, contributes to a resistance to change in methods and metacognitive strategies (Kenner & Weinerman, 2011). Thus, it is critical for faculty members to employ the strategies above to better acclimate these students for the learning environment. Instead of attempting to make a heterogeneous body of students fit the traditional mold of learning, showing inclusivity in teaching practices frames the reintroduction into the learning environment in such a way that shows nontraditional students the immediate benefits of what a course has to offer (Hermida, 2010; Kenner & Weinerman, 2011; Chen, 2014).

**Programs of study.** Programs of study and faculty within these programs have often revealed striking differences in nontraditional student success (Boylston et al., 2004; Nitecki, 2011). Boylston et al. (2004) indicated that differences in a program of study might influence students' perception and overall satisfaction of the educational institution as a whole. Likewise,

Nitecki (2011) indicated that different approaches taken by various programs directly influenced student attrition.

Recommendations drawn from qualitative studies reveal that oftentimes it is the faculty within the programs that make themselves aware of and empathetic to unique nontraditional student situations (Hollifield-Hoyles & Hammons, 2012; Kolb, 2014). This is especially true for students facing poverty, work obligations, and familial responsibilities that often lead to students becoming reluctant to share concerns or conflicts with instructors in more negative situations (Graham et al., 2016; Hollifield-Hoyles & Hammons, 2012; Schrader & Davis, 2008). Thus, program faculty have the potential to be a pivotal support for nontraditional students (Clark, 2010; Goncalves & Trunk, 2015; Jinkens, 2009; Kolb, 2014). A concerned and attentive faculty, especially in concert with a well-organized and accommodating program, have the ability to contribute to student retention in academic programs within a college (Graham et al., 2016; Nitecki, 2011). This could be accomplished with focused staff development and designated personnel for this demographic (Hollifield-Hoyles, 2012).

In an integrative review, Graham et al. (2016) asserted that changing the environment within a program of study has the ability to “significantly reduce, if not eliminate, many of the barriers [nontraditional students] face” (p. 136). Schrader and Davis (2008) stated that this organization and establishment of an environment conducive to nontraditional student success involves everything from the curriculum and coursework to the syllabi developed for the program courses. Ultimately, program guidelines (even as far as they are described in a syllabus) are most effective when the unique characteristics of nontraditional students are taken into account in program planning, coursework, and learning objectives (Schrader & Davis, 2008; Leigh et al., 2016).

**Satisfaction with the educational institution.** Research has well established the importance of satisfaction as it relates to student populations. Changes in education, policy, and practices continually regard institutions of higher learning as part of a service industry (Boylston et al., 2004; Naaj, Nachouki, & Ankit, 2012). If viewed from a service industry perspective then students would be considered the customers. If students are the customers, then their satisfaction is important. It has been suggested that student satisfaction is the major difference between student persistence and losing students to attrition (Boylston et al., 2004; Oja, 2011). Research studies investigating student satisfaction have linked satisfaction as a student with student motivation, success, and persistence (Oja, 2011; Naaj et al., 2012; Ojeda, Navarro, Meza, & Arbona, 2012; Schreiner & Nelson, 2012). While limited by sample size and various other limitations, student success has also been positively correlated with student GPA (Oja, 2011; Naaj et al., 2012).

Additionally, satisfied, successful and persisting students have the potential to serve as “a public relations asset for a college or university” (Naaj et al., 2012, p. 188) as students are likely to discuss where they went to college, how they liked the college and whether they would, knowing what they know now, choose that institution again (Howell & Buck, 2012). Satisfied students are also more likely to recommend a course, instructor or program to others interested in a program or college (Naaj et al., 2012). Thus, given the great sacrifice that so many nontraditional students make to attend college, satisfaction with the educational institution can be viewed as a measure of institutional effectiveness as it may reflect these learners’ evaluation of several factors outside of a program of study (Boylston et al., 2004; Naaj et al., 2012; Schreiner & Nelson, 2014).

Information about student satisfaction can be directly utilized by educational institutions for training, reorganization of duties, and other forms of needs assessment including information about the degree programs of an institution (Oja, 2011; Naaj et al., 2012; Schreiner & Nelson, 2014). Relating this information to public relations, student choice of a program, satisfaction with that program and subsequent satisfaction with classroom experience ultimately reflects on the institution and its preparedness for and accommodation of nontraditional students (Callaway, 2010; Howell & Buck, 2012).

Student satisfaction data alone may mask important aspects of an institution that may make endeavors to improve the institution even more effective. Differentiation of data across different types of students such as by race, student status, class level, or program of study can make an assessment of student satisfaction even more powerful (Schreiner & Nelson, 2012). There are few studies on the satisfaction of specifically nontraditional students. Those studies concerned with the satisfaction of nontraditional students are often investigating its influence on persistence (Anderson, 2011; Cosgrove, 2014) or academic achievement (Oja, 2011; Martirosyan, Saxon, & Wanjohi, 2014). However, nontraditional students have shown to persist despite level of satisfaction in many, much older research studies. Chao and Good (2004) referenced several factors that contribute to nontraditional student success. These included higher intrinsic “motivation, financial investment, career development, life transition, and support systems” (Chao & Good, 2004, p. 7) that differ from their traditional counterparts with general hopefulness being a greater indication of why these adult learners persist despite satisfaction (Kasworm, 2008). Fewer studies define satisfaction as it relates to these students in health science programs.

## Nontraditional Students in Health Sciences

There are few studies that demonstrate a difference between health science programs. While topics about nursing education are extensively covered in research, these studies focus heavily on clinical education of these students or the differences in Bachelor of Science in Nursing (BSN) programs. Leigh et al. (2015) noted that seasoned registered nurses (RNs) returning to college for a BSN required a different approach than younger, traditional students. “For faculty, it is imperative that key concepts of *andragogy* be incorporated into learning activities” as nontraditional RNs already possess varying degrees of experience as they enter these programs (Leigh et al., 2015, p. 9). Graham and colleagues’ (2016) integrative review of the literature gave even more information on nontraditional students in nursing. However, this review merely repeated the narrative of a need for diverse and well-equipped clinical educators to prevent attrition of nontraditional students.

Other studies concerning health science programs focus on health sciences as merely a growth industry. Carnevale and Smith (2013) stated that statistics show that by 2020 more than 90% of health care will be situated in allied health (nursing and other support care). Thus, demand for these programs is on the rise. Nursing is especially subject to increasing enrollment of nontraditional students as the drive for more highly educated nurses is increasing (Boylston et al., 2004; Leigh et al., 2015). The same barriers to success (social exclusion, role strain, financial burdens) await these adult students in degree programs like nursing even with the cohorts being largely nontraditional in student status (Schrader & Davis, 2008). An added element in the cohorts of many of these programs is that these students are already professionals and even more resistant to an unsupportive environment (Schrader & Davis, 2008; Kern, 2014; Peterson-Grazioze, Bryer, & Nikolaidou, 2016).

A more educated workforce in allied health sciences is highly correlated with lower mortality rates of patients (Kern, 2014). Understanding the needs of nontraditional students in these programs is essential to providing them with opportunities and experiences that appeal to their andragogic needs (Peterson-Grazioze et al., 2016). Everything from the preparing of courses and learning objectives to well organized and accommodating syllabi is essential to promoting the success and satisfaction of nontraditional students (Schrader & Davis, 2008; Kern, 2014; Peterson-Grazioze et al., 2016). To what degree this satisfaction of program accommodation varies by health science program is unclear as few other health science programs are studied concerning their nontraditional students.

### **Research on Nontraditional Students in Health Science Programs of Technical Colleges**

Community and technical colleges in small communities offer immense opportunities for nontraditional students who desire to further their education. Community and technical colleges, in their essence, were designed to respond to and meet the needs of their communities. This involves the aforementioned impetus to provide a more educated workforce (Hinkson & Butler, 2010; Kern, 2014). This also might mean the creation of programs to align with local employment needs (Howley et al., 2013). These educational institutions provide the geographic availability and financial provisions for nontraditional students who do not have the luxury of quitting their jobs or leaving home to further their education (Baum et al., 2013). In addition to being especially convenient for rural and underprivileged communities, community colleges have the ability to provide individualized student support and a lack of organizational complexity that their nonrural and university counterparts often lack (Howley et al., 2013).

Understanding the demographic of students within career and technical education programs is vital to planning and policymaking (Hinkson & Butler, 2010; Hirschy et al., 2011).

Administrators in career and technical institutions should be in tune with their communities and respond according to community needs for flexibility and support systems (Hirschy et al., 2011). Community and technical colleges currently “train more than half of the entire health care workforce” which includes nursing, pharmacy technicians, paramedics, dental hygiene, physical therapy assistants, radiologic technology and more support care roles (Carnevale & Smith, 2013).

There is evidence that the satisfaction of nontraditional students in these programs is continually being overlooked. As nontraditional student numbers rise, the ability of career and technical institutions to adapt and shift accommodations to this demographic should expand (Hinkson & Butler, 2010). Current research covers the various academic programs of technical colleges. However, these studies investigate the success of nontraditional students as it relates to the community college atmosphere (Hirschy et al., 2011; Hollifield-Hoyle & Hammons, 2012) or compare the effects of program enrolled on student success (Nitecki, 2011). To date, research concerning community colleges fails to determine the perceptions and satisfaction of nontraditional students in the health science programs of community and technical colleges.

### **Summary**

Nontraditional students are complex in definition. A student may be deemed nontraditional by one or several factors. Regardless of the designation, nontraditional students’ ability to overcome situational, institutional and dispositional barriers can be facilitated to some degree by the educational institution. All institutions of higher learning should be equipped to make the transition to college easier for nontraditional students. As community college offerings are in greater demand, sight of the demographic of nontraditional students should not be lost.

Research supports the importance of satisfaction of nontraditional students as it relates to student retention (Boylston et al., 2004; Graham et al., 2016; Markle, 2015; Milman et al., 2015).

Recent, unpublished studies of nontraditional student satisfaction focused on retention (Anderson, 2011; Cosgrove, 2014). Other unpublished studies have evaluated nontraditional student success despite common barriers for their demographic while in health science programs (Stallings, 2011; Ward, 2012). However, few studies currently view the importance and satisfaction perceptions of nontraditional students in different health science programs of career and technical institutions. While career and technical institutions are known for flexibility and attentiveness toward their communities, the question remains if this is enough to serve the nontraditional student population entering their colleges.



## **CHAPTER THREE: METHODS**

### **Overview**

Research supports satisfaction as a student within a given institution has an effect on and influences retention of traditional and nontraditional students (Graham et al., 2015; Markel, 2015; Milman et al., 2015). The choice of academic program has also been shown to be a useful indicator of retention (Nitecki, 2011). However, there is limited research available on whether satisfaction differs by student status and the degree program (specifically health sciences) in which students are enrolled. The purpose of this causal-comparative study was to determine if students' satisfaction differs based on student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) enrolled at technical colleges of Georgia. Chapter Three covers the details of the design, participants, setting of the study, an outline of procedures, and a review of data analysis.

### **Design**

A causal-comparative research design utilizing convenience sampling was used to determine if students' satisfaction differs based on student status and the health science program in which students are enrolled at technical colleges of Georgia. The independent variables were student status (traditional or nontraditional) and enrollment in a health science program (nursing, dental hygiene, or radiologic technology). For the purpose of this study, student status was defined by the nontraditional or traditional status of the participants. Nontraditional students were defined as students over the age of 25 years old that also met one or more of the following: having delayed college entry, having part-time enrollment, having part-time or full-time employment, having financial independence, having dependents, being a single parent, or having received a General Education Diploma (GED) (Kena et al., 2015). Traditional students were

generally defined as students less than 25 years of age when they began college. These students also met one of the following: dependence on a parent or guardian for financial support, full-time enrollment, or local to the campus (Kena et al., 2015). For this study, enrollment in health science programs of Associate of Science in Nursing (ASN), Dental Hygiene (RDH), or Radiologic Technology (R. T. (R)) were compared.

The dependent variable was student satisfaction, formally defined as the level of contentment that the college meets a student's needs and operationally defined as the score yielded from the Student Satisfaction Inventory (SSI) (Schreiner & Juillerat, 1994). The Student Satisfaction Inventory measures both importance and satisfaction of various factors within an educational institution (Ruffalo Noel-Levitz, 2015). According to Ruffalo Noel-Levitz (2015), the Student Satisfaction Inventory was designed to aid in the determination of what matters to students and how satisfied they are with the educational institution. The location of each college was not viewed as a confounding or moderating variable as health science programs in the chosen technical colleges in Georgia are uniform in the curriculum, course completion time, and clinical requirements (Curriculum Program Specialist for Health Sciences, personal communication, January 26, 2017).

As the groups containing the independent variables in this study were already formed, an ex post facto causal comparative research design was chosen in an effort to explore possible causative relationships between student status, traditional or nontraditional, and satisfaction with the educational institution. Gall, Gall, and Borg (2007) suggest that this design be chosen when plausible cause-and-effect relationships are investigated and when the researcher cannot manually assign participants to the different groups. This design also allowed for examination of

differences between the different student statuses among various health science programs within the educational institutions utilized in this study (Gall et al., 2007).

### **Research Questions**

The following research questions were designed to assess the level of satisfaction with the educational institution between nontraditional and traditional students in different health science programs.

**RQ1:** Is there a difference in student satisfaction with an educational institution, as measured by the Student Satisfaction Inventory, based on student status (traditional or nontraditional)?

**RQ2:** Is there a difference in student satisfaction with the educational institution, as measured by the Student Satisfaction Inventory, based on the type of health science program (nursing, dental hygiene, radiologic technology) that the student is enrolled?

**RQ3:** Is there an interaction between the Student Satisfaction Inventory scores among traditional and nontraditional students in nursing, dental hygiene, or radiologic technology programs?

### **Null Hypotheses**

The null hypotheses for this study were:

**H<sub>0</sub>1:** There is no significant difference between the Student Satisfaction Inventory scores of traditional and nontraditional students.

**H<sub>0</sub>2:** There is no significant difference between the Student Satisfaction Inventory scores of students enrolled in nursing, dental hygiene, or radiologic technology students.

**H<sub>0</sub>3:** There is no significant interaction between the Student Satisfaction Inventory scores among traditional and nontraditional students enrolled in nursing, dental hygiene, or radiologic technology programs.

### **Participants and Setting**

This study examined students in health science degree programs (nursing, dental hygiene, and radiologic technology) within technical colleges in Georgia. Participants were selected from five technical colleges in the state of Georgia that have nursing, dental hygiene, and radiologic technology programs all present on the same campus. These colleges span the entire state, and most regions served by technical colleges were represented.

### **Population**

The technical college system that these institutions are part of presents a unified system of education with all degree and diploma programs consistent with curriculum, rules, regulations, and acceptance policies. The only differences within the same program from college to college are the numbers of students in the cohorts each year. Enrollment and cohort sizes are based upon guidelines provided by the state governing board and/or accrediting agency of each program (Curriculum Program Specialist for Health Sciences, personal communication, January 26, 2017).

A convenience sample of health science degree program students was invited to participate in the present study during the second semester of their first year of their respective programs (spring semester 2018). The Technical College of the State is comprised of 22 technical colleges serving all regions of the state. Of these 22 colleges, six campuses have all three programs of interest located on one campus. Five of those six college presidents agreed to participate in this study.

Technical College 1 was located in northeast Georgia. The total enrollment for the college for spring 2018 was 4150. Of this, 1535 were male and 2615 were female students. The demographic breakdown was 63.8% white, 19.9% black, 8.0% Hispanic/Latino, 2.5% Asian, and 5.5% multiple/other.

Technical College 2 was located in central Georgia. The total enrollment for the college for spring 2018 was 7719. Of this, 2688 were male and 5031 were female students. The demographic breakdown was 44.0% white, 48.5% black, 3.7% Hispanic/Latino, 1.2% Asian, and 2.7% multiple/other.

Technical College 3 was located in western Georgia. The total enrollment for the college for spring 2018 was 2971. Of this, 1032 were male and 1939 were female students. The demographic breakdown was 40.8% white, 44.4% black, 6.6% Hispanic/Latino, 1.2% Asian, and 6.4% multiple/other.

Technical College 4 was located in southeast Georgia. The total enrollment for the college for spring 2018 was 1574. Of this, 443 were male and 1131 were female students. The demographic breakdown was 67.8% white, 23.0% black, 8.3% Hispanic/Latino, 0.3% Asian, and 0.6% multiple/other.

Technical College 5 was located in southern Georgia. The total enrollment for the college for spring 2018 was 3905. Of this, 1476 were male and 2429 were female students. The demographic breakdown was 57.4% white, 31.5% black, 7.9% Hispanic/Latino, 1.0% Asian, and 2.1% multiple/other.

### **Sample**

The samples for this study consisted of 71 total participants with 67 that completed all questions in data collection. According to Warner (2013), 60 students was the required

minimum for a medium effect size with a statistical power of .7 at the .05 alpha level. This sample was 90% female and 9% male. The demographic breakdown was 77% white, 12% black, 6% Hispanic/Latino, 1% Asian, and 4% multiple/other. There were 33 students between the ages of 19 and 24, 27 students between the ages of 25 and 34, five students between the ages of 35 and 44, and three students 45 years of age or older. Of these students, 35 were deemed traditional and 33 were traditional students. Two students in the 25-34 age bracket reported living with a parent, and not having a part or full-time job which classified them as traditional students.

### **Groups**

There were six groups used in this study consisting of traditional and nontraditional students from nursing, dental hygiene, and radiologic technology.

**Group 1.** For nursing traditional students, the total group size was six. Of this, five were female, and one participant chose not to report gender. The demographic breakdown was 66.7% white and 33.3% black.

**Group 2.** For nursing nontraditional students, the total group size was 19. Of this, three were male and 16 were female. The demographic breakdown was 84% white, 11% black, and 5% Hispanic/Latino.

**Group 3.** For dental hygiene traditional students, the total group size was 20. Of this, all twenty participants were female. The demographic breakdown was 80% white, 15% Hispanic/Latino, and 5% multiple/other.

**Group 4.** For dental hygiene nontraditional students, the total group size was six. Of this, all six participants were female. The demographic breakdown was 66.7% white, and 33.3% multiple/other.

**Group 5.** For radiologic technology traditional students, the total group size was nine. Of this, two were male, five were female, and two participants chose not to report gender. The demographic breakdown was 56% white, 33% black, and 11% multiple/other.

**Group 6.** For radiologic technology nontraditional students, the total group size was seven. Of this, one was male and six were female. The demographic breakdown was 71.4% white, and 28.6% black.

Table 1

*Breakdown of Group Representation*

Student Status	Nursing	Dental Hygiene	Radiologic Technology
Traditional	Group 1	Group 3	Group 5
Nontraditional	Group 2	Group 4	Group 6

### **Instrumentation**

Assessment of student satisfaction was with the use of the Ruffalo Noel-Levitz Student Satisfaction Inventory (SSI) (Schreiner & Juillerat, 1994). According to Noel-Levitz (2015), this survey affords institutions the ability to identify what matters to and what satisfies students. The SSI was authored by Schreiner and Juillerat with the assistance of Noel-Levitz in 1993. The survey consists of 70 items. Individual colleges have the opportunity to add up to 10 additional items at their discretion. These additional items can be specific to the campus or the program; however, there is no requirement to form additional items. The survey also contains standard demographics reporting and an additional item to capture the programs in which the students are enrolled (Ruffalo Noe-Levitz, 2015).

The 70 items fall under 12 subscales. These subscales are as follows: (a) Academic Advising and Counseling Effectiveness, (b) Academic Services, (c) Admissions and Financial Aid Effectiveness, (d) Campus Climate, (e) Campus Support Services, (f) Concern for the Individual, (g) Instructional Effectiveness, (h) Registration Effectiveness, (i) Responsiveness to Diverse Populations, (j) Safety and Security, (k) Service Excellence, and (l) Student Centeredness. There are six items rated for satisfaction only (thus no importance rating or performance gap obtained) that contribute to the Responsiveness to Diverse Populations scale. For each item, students rate level of importance and their satisfaction on a 7-point Likert scale. For importance, responses are: not important at all = 1, not very important = 2, somewhat unimportant = 3, neutral = 4, somewhat important = 5, important = 6, and very important = 7. For satisfaction, responses are: not satisfied at all = 1, dissatisfied = 2, somewhat dissatisfied = 3, neutral = 4, somewhat satisfied = 5, satisfied = 6, and very satisfied = 7. There is also an option for students to select “does not apply.”

There are a variety of ways to score students. The method employed in this study was to subtract the satisfaction score from the importance score for each item within each scale. This yields a number called a performance gap. This outcome can also be reported in terms of percentages of students that respond. Higher percentages are an indication of a weakness of the college. Low percentage scores are indicative of a strength of the college.

According to Noel-Levitz (2015), the SSI has high reliability and validity. For importance, Cronbach’s alpha was .97. For satisfaction, Cronbach’s alpha was .98. Test-retest reliability for mean importance was .85 and .84 for mean satisfaction scores. To measure validity, satisfaction scores were correlated with satisfaction scores on the College Student Satisfaction Questionnaire (CSSQ), a survey shown to have high reliability and validity. This



yielded a Pearson correlation of .71 ( $p < .0001$ ). This reveals that the instruments have commonalities yet still retain their own unique features.

Since its conception, this instrument has been used by more than 1900 institutions and has been revised to fit a variety of colleges and student types (Noel-Levitz, 2015a). The SSI has also been used in many peer reviewed studies and has been deemed useful in terms of identifying areas of an educational institution that most need improvement (Oja, 2011; Schreiner & Nelson, 2013). Information gathered from the survey is related to greater retention of students (Schreiner & Nelson, 2013; Noel-Levitz, 2015). The survey is easily administered in paper or online format and usually takes students less than 30 minutes to complete (Noel-Levitz, 2017). For this study, online administration will be utilized for ease of distribution to the seven participating institutions. Surveys will be sorted on the independent variable of student status based on the demographic data included in the report.

### **Procedures**

After Institutional Review Board (IRB) approval (Appendix A) and documentation of prior approval from the each participating technical college (Appendix B), emails (Appendix C) outlining the study and its purpose were sent to all six colleges' program directors of each program (nursing, dental hygiene, and radiologic technology) in early spring of the newest cohort's second semester. These emails also contained the expected date of the emailed link to the study so that programs have adequate time to announce and describe the study to students and to arrange for a 10-15 minute block of time to complete the survey.

Next, an email (see Appendix D) containing a letter of student recruitment was sent to the program directors to forward to their students. Finally, an email was sent to directors to forward to students that contained student informed consent (Appendix E) and a link to the Student

Satisfaction Inventory. This email also contained an attachment with instructions for completion of the survey and how students were to select their specific health science program (Appendix F). The survey link remained active for three weeks. According to Ruffalo Noel-Levitz (2017), online administration of the survey takes anywhere from 10-15 minutes to complete. Ruffalo Noel-Levitz (2017) recommends distribution of the survey to all students. The program director (or faculty member with direct access to students) distributed access codes to the survey after emails were received by their students. Access codes to the survey were distributed to the students at random. The survey is also compatible with mobile devices so students were not required to all visit a computer lab at one time. Upon opening the email, students were first subject to their letter of informed consent. This letter outlined the purpose of the study for which the survey was being used and that student participation was voluntary. A student's choice to click the link served as consent and forwarded the student to the SSI. At this time, the student entered their randomly assigned access code. Program was selected from a drop-down menu within the survey.

After completion of the survey, there was an optional registration of student email given to the program director to be entered into a drawing for one of four prizes ranging in value from \$25 to \$100. Incentives were a means to thank these students for taking time out of their busy schedules to participate in this research. No students elected to enter their email into the drawing.

Online receipt of data from Ruffalo Noel-Levitz took 9 days after the survey link had closed (Ruffalo Noel-Levitz, 2015). Data was then retrieved and imported into SPSS version 24.0 (Green & Salkind, 2014). There were multiple means to calculate score. Methods for this study included subtracting the satisfaction average score from the importance average score for

each item within each scale. This yielded a number called a performance gap. The size of the performance gap is useful in determining if an institution is meeting student expectations. This number was then converted into a percentage score. Any item that fell above 50% for importance and above 25% for satisfaction was considered a high score or strength. Any item that fell below 50% for importance and below 25% for satisfaction was considered a low score or weakness (Ruffalo Noel-Levitz, 2015).

### **Data Analysis**

In order to determine if student status and health science program have an effect on level of institutional satisfaction in this causal comparison study, a factorial Analysis of Variance (ANOVA) was conducted. A factorial Analysis of Variance is useful to determine main effects of each independent variable as well as evaluate any interaction effects of traditional and nontraditional and health science program on student satisfaction (Gall et al., 2007). The factorial Analysis of Variance was chosen because it allows one to compare groups that differ on more than one factor (Gall et al., 2007; Warner, 2013). The factorial Analysis of Variance was specifically chosen so that *F* tests could be performed on the main effects and interactions between the factors in this study (Green & Salkind, 2014). First, the data was screened for outliers using a box and whiskers plot. The dependent variable was measured on the interval level. Observations within each sample were independent as participants can only be of one status (traditional or nontraditional) and in only one program (nursing, dental hygiene, or radiologic technology) which met the assumption of independent observations. The Kolmogorov-Smirnov test was used to test the assumption of normality. The Levene's Test of Equality of Error Variance was used to test the assumption of equal variance (Warner, 2013).

The factorial Analysis of Variance was conducted at the 95% confidence level. Partial eta squared was used to measure effect size.

## **CHAPTER FOUR: FINDINGS**

### **Overview**

The purpose of this quantitative, causal-comparative study was to determine if students' satisfaction, as measured by the Student Satisfaction Inventory, differs based on student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) enrolled at technical colleges of Georgia. This study utilized portions of the Ruffalo Noel-Levitz Student Satisfaction Inventory (SSI). These survey questions were sent to 411 students via a link to Ruffalo Noel-Levitz survey application. Raw data was automatically forwarded to the researcher two weeks after the close of the online access to the survey. Data was analyzed with the use of a factorial Analysis of Variance (ANOVA).

### **Research Questions**

**RQ1:** Is there a difference in student satisfaction with an educational institution, as measured by the Student Satisfaction Inventory, based on student status (traditional or nontraditional)?

**RQ2:** Is there a difference in student satisfaction with the educational institution, as measured by the Student Satisfaction Inventory, based on the type of health science program (nursing, dental hygiene, radiologic technology) that the student is enrolled?

**RQ3:** Is there an interaction between the Student Satisfaction Inventory scores among traditional and nontraditional students in nursing, dental hygiene, or radiologic technology programs?

### **Null Hypotheses**

**H<sub>0</sub>1:** There is no significant difference between the Student Satisfaction Inventory scores of traditional and nontraditional students.

**H<sub>0</sub>2:** There is no significant difference between the Student Satisfaction Inventory scores of students enrolled in nursing, dental hygiene, or radiologic technology students.

**H<sub>0</sub>3:** There is no significant interaction between the Student Satisfaction Inventory scores among traditional and nontraditional students enrolled in nursing, dental hygiene, or radiologic technology programs.

### Descriptive Statistics

Descriptive statistics for data obtained on the dependent variable *student satisfaction* (as measured by the Student Satisfaction Inventory) for student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) can be found in Table 1. The sample size for the study was 67 ( $N = 66$ ). This sample consisted of 25 nursing students, 26 dental hygiene students, and 16 radiologic technology students. Of those students, there were 35 traditional students and 32 nontraditional students.

Table 1

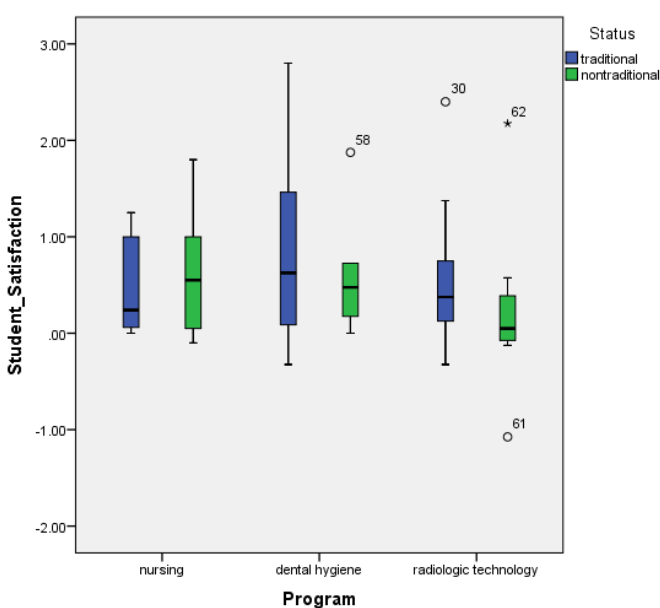
*Descriptive Statistics of Differences Between Student Status and Health Science Program on Student Satisfaction*

	Program	Mean	Std. Deviation	N
Traditional	Nursing	.4654	.53541	6
	Dental Hygiene	.8550	.91226	20
	Radiologic Technology	.6167	.82500	9
	Total	.7269	.83205	35
Nontraditional	Nursing	.5841	.54103	19
	Dental Hygiene	.6208	.66566	6
	Radiologic Technology	.2536	.98535	7
	Total	.5187	.67072	32
Total	Nursing	.5556	.53098	25
	Dental Hygiene	.8010	.85512	26
	Radiologic Technology	.4578	.88655	16
	Total	.6275	.76087	67

## Results

### Data screening

Data screening was conducted on the dependent variable (student satisfaction) for each group in regards to data inconsistencies, outliers, and normality. Out of the 411 access codes distributed, 71 students completed the Student Satisfaction Inventory. Of the 71 submitted files, it was found that four students neglected to complete their file. Because this included not noting in which program they were enrolled, it was decided that these students would be removed from the data set. These student files were omitted as program information was necessary to place students into groups. Importance and Satisfaction ratings for all students were then computed to gather students' overall scores. This was performed by subtracting Satisfaction from Importance which resulted in what Ruffalo Noel-Levitz refers to as a Performance Gap. This overall score was also transformed into z scores. A box and whisker plot was used to detect outliers on the dependent variable. While this resulted in outliers, the researcher chose to retain those responses in the data set. The box and whisker plot can be found in Figure 1.



*Figure 1:* Box and whisker plot for student satisfaction scores for traditional and nontraditional students clustered by health science program.

### Assumptions Tests

A factorial Analysis of Variance (ANOVA) was used to test the null hypotheses concerning differences in SSI score based on student status (traditional or nontraditional), health science program enrolled, and any interaction effects. The ANOVA requires that the assumptions of normality and homogeneity of variance be met. Because the sample size was greater than 50, normality was examined using the Kolmogorov-Smirnov test. The assumption of normality was violated for student satisfaction scores ( $p < .001$ ) thus affecting the traditional group for student status and the nursing and dental hygiene groups for health science program ( $p < .05$ ). See Tables 2, 3, and 4 for the Kolmogorov-Smirnov tests for student satisfaction scores for each group.

Table 2

#### *Tests of Normality Based on Student Status and Health Science Program*

	Kolmogorov-Smirnov <sup>a</sup>		
	Statistic	df	Sig.
Student_Satisfaction	.144	67	.001

a. Lilliefors Significance Correction

Table 3

#### *Tests of Normality for Student Satisfaction Scores by Student Status*

	Status	Kolmogorov-Smirnov <sup>a</sup>		
		Statistic	df	Sig.
Student_Satisfaction	traditional	.196	35	.002
	nontraditional	.137	32	.130

a. Lilliefors Significance Correction



Table 4

*Tests of Normality for Student Satisfaction Scores by Health Science Program*

	Program	Kolmogorov-Smirnov <sup>a</sup>		
		Statistic	df	Sig.
Student_Satisfaction	nursing	.205	25	.008
	dental hygiene	.183	26	.026
	radiologic technology	.186	16	.141

a. Lilliefors Significance Correction

The researcher then conducted a visual examination of histograms and Q-Q plots. Histograms and Q-Q plots were found to be within a reasonable range. The factorial ANOVA is robust enough to provide reasonable results despite a violation of the assumption of normality (Green & Salkind, 2014). Thus, the researcher continued with the analysis using the factorial ANOVA. Figure 2 represents the histogram for student satisfaction scores and Figure 3 indicates the Q-Q plots for student satisfaction scores.

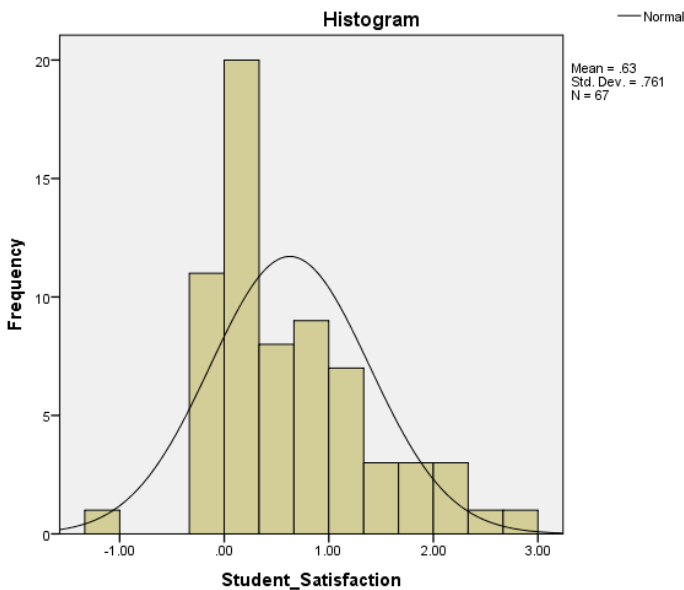


Figure 2. Histogram of total student satisfaction scores based on student status and health science program.

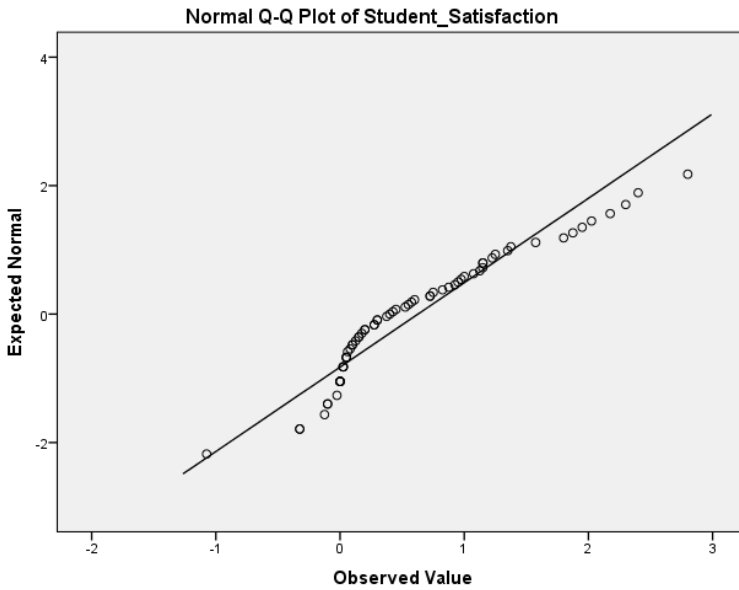


Figure 3. Normal Q-Q plot of student satisfaction scores based on student status and health science program.

Figure 4 depicts the histogram for student satisfaction scores for traditional students and Figure 5 represents the Q-Q plot of satisfaction scores for traditional students.

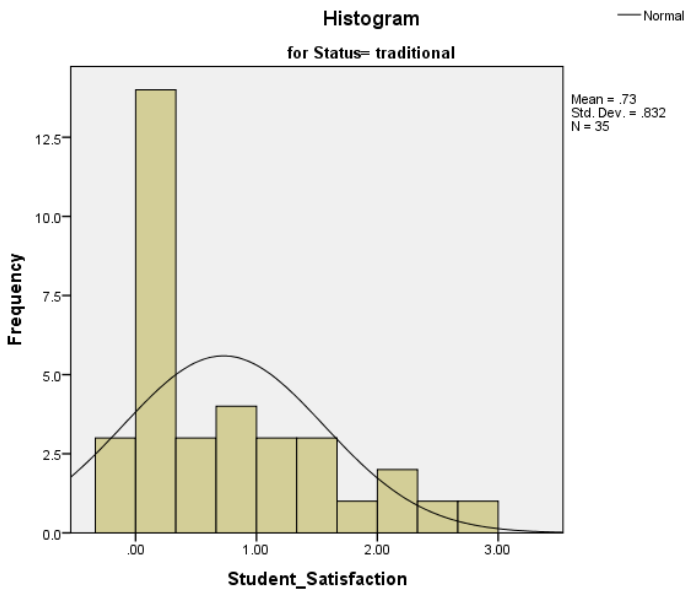


Figure 4. Histogram of student satisfaction scores for traditional students.

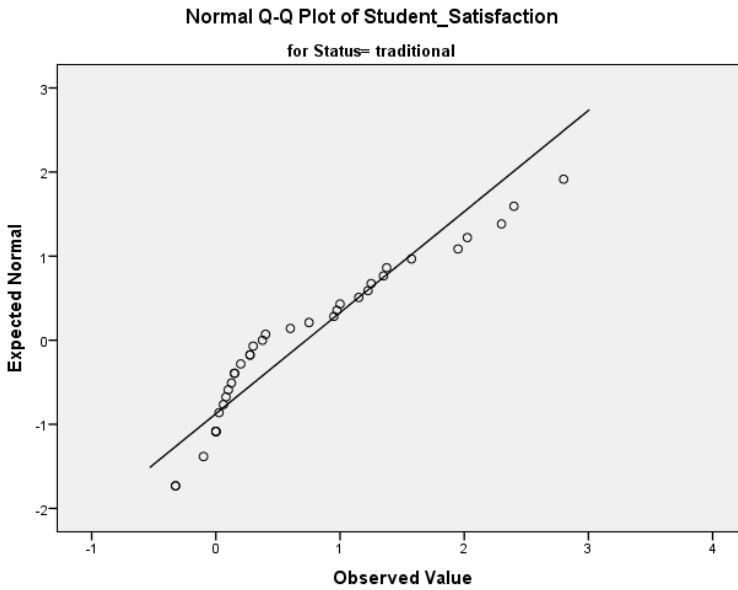


Figure 5. Normal Q-Q plot of student satisfaction scores for traditional students.

Figure 6 depicts the histogram for student satisfaction scores for nontraditional students and Figure 7 represents the Q-Q plot of satisfaction scores for nontraditional students.

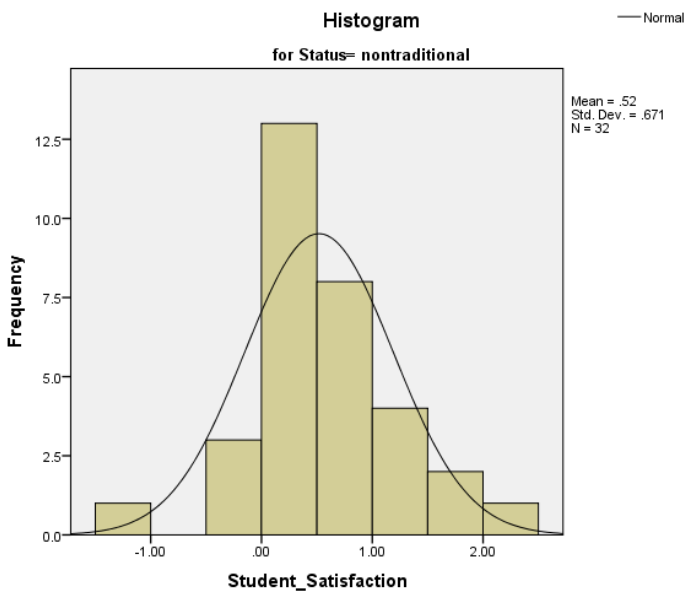


Figure 6. Histogram of student satisfaction scores for nontraditional students.

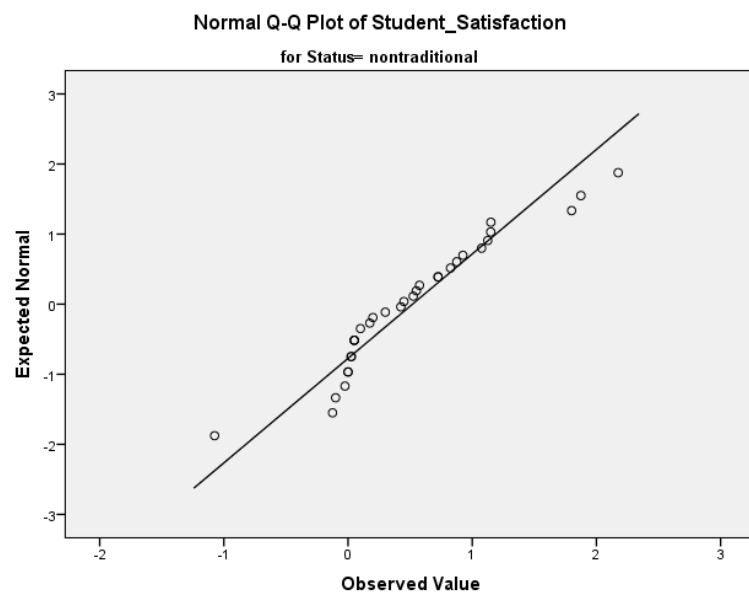


Figure 7. Normal Q-Q plot of student satisfaction scores for nontraditional students.

Figure 8 depicts the histogram for student satisfaction scores for nursing students and Figure 9 represents the Q-Q plot of satisfaction scores for nursing students.

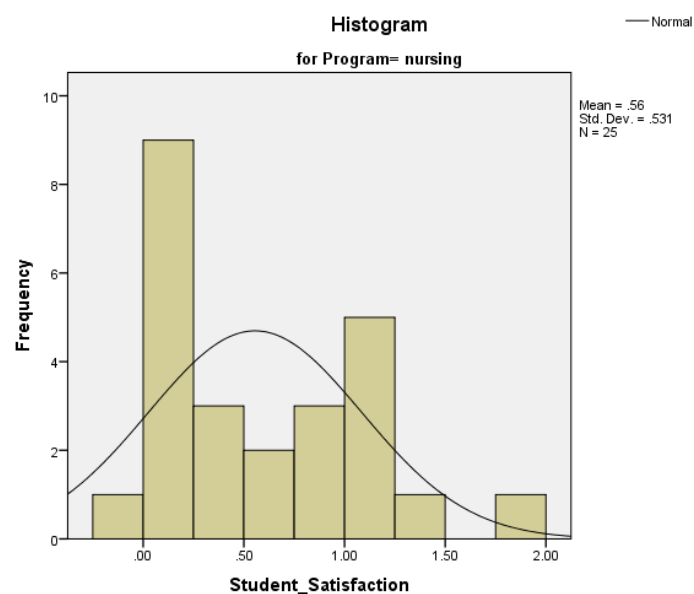


Figure 8. Histogram of student satisfaction scores for nursing students.

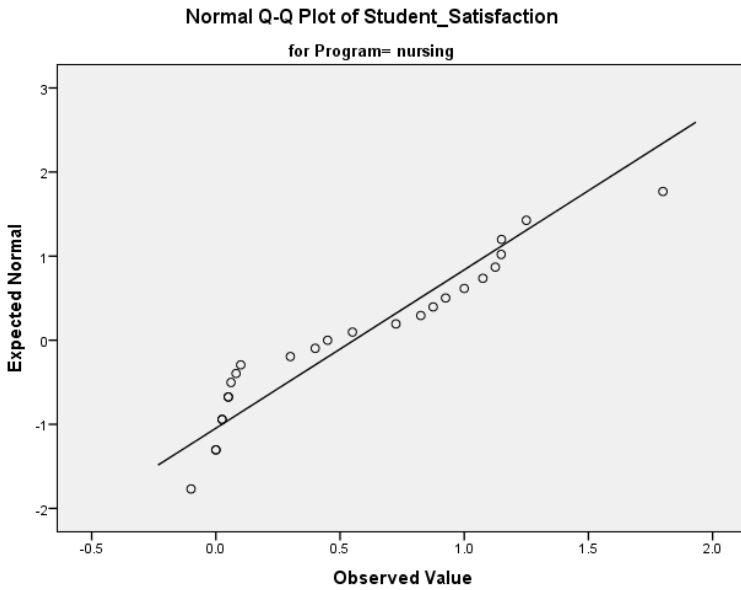


Figure 9. Normal Q-Q plots of student satisfaction scores for nursing students.

Figure 10 depicts the histogram for student satisfaction scores for dental hygiene students and Figure 11 represents the Q-Q plot of satisfaction scores for dental hygiene students.

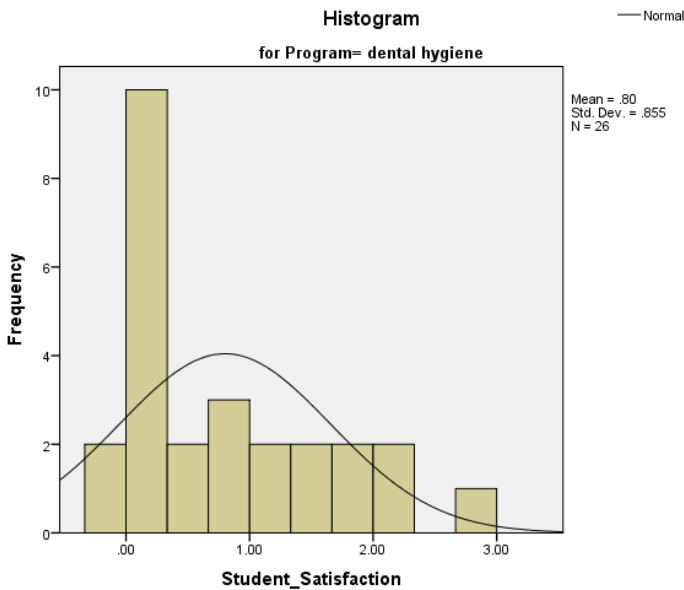


Figure 10. Histogram of student satisfaction scores for dental hygiene students.

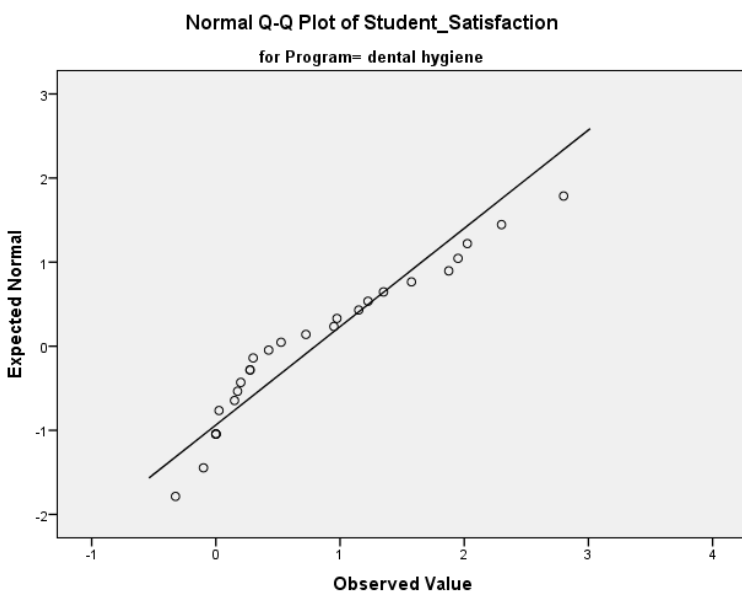


Figure 11. Normal Q-Q plots of student satisfaction scores for dental hygiene students.

Figure 12 depicts the histogram for student satisfaction scores for radiologic technology students and Figure 13 represents the Q-Q plot of satisfaction scores for radiologic technology students.

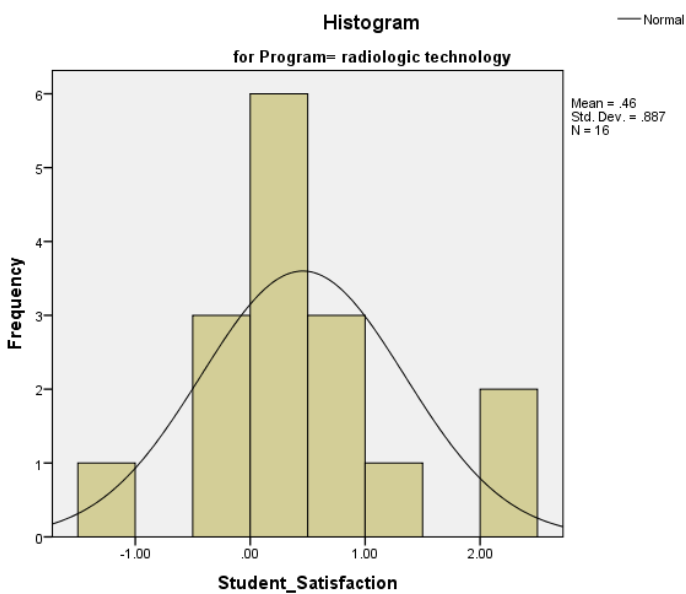


Figure 12. Histogram of student satisfaction scores for radiologic technology students.

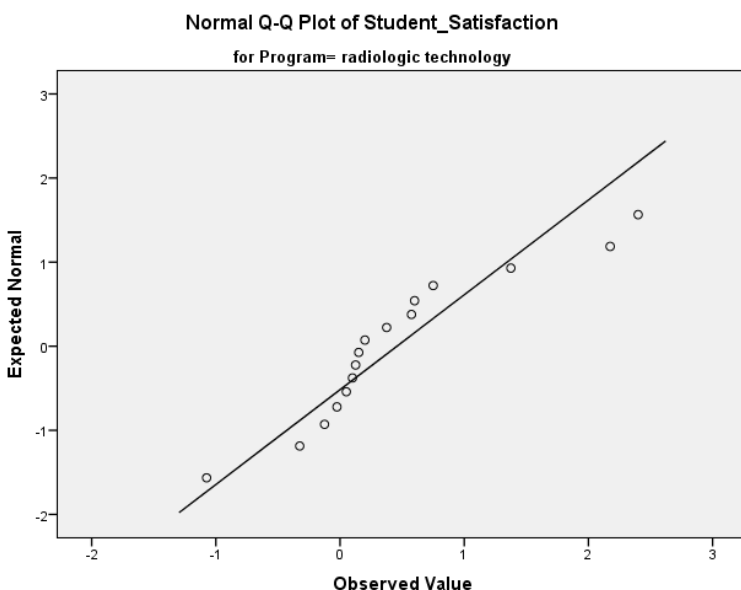


Figure 13. Normal Q-Q plots of student satisfaction scores for radiologic technology students.

The assumption of homogeneity of variance was examined using Levene's Test for Equality of Variance. The significance level was larger than .05 ( $p = .26$ ), which indicated that equal variance can be assumed. See Table 5 for Levene's Test for Equality of Variance.

Table 5  
*Levene's Test of Equality of Error Variances<sup>a</sup>*

Dependent Variable: Student_Satisfaction			
F	df1	df2	Sig.
1.340	5	61	.260

*Note.* Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Status + Program + Status \* Program

## Results for Null Hypothesis One

A factorial ANOVA was conducted on the influence of two independent variables (student status and health science program) on student satisfaction (as measured by the Student

Satisfaction Inventory). Student status included two factors (traditional or nontraditional) and health science program consisted of three factors (nursing, dental hygiene, or radiologic technology). No effects were found to be statistically significant at the  $p < .05$  significance level. Null hypothesis one stated that there is no significant difference in Student Satisfaction Inventory scores of traditional and nontraditional students. The main effect for student status yielded an F ratio of  $F(1, 61) = .562, p = .456$ , partial  $\eta^2 = .009$  indicating no significant difference between traditional ( $M = .727, SD = .832$ ) and nontraditional ( $M = .519, SD = .671$ ) students. The researcher failed to reject the null at a 95% confidence level. See Table 6 for Between-Subjects Effects.

### **Results for Null Hypothesis Two**

Null hypothesis two stated that there is no significant difference in Student Satisfaction Inventory scores of students enrolled in nursing, dental hygiene, or radiologic technology programs. The main effect for health science program yielded an F ratio of  $F(2, 61) = .715, p = .493$ , partial  $\eta^2 = .023$  indicating no significant difference between nursing ( $M = .556, SD = .531$ ), dental hygiene ( $M = .801, SD = .855$ ), and radiologic technology ( $M = .458, SD = .887$ ). The researcher failed to reject the null at a 95% confidence level. See Table 6 for Tests of Between-Subjects Effects.

### **Results for Null Hypothesis Three**

Null hypothesis three stated that there is no significant interaction between the Student Satisfaction Inventory scores among traditional and nontraditional students enrolled in nursing, dental hygiene, or radiologic technology programs. The interaction effect was not significant, yielding an F ratio of  $F(2, 61) = .458, p = .635$ , partial  $\eta^2 = .015$ . The researcher failed to reject the null at a 95% confidence level. See Table 6 for Tests of Between-Subjects Effects.



Table 6

*Tests of Between-Subjects Effects*

Dependent Variable: Student\_Satisfaction

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Status	.332	1	.332	.562	.456	.009
Program	.844	2	.422	.715	.493	.023
Status * Program	.541	2	.270	.458	.635	.015
Error	36.000	61	.590			
Total	64.589	67				
Corrected Total	38.209	66				

a. R Squared = .058 (Adjusted R Squared = -.019)

## **CHAPTER FIVE: CONCLUSIONS**

### **Overview**

Numerous studies over the past 20 years have attributed student satisfaction as a major difference between retention and attrition in the nontraditional student population. Studies investigating student satisfaction of different populations has been limited to different delivery methods within the same cohort or comparing different paces of degree tracks for the same type of program. No studies have investigated the differences in traditional and nontraditional students across different disciplines within allied health sciences of technical colleges. This study investigated differences in student satisfaction as it may vary by student status and health science program. Chapter Five provides a summary of the results of data analysis, implications of those results, limitations of the study, and an outline of recommendations for further research.

### **Discussion**

The purpose of this quantitative, causal-comparative study was to determine if students' satisfaction, as measured by the Student Satisfaction Inventory, differed based on student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) enrolled at technical colleges of Georgia. A convenience sample of health science degree program students was invited to participate in the present study during the second semester of their first year of their respective programs (spring semester 2018). A factorial ANOVA was conducted to determine the main effects of student status (traditional or nontraditional), health science program (nursing, dental hygiene, or radiologic technology), and if there was any interaction effects.

### Research Question One

Research Question One stated, “Is there a difference in student satisfaction with an educational institution, as measured by the Student Satisfaction Inventory, based on student status (traditional or nontraditional)?”

Given the sacrifice that often marks the nontraditional student’s return to college, satisfaction with an educational institution can be used as a measure of institutional effectiveness (Boylston et al., 2014; Naaj et al., 2012; Schriener & Nelson, 2014). However, student satisfaction data alone leaves gaps and may potentially mask important factors in an institution that need more attention. Differentiation of satisfaction across diverse populations of students is particularly effective (Schreiner & Nelson, 2014). Traditional students reported lower overall satisfaction scores than nontraditional students. While interesting, this finding was not a significant difference in student satisfaction scores between traditional ( $M = .727$ ,  $SD = .832$ ) and nontraditional ( $M = .519$ ,  $SD = .671$ ) students.

Technical colleges are known for their accessibility, affordability, and availability of financial provisions (Baum et al., 2013). Given the results of this particular main effect, it would suggest that nontraditional students in health science programs of technical colleges in Georgia are well served by their institutions. This is consistent with Howley, Chavis, and Kester’s (2013) findings that community and technical colleges might better serve their nontraditional students than larger, more complex institutions. Knowles’ et al. (2015) Adult Learning Theory states that though nontraditional students may face natural barriers due to time constraints or overly authoritative policies, the decrease in extrinsic motivation may not have an effect on them due to their greater levels of intrinsic motivation and readiness to learn. Additionally, if institutions are efficient at discerning the needs of their adult student population, these students are better served.

## Research Question Two

Research Question Two stated, “Is there a difference in student satisfaction with the educational institution, as measured by the Student Satisfaction Inventory, based on the type of health science program (nursing, dental hygiene, radiologic technology) that the student is enrolled?”

Dental hygiene students reported less overall satisfaction than their nursing and radiologic technology counterparts. However, this study found no significant difference in student satisfaction scores between nursing ( $M = .556$ ,  $SD = .531$ ), dental hygiene ( $M = .801$ ,  $SD = .855$ ), and radiologic technology ( $M = .458$ ,  $SD = .887$ ) students. This finding is different reports of variance in programs from several studies whose findings suggest that there is power in the program when it comes to determining student success and overall satisfaction (Boylston et al., 2004; Hollifield-Hoyle & Hammons, 2012; Nitecki, 2013). However, most of those studies were conducted at universities with a different population of students. Nitecki’s (2013) study that was at a technical college did not view programs under one department as the health science degree programs in the current research. Thus, potential reasons for these findings could be the fact that all of these programs, despite being at different colleges across the state, are governed by one unified body and possess consistent curriculum, rules, regulations, and acceptance policies (Curriculum Program Specialist for Health Sciences, personal communication, January 26, 2017). Additionally, the differentiation of satisfaction scores presents a different population for study.

### **Research Question Three**

Research Question Three stated, “Is there an interaction between the Student Satisfaction Inventory scores among traditional and nontraditional students in nursing, dental hygiene, or radiologic technology programs?”

Although this study found no significant interaction effects of student status and health science program on student satisfaction scores, dental hygiene students still reported lower overall satisfaction with the educational institution among nontraditional students. However, the dental hygiene and radiologic technology *traditional* students were shown to rate their satisfaction as lower than their nontraditional classmates. The nursing nontraditional students were the only group of nontraditional students that reported being less satisfied than did their traditional counterparts. The numbers of participating students in each group could explain this. Dental hygiene had more traditional students participate than nontraditional students and the radiologic technology groups were roughly equal. There were more than three times as many nontraditional nursing students participating in this study than traditional nursing students. Student numbers and sizes of participating group was often cited as a limitation in previous studies (Oja, 2011; Naaj et al., 2012).

### **Additional Findings – Employment Status of Nontraditional Students**

The findings in this study were also consistent with Chung’s (2014) definition of a nontraditional student. This designation as an employee (either full- or part-time) was applied to 31 of the 32 participating nontraditional students. Only 14 of the 35 participating traditional students held either a full- or a part-time job. The nontraditional group of nursing students was the only group that reported being less satisfied with the educational institution than the nursing traditional students. This finding, though not significant, could be explained by the added role

strain alone as 16 of the 19 participating nontraditional nursing students were employed either full- or part-time. This role strain is particularly glaring as nontraditional students often *must* maintain full- or part-time employment to assist with finances in their families (Forbus et al., 2011; Jinkens, 2009; Kolb, 2014; Stephenson, 2012). The other groups all had fewer employed students that participated in this study. Parkin's (1979) Social Closure theory defined social closure as a restriction of access to something based on a group attribute. This additional finding follows that nursing students had reason to be off campus more, and were thus indirectly excluded, due to their roles and external responsibilities as employees. This may have also contributed to the nursing nontraditional students' lower satisfaction scores.

### **Implications**

No previous research was found to investigate differences in student satisfaction as they were related to student status and health science program enrolled at technical colleges. Research findings add to existing knowledge of nontraditional student satisfaction but also present a new population for study. No significant findings may be findings in and of themselves concerning the unity and cohesiveness of the technical system to which these colleges and students belong. Schreiner and Nelson (2009) noted that an institution's "conscious decision to provide better support for the students enrolled" results in far more than student satisfaction. Perhaps the unified body to which all these colleges belong provides something others schools and programs cannot. In addition, this study might still enforce that student satisfaction with the educational institution is important. This may be immediately useful for administrators, faculty, and staff to better focus resources on learning the differences in cohorts entering their colleges each year. Knowing the composition and demographics of each cohort might improve the attention and response to those students that may be entering in a position to

be dissatisfied with services not geared toward their population. First, last, and always the goal of the educational institution should be to serve the students. Education occurs in relationship. Knowing the students is the key.

### **Limitations**

This research study had several limitations in regards to their threats to validity. Internal threats could be summarized as issues with student responses. First of all, access to the survey was obtained via student email. Several students seldom, if ever, check their school emails. Additionally, while still considered a strong method of data collection, student self-reported data is subject to dishonesty. The program instructors' assistance in facilitating this study could have also been a hindrance for students and potentially made them uncomfortable, thus more likely to be dishonest in their responses for fear their instructors would see their responses. Finally, unequal sizing in groups could have been an issue for accurate reporting of data analysis.

External threats to validity can be summarized as issues with generalizability. Only six of the 22 colleges in this technical system have all three health science programs of this study on one campus. Only five of those six agreed to participate in the study. As there are other colleges that have all three programs (just not all three on the same campus) the information gathered from this study cannot be representative of the entire state of Georgia. Additionally, some colleges participated in this study before their school appointed Spring Break, while other colleges participated after their Spring Break. After Spring Break, some colleges had only one week of normal classes before finals. This was a high stress time for students which could have impacted responses and inevitably made them slightly less satisfied in general (not just with the educational institution) than those that participated before finals preparation and finals weeks.

### **Recommendations for Future Research**

No previous research studies were found that investigated student satisfaction as it varied by student status and health science program enrolled at technical colleges of Georgia. Given the results of this study, further research is still needed. The researcher suggests the following:

- (1) Replicate the current study at a different point in the semester.
- (2) Replicate the current study with greater numbers of participants, and more participating colleges within this system of colleges that have the health science programs of nursing, dental hygiene, and radiologic technology.
- (3) Conduct a mixed methods or qualitative study with representatives from each status (traditional and nontraditional) and each health science program (nursing, dental hygiene, and radiologic technology) studied.
- (4) Further investigate differences in student satisfaction as it varies by health science programs.



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## APPENDIX A

The Liberty University Institutional  
Review Board has approved  
this document for use from  
3/23/2018 to --  
Protocol # 3146.032318

### CONSENT FORM

Satisfaction of Nontraditional Students in Health Sciences: A Causal Comparison Study  
Investigating Institutional Effectiveness

Erica M. Harrison  
Liberty University  
School of Education

You are invited to participate in a research study concerning students' satisfaction, as measured by the Student Satisfaction Inventory, as it differs based on student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) for students enrolled at technical colleges in Georgia. You were selected as a potential participant based on your enrollment in one of the degree programs listed above.

Erica Harrison, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

**Background Information:** The purpose of this quantitative, causal-comparative study is to determine if students' satisfaction, as measured by the Student Satisfaction Inventory, differs based on student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) for students enrolled at technical colleges of Georgia.

**Procedures:** If you agree to be in this study, you would be asked to do the following things:

1. Complete an anonymous online survey. The survey has an estimated completion time of 10-15 minutes and is mobile device compatible.

**Risks and Benefits of being in the Study:** The risks involved in participating in this study are minimal, which means that they are equal to the risks you would encounter in everyday life. There may be some discomfort in sharing potentially negative information about classes, experiences, instructors or the school.

Participants should not expect to receive a direct benefit from taking part in this study. Benefits to society include information that may better inform faculty, staff, and administration of needs they may not be aware of concerning their students enrolled in health science programs. This information might influence policies, procedures, retention, and graduation rates for nontraditional students in health science programs in technical colleges in Georgia.

**Compensation:** Students who choose to do so may provide their email addresses on the survey to be entered into a raffle for one of four Amazon gift cards. These gift cards range in value from \$25-\$100. Email addresses of those students who choose to participate in the raffle will be given to their instructor and provided to the researcher in a separate report to maintain student anonymity.

**Confidentiality:** The records of this study will be kept private. In any report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- Participation is anonymous

The Liberty University Institutional  
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3/23/2018 to --  
Protocol # 3146.032318

- Data will be stored on a password-protected computer and may be used in future presentations. After three years, all electronic data will be deleted.

**Voluntary Nature of the Study:** Participation in this study is voluntary. Your decision whether or not to participate will not affect your relationship with Liberty University or your school. If you decide to participate, you are free to withdraw at any time before submitting the survey without affecting those relationships.

**How to Withdraw from the Study:** If you choose to withdraw from the study, please exit the survey and close your internet browser. Your responses will not be recorded or included in the study.

**Contacts and Questions:** The researcher conducting this study is Erica M. Harrison. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at [eharrison5@liberty.edu](mailto:eharrison5@liberty.edu). You may also contact the researcher's faculty advisor, Dr. Rebecca Lunde, at [rmfitch@liberty.edu](mailto:rmfitch@liberty.edu).

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Green Hall 1887, Lynchburg, VA 24515 or email at [irb@liberty.edu](mailto:irb@liberty.edu)

*Please notify the researcher if you would like a copy of this information to keep for your records.*

**Statement of Consent:** I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

Clicking on the link below will serve as your statement of consent to participate in this study.

**APPENDIX B**

March 8, 2018

Erica Harrison  
Ed. D. Candidate  
1612 Green Acres Drive  
Vidalia, GA 30474

Dear Erica:

After careful review of your research proposal entitled Satisfaction of Nontraditional Students in Health Sciences: A Causal Comparison Study Investigating Institutional Effectiveness, I, [REDACTED] Vice President for Academic Affairs at [REDACTED] Technical College will grant contingent approval for you to conduct your study at [REDACTED] Technical College [REDACTED] Georgia [REDACTED]

Check the following boxes, as applicable:

- ☐ Data will be provided to the researcher stripped of any identifying information.
- ☒ I/We are requesting a copy of the results upon study completion and/or publication.

Sincerely,

[REDACTED]

Vice President Academic Affairs  
[REDACTED] Technical College

January 29, 2018

Ms. Erica M. Harrison  
1612 Green Acres Drive  
Widalia, GA 30474

Dear Ms. Harrison:

Thank you for choosing [REDACTED] Technical College [REDACTED] as a site to conduct your research concerning satisfaction of nontraditional students in health sciences in an effort to fulfill your requirements towards the Liberty University Doctoral program. On behalf of president [REDACTED] [REDACTED] the project is approved to move forward [REDACTED] is a public not-for-profit post-secondary higher education institution and has a diverse population of students. The results of your study could possibly inform the College's institutional effectiveness practices.

I have attached a copy of the approved [REDACTED] IRB consent forms that you completed. Please keep the Office of Institutional Effectiveness apprised of your efforts to complete the project and your results.

Sincerely,

A large black rectangular redaction box covering the signature of the Vice President for Institutional Effectiveness.

Vice President for Institutional Effectiveness

January 8, 2018

Erica Harrison  
Ed. D. Candidate  
1612 Green Acres Dr.  
Vidalia, GA 30474

Dear Erica:

After careful review of your research proposal entitled Satisfaction of Nontraditional Students in Health Sciences: A Causal Comparison Study Investigating Institutional Effectiveness, we have decided to grant you permission to conduct your study at [REDACTED] Technical College.

Check the following boxes, as applicable:

- ☒ Data will be provided to the researcher stripped of any identifying information.
- ☒ We are requesting a copy of the results upon study completion and/or publication.

Sincerely,

A large black rectangular box redacting the signature of the President.

President

November 30, 2017

Erica Harrison  
Ed. D. Candidate  
1612 Green Acres Dr  
Vidalia, GA 30474

Dear Erica:

After careful review of your research proposal entitled Satisfaction of Nontraditional Students in Health Sciences: A Causal Comparison Study Investigating Institutional Effectiveness, I have decided to grant you permission to conduct your study at [REDACTED] Technical College's Vidalia campus.

Check the following boxes, as applicable:

- ☒ Data will be provided to the researcher stripped of any identifying information.
- ☒ I/We are requesting a copy of the results upon study completion and/or publication.

Sincerely,

[REDACTED]

President

January 29, 2018

Erica Harrison  
Ed. D. Candidate  
1612 Green Acres Dr  
Vidalia, GA 30474

Dear Erica:

After careful review of your research proposal entitled Satisfaction of Nontraditional Students in Health Sciences: A Causal Comparison Study Investigating Institutional Effectiveness, we have decided to grant you permission to conduct your study at [REDACTED] Technical College

Check the following boxes, as applicable:

- ☒ Data will be provided to the researcher stripped of any identifying information.
- ☒ I/We are requesting a copy of the results upon study completion and/or publication.

[REDACTED]

President



## APPENDIX C

Dear [Name]:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a Doctor of Education degree. The purpose of this quantitative, causal-comparative study is to determine if students' satisfaction, as measured by the Student Satisfaction Inventory, differs based on student status (traditional or nontraditional) and the health science program (nursing, dental hygiene, or radiologic technology) students are enrolled in at technical colleges in Georgia, and I am writing to request your help in facilitating my research.

Students enrolled in your program who are willing to participate, will be asked to complete, an online survey, the Student Satisfaction Inventory. The survey takes approximately 10-15 minutes to complete and is mobile device compatible. Student participation will be completely anonymous, and no personal identifying information will be collected.

You will be asked to hand out the accompanying student recruitment letter to inform students about this study. Later, I will send an email containing the link to the survey and randomized passcodes. Passcodes are needed to access the survey and will not link a participants' identifying information to their survey responses. You will only need to forward this second email and hand out random passcodes. The email forwarded to students will contain instructions for completing the online survey.

A consent document will be provided as the first page students will see after clicking on the email. The consent document contains additional information about my research including the program code they will need for your program. Students will need to click on the survey link at the end of the consent information to indicate that they have read the consent information and they would like to take part in the survey.

If students choose to participate, there will be an opportunity to be entered into a raffle to receive one of four gift cards ranging in value from \$25-\$100. Students who choose to enter the raffle will have to submit their email addresses to you, the instructor, to send to me. Email addresses will be deleted after the completion of the raffle drawing.

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

Sincerely,

Erica M. Harrison  
Doctoral Candidate, Liberty University  
[eharrison5@liberty.edu](mailto:eharrison5@liberty.edu)  
(912) 293-6599

## APPENDIX D

Dear [Name]:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a Doctor of Education degree. The purpose of this quantitative, causal-comparative study is to determine if students' satisfaction, as measured by the Student Satisfaction Inventory, differs based on student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) enrolled at technical colleges of Georgia, and I am writing to invite you to participate in my study.

If you are willing to participate, you will be asked to complete an online survey, the Student Satisfaction Inventory. This survey takes approximately 10-15 minutes to complete and is mobile device compatible. Student participation will be completely anonymous, and no personal, identifying information will be collected.

I will be sending the survey link to your instructors to forward to you. The survey provider utilizes passcodes to access the survey. Passcodes will be randomly distributed to you and will not link your identifying information to your survey responses. To participate, you will read the consent form and instructions, click on the link provided, enter your random passcode and complete the Student Satisfaction Inventory.

As mentioned above, a consent document will be provided as the first page you will see after opening my email. The consent document contains additional information about my research. Please click on the survey link at the end of the consent information to indicate that you have read the consent information and that you would like to take part in the survey.

If you choose to participate, there will be an opportunity to be entered into a raffle to receive one of four Amazon gift cards ranging in value from \$25-\$100. To take part in the raffle, students who complete the survey will have to submit their email addresses to their instructors who will then send the list of email addresses to me. However, this information will remain confidential and be deleted after the completion of the raffle drawing.

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

Sincerely,

Erica M. Harrison  
Doctoral Candidate, Liberty University  
[eharrison5@liberty.edu](mailto:eharrison5@liberty.edu)  
(912) 293-6599

## APPENDIX E

### CONSENT FORM

Satisfaction of Nontraditional Students in Health Sciences: A Causal Comparison Study  
Investigating Institutional Effectiveness

Erica M. Harrison  
Liberty University  
School of Education

You are invited to participate in a research study concerning students' satisfaction, as measured by the Student Satisfaction Inventory, as it differs based on student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) for students enrolled at technical colleges in Georgia. You were selected as a potential participant based on your enrollment in one of the degree programs listed above.

Erica Harrison, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

**Background Information:** The purpose of this quantitative, causal-comparative study is to determine if students' satisfaction, as measured by the Student Satisfaction Inventory, differs based on student status (traditional or nontraditional) and health science program (nursing, dental hygiene, or radiologic technology) for students enrolled at technical colleges of Georgia.

**Procedures:** If you agree to be in this study, you would be asked to do the following things:

1. Clicking on the link below provides consent to participate in this study. The instrument that will be used is the Student Satisfaction Inventory. This is an anonymous online survey for which you will only need your random access code and your program code to complete. The survey has an estimated completion time of 10-15 minutes and is mobile device compatible.

**Risks and Benefits of being in the Study:** The risks involved in participating in this study are minimal, which means that they are equal to the risks you would encounter in everyday life. There may be some discomfort in sharing potentially negative information about classes, experiences, instructors or the school.

Participants should not expect to receive a direct benefit from taking part in this study. Benefits to society include information that may better inform faculty, staff, and administration of needs they may not be aware of concerning their students enrolled in health science programs. This information might influence policies, procedures, retention, and graduation rates for nontraditional students in health science programs in technical colleges in Georgia.

**Compensation:** Students who choose to do so may provide their email addresses on the survey to be entered into a raffle for one of four Amazon gift cards. These gift cards range in value from \$25-\$100. Email addresses of those students who choose to participate in the raffle will be given to their instructor and provided to the researcher in a separate report to maintain student anonymity.

**Confidentiality:** The records of this study will be kept private. In any report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- Participation is anonymous
- Data will be stored on a password-protected computer and may be used in future presentations. After three years, all electronic data will be deleted.

**Voluntary Nature of the Study:** Participation in this study is voluntary. Your decision whether or not to participate will not affect your relationship with Liberty University or your school. If you decide to participate, you are free to withdraw at any time before submitting the survey without affecting those relationships.

**How to Withdraw from the Study:** If you choose to withdraw from the study, please exit the survey and close your internet browser. Your responses will not be recorded or included in the study.

**Contacts and Questions:** The researcher conducting this study is Erica M. Harrison. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at eharrison5@liberty.edu. You may also contact the researcher's faculty advisor, Dr. Rebecca Lunde, at rmfitch@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Green Hall 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

***Please notify the researcher if you would like a copy of this information to keep for your records.***

**Statement of Consent:** I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

Clicking on the link below will serve as your statement of consent to participate in this study.

## **APPENDIX F**

### **INSTRUCTIONS FOR PARTICIPATION AND COMPLETION OF THE STUDENT SATISFACTION INVENTORY**

1. Read the consent form provided. Clicking on the link that follows will serve as consent and agreement to participate in this study.
2. After clicking on the link, you will enter your randomly assigned passcode that your instructor provided. It is important that you use your own code and do not share codes. Only one completion of the Student Satisfaction Inventory will be allowed per passcode. This passcode is used to access the survey and will not link your identifying information to your survey responses.
3. Complete the Student Satisfaction Inventory, making sure to check Importance and Satisfaction rating for each statement.
4. You will be asked to enter standard demographics information. This is not personally identifiable information and will only be used to place you into the groups based on student status: nontraditional or traditional.
5. You will also be asked to select a program from a dropdown menu. This is not personally identifiable information and will only be used to place you into the groups based on health science program: nursing, dental hygiene, or radiologic technology. Programs will be listed as follows:
  - a. Nursing
  - b. Dental Hygiene
  - c. Radiologic Technology