

A COMPARISON OF UNDERGRADUATE PERCEPTIONS
OF INSTITUTIONAL QUALITY AT A PUBLIC INSTITUTION

by

Nancy Woodrow

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

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ABSTRACT

Understanding the undergraduate student's perception of institutional quality is important to university administrators. This understanding can assist the university administrator in adjusting and improving relevant areas that aid in retention of current students and increase their satisfaction with the educational experience. Furthermore, the undergraduate student's perception of institutional quality could be useful in motivating future students to select the institution as their college choice. Unfortunately, perception of institutional quality is not among the factors of consideration when incoming undergraduate students make their college selection. Therefore, the purpose of this study was to assist the educational administrator in understanding whether the student's perception changes or develops across the term of the four-year undergraduate experience by exploring whether a statistically significant difference exists in the perception of college quality between undergraduate freshman and undergraduate seniors. Twenty-two factors identifying student perceptions of college quality were established using Kealy and Rockel's (1987) model of student perceptions and, by applying the results of the 2017 National Survey of Student Engagement (NSSE) at a large public university in the midwestern region of the United States, this causal-comparative ex post facto study answered four research questions associated with changes in undergraduate students' perceptions of institutional quality between their first year and senior year in college. Results indicated no statistically significant difference between first year and senior year students in sum total, or categorically in academic or social factors. However, results did indicate a statistically significant difference between the two student groups in the location category, but with a small effect size.

Keywords: college quality, student perceptions, NSSE, ex post facto, causal comparative

Dedication

This dissertation is dedicated to my husband, Alan Woodrow. Thank you for all you do.

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List of Abbreviations

Indiana University Bloomington Institutional Review Board (IUB IRB)

Medical College Admission Test (MCAT)

National Survey of Student Engagement (NSSE)

Total Quality Management (TQM)

CHAPTER ONE: INTRODUCTION

Overview

This chapter introduces the topic of institutional quality and its potential absence from undergraduate students' choice criteria and provides the historical and theoretical background of college choice. Additionally, the information in this chapter demonstrates that institutional quality is consistently absent from college choice consideration, regardless of the cost of the investment. This chapter includes a discussion of how the issue of student perceptions of institutional quality is a research problem and highlights the significance of this research problem to the university community. Finally, this chapter concludes with four research questions that guide the exploration of the difference in undergraduate student perceptions of college quality between freshman and senior level enrollment.

Background

Various factors influence a college student's educational experience and degree of success within their educational program. The overall goal of any higher education institution should be to assist students in enjoying a positive collegiate experience in which the student recognizes the relevancy and value of the subject matter and effectively completes the program with the knowledge, skills, and abilities necessary for competency in the discipline. As educational university administrators strive to engage and retain their student body, it is vital to understand which factors are important to students. Tinto's (1975) theory of student departure taught us that successful academic, environmental, and social integration is the key to student persistence in higher education. Deil-Amen (2011) proposed that socio-academic integration is most critical among first- and second-year students, while Stuart, Rios-Aguilar, and Deil-Amen (2014) proposed that many other tangible and intangible university benefits are the most

influential factors on student persistence and degree completion. However, researchers have not explored the possibility of whether the issue of institutional quality is one of these factors.

It is extremely important that educational administrators understand and consider which factors of the higher education experience are important to current and future students. This understanding is particularly important in relation to prospective students who are in the process of making their college choice. The way students make their college selection decisions carries significant implications for a university that is seeking to engage and interact with these individuals and their families. Studies conducted in previous years explored the significance of various college choice factors, as well as the processes students go through when considering their options.

Across the previous 30 years, access to college has improved, particularly with the increased availability of financial aid programs, but college choice factors among students have not significantly changed (Long, 2004). It is notable to mention that institutional quality is consistently not a consideration. Furthermore, Myers and Myers (2012) demonstrated that most parents and high school students discuss college options as early as the ninth grade. Conversations include topics of college type, academic requirements, and financial considerations. However, the subject of institutional quality did not appear anywhere in their study. Based upon this information, institutional quality appears absent from consideration among students and parents alike.

This quantitative study was grounded in Schultz's (1961) theory of human capital. The investment in one's own personal human capital includes the individual's collective intangible assets such as knowledge, talents, skills, abilities, experience, intelligence, training, judgment, and wisdom. The theory of human capital serves as an explanation for a student's motivation to

increase their personal value through their pursuit of higher education. To expand further, the econometric model of human capital, which explains college choice from a monetary point of view, is one of three recognized college choice models that are based upon the theory of human capital (Van der Merwe, 2010). This model can also be used as the framework for exploring students' cost-benefit analyses in contemplating their higher education decision.

Van der Merwe (2010) also used the theory of human capital to explore whether students regard higher education as an investment into their own personal human capital. Results of that study indicated that obtainment of the commodity of higher education can provide a means to increase one's human capital investment, thereby rendering the individual more productive and more highly recognized by employers. For such reasons, modern society underpins educational policy, whether explicitly or implicitly, with human capital theory. Because of this theory, it is now understood that the primary motivating factor in the demand for higher education is the individual's pursuit of personal development, which leads to enhanced economic and social status.

Students and families make a considerable investment in higher education. It is critical that they make informed decisions regarding this topic. Researchers have identified many areas of consideration in a student's college choice but failed to explore the topic of institutional quality at any level of the undergraduate experience. Quality is a very significant aspect in the field of higher education and institutions place significant importance upon this area. Much effort is devoted to creating and advancing institutional quality, but student perceptions of that quality are largely unknown. It is important that research explores any changes to the undergraduate students' perception of college quality from the beginning as well as the end of

their collegiate journey to inform educational administrators of the areas where students place significance, importance, and value.

Problem Statement

Based upon the current body of literature, institutional quality clearly is not a factor of consideration among undergraduate students when making their college choice. Studies indicate that students do perceive a link between higher education and the concept of quality, but this connection is in reference to the student's use of the higher education system as a means to increase their human capital and thus improve their quality of life (Van der Merwe, 2010). However, a direct link between perceived institutional quality and student college choice is not apparent among undergraduate students. Instead of considering institutional quality, students are establishing their college selections on various other factors including cost, academic match, distance from home, level of admissions difficulty, and institutional culture (Skinner, 2016). Although these factors are very important considerations, various areas of quality within the institution of higher learning also affect a student's educational experience.

Several other researchers have investigated the many facets of college selection dynamics, yet without consideration for student perceptions of institutional quality as an influential factor in college choice. In addition, no previous studies have explored whether students' perceptions of college quality change during their collegiate journey or become more important after their selection of an institution and throughout their period of enrollment. Therefore, it is necessary that researchers investigate this area of higher education. This understanding could inform educational administrators as to whether the perception of institutional quality becomes important to students throughout their educational journey. The perception of college quality is absent from consideration when students make their college

selections, and it remains unknown whether the issue of institutional quality becomes important to students across the term of undergraduate enrollment. Therefore, the problem for this study is that institutional quality remains absent from students' college choice considerations. In addition, whether institutional quality becomes important to students across the course of their undergraduate educational journey remains unexplored and unaddressed.

Purpose Statement

The purpose of this quantitative causal-comparative ex post facto study was to determine whether a significant difference exists between the dependent variable (perception of college quality) and the independent variable (college freshman or senior grade level). Perception of college quality is defined as the latent variables or attributes that students find important regarding a college or university's image, as specifically related to academics, social atmosphere, location of campus, and athletics (Kealy & Rockel, 1987). Grade level is defined by the U.S. Department of Education as the system of class-level ranking that categorizes undergraduate students into first-, second-, third-, and fourth-year designations. Grade level does not reference the number of years a student has attended college but instead refers to the student's number of program-advancement-years toward completion of the degree or certificate (Federal Student Aid, 2020). The U.S. Department of Education designates authority and responsibility to each university for establishing their credit hour requirements for student grade level attainment (Federal Student Aid, 2020). For this study, freshman grade level was established by the host university as zero to 29 completed credits and senior grade level as 90 or more completed credits.

Understanding the student's perception of quality among the various areas of the institution can assist an administrator when adjusting and improving relevant areas. With an

understanding of student perceptions of quality, such adjustments and improvements can assist in retention of current students and increased satisfaction with their educational experience, as well as motivation for future students to select the institution as their college choice. Furthermore, an understanding of student perceptions of institutional quality may allow for more in-depth and relevant discussion with incoming students concerning the institution's attention to areas that previous undergraduate students found to be critical to their success and satisfaction across their educational journey. This information may inform institutions regarding the significance of their efforts to increase quality in certain areas and thereby appeal to students in a more direct manner. To achieve this purpose, this causal-comparative ex post facto study will conduct four independent samples *t*-test to evaluate the difference between the means of two independent groups (*freshmen and seniors*). A large public university located in the midwestern region of the United States was the setting for this study. Data previously gathered by the 2017 National Survey of Student Engagement (NSSE) were used retroactively for this study.

Significance of the Study

This study will add to the existing body of knowledge regarding student perceptions of the higher education experience at the undergraduate level of study and assist higher education administrators in understanding the importance of various aspects of institutional quality from the perspective of undergraduate students as they progress through their collegiate journey. Building upon the recent work of Webb and Cotton (2019), who investigated the changes in student perceptions between the first and second years of undergraduate education, the findings of this study will increase educational administrators' understanding of student perceptions between the beginning and the completion of the undergraduate journey. In addition, this study focused directly on institution quality, rather than various other academic and social aspects of

the institution. This study expands upon the list of variables that prospective students should consider when exercising theoretical decision-making concepts concerning approaches to college choice. The study makes an empirical contribution by examining the link between the undergraduate students' perception of college quality and the grade level of study.

The results of this study are important to students as well as educational administrators. An understanding of the changes or development of student perceptions of institutional quality at the beginning as compared to the end of their undergraduate journey can be generalized to the overall undergraduate population if the results indicate growth in consideration for the quality of any particular areas of the institution. The results of the study may allow students to understand what others who came before them determined to be of significance – even if the students do not possess this understanding beforehand.

Bergerson, Heiselt, and Aiken-Wisniewski (2013) conducted a study with a similar approach to explore whether the influence of family and culture changed among women between the time of their undergraduate enrollment and 10 years post-graduation. Additionally, Govan, Patrick, and Yen (2006) conducted a similar study comparing high school freshmen and seniors concerning the differences in decision-making strategies across the high school experience. In both cases, techniques similar to those proposed in this study were employed to compare the growth and development of perceptions across time.

Research Questions

RQ1: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for all quality variables in sum total as shown by the NSSE survey instrument?

RQ2: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as academic as shown by the NSSE survey instrument?

RQ3: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as social as shown by the NSSE survey instrument?

RQ4: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as locational as shown by the NSSE survey instrument?

Definitions

1. *College choice* - The economics of differentiating and selecting an institution of higher learning (Stephenson, Heckert & Yerger, 2016).
2. *College quality* - The basic requirements for a credible and competitive institution of higher learning (Lagrosen, 2017).
3. *Grade level* - The system of class-level ranking that categorizes undergraduate students into first-, second-, third-, and fourth-year designations (Federal Student Aid, 2020).
4. *Human capital* - Human productive capacities such as knowledge, understanding, talents, and skills possessed by an individual or society (Paulsen & Smart, 2001).
5. *Institutional accreditation* - The voluntary, nongovernmental, peer-review process conducted within higher education institutions to ensure basic levels of college quality (Parker, 2018).
6. *Student perception of college quality* - The latent variables or attributes that students find important regarding a college or university's image as specifically related to

academics, social atmosphere, location of campus, and athletics (Kealy & Rockel, 1987).

CHAPTER TWO: LITERATURE REVIEW

Overview

This chapter offers an in-depth examination of the theoretical framework that guided this study. The following discussion outlines both the theory of human capital and decision theory as guiding principles for framing this study. A review of the related body of literature provides an overview of the concept of institutional quality, its importance to the higher education institution, and the manner in which institutional accreditation addresses and ensures this expectation of quality. Additionally, highlighted in this chapter is the absence from the literature of any student considerations for institutional quality when making their college selections. A discussion of the various typical college choice factors demonstrates the lack of recognition for institutional quality among college undergraduates when making a college selection. In closing, this chapter provides an overview of the benefits of the proposed study and its contributions to the current body of knowledge.

Theoretical Framework

Creswell (2018) suggested that a quantitative study's theoretical framework provides an explanation or prediction regarding the relationship between the study's variables. The current quantitative study was grounded in Schultz's (1961) theory of human capital for framing an understanding of why students choose to attend college, as well as the factors that motivate them to increase their personal value through the pursuit of higher education. In addition, Hills' (1964) decision theory of college choice provided a framework for the cognitive processes employed by students when making and drawing conclusions, and when selecting their choice of an educational institution. Other educational research studies used both the human capital theory and decision theory to explore how and why undergraduate students choose to engage in higher

education. These include Hordosy and Clark's (2018) study of undergraduate career planning, as framed by the human capital theory, as well as the Sutter, Dauer, and Forbes (2018) study of undergraduate values as related to the principles of decision theory.

Human Capital Theory

Originally established by American economist Schultz in the early 1960s, the theory of human capital initially informed the discipline of economics as an explanation of the human propensity to innovate and produce when rewards are available for gain (Schultz, 1961). The initial foundation of this theory was an observation from an economist's perspective that agricultural farmers were willing to innovate and produce crops when monetary rewards were available for acquisition. However, when crop prices were low, taxes were excessive, or rewards were unavailable, the same farmers were not motivated to find ways to increase production. This led to the rationalization that humans are inclined to work harder and strive for improvement when there is an obtainable benefit present. It was this realization that founded the theory of human capital.

Although Schultz's (1961) study originally established the theory of human capital as a measure of economic value, it has since become quite relevant to higher education and college choice. The theory of human capital has evolved in recent decades from an economic theory based upon labor and rewards, to a behavioral theory that explains human motivation for self-improvement. Human capital generally refers to productive capacities such as knowledge, understanding, talents, and skills possessed by an individual or society (Paulsen & Smart, 2001).

Investment in education tends to augment these capacities (Paulsen & Smart, 2001). Scholars can easily apply the theory of human capital as an explanation for an individual's motivation to pursue a college education at an institution of higher learning. From an economic

perspective, as well as an educational viewpoint, the theory of human capital posits that not all labor is equal. However, employees can increase their value and close that equality gap if their company invests in them - or if they are able to invest in themselves (Weisbrod, 1962). Such an investment in oneself allows an individual to create personal value, which benefits the person as well as the employer. This is apparent in such capacities as education, experience, and personal abilities. It is also apparent in collective intangible assets including knowledge, talents, skills, abilities, experience, intelligence, training, judgment, and wisdom. From this standpoint, it is easy to understand how human capital has become one of the most significant aspects of our culture and how it assists in keeping our society from becoming a system of either wealth, property, and money or otherwise hard, manual labor or poverty. Human capital allows for diversity of skilled workers who can fill the gaps between these two extremes. Therefore, an investment in oneself through acquisition of higher education can increase one's value or human capital and place the individual in a position of greater value to an employer. As a result, the individual will reap greater rewards.

Although Schultz (1961) is the primary theorist of human capital, in the time between the 1961 publishing of the theory and the late 20th century, other theorists contributed to researchers' understanding of the theory of human capital. Some of these additional theorists included Weisbrod (1962), Becker (1974), Fields (1974), and Blaug (1976). Weisbrod (1962) specifically called attention to society's need for advancements in individual capabilities, as well as in addition to technological advances. Therefore, to achieve progress in society, individuals must continue to invest in the efforts of education. An individual's participation in formal education will benefit many people in addition to themselves as the student. For example, children and family in the learned person's home will receive informal training as a trickle-down effect.

Neighbors will enjoy favorable social values in a more educated society, and employers who seek a trained labor force will enjoy additional hiring options. Each of these advancements to society is possible as the result of an increased level of human capital.

In addition to this added perspective, by 1964, Becker had further advanced the theory of human capital by bringing awareness to the relationship between the observed outcomes of wages and participation in education (Weiss, 2015). Blaug (1976) then expanded upon this finding in determining that these observed outcomes are simply dependent upon the individual's perception of how the additional level of earnings outweighing the cost of the additional schooling. This new perspective represented a significant shift away from the 1960s standpoint that higher education is simply a consumable commodity purchased by students, as based upon their personal tastes and their spending ability and dictated by family income. As the 20th century progressed, a concept that began as an economic theory had clearly expanded to the behavioral realm. Based upon this shift in reasoning and the newly accepted principle that personal value is linked to education and wages, it made sense that individuals must increase their worth by investing in themselves and developing their own human capital – with or without their employer's assistance.

Moving forward in time to the turn of the 21st century, Van der Merwe's (2010) research represented a contemporary example of a study that uses the theory of human capital to explore whether students regard higher education as an investment into their own personal value. Results of that study indicated that students indeed view higher education as a means to increase their value in the eyes of future employers, thereby increasing their employment prospects and providing an acceptable rate of return. Therefore, obtaining the commodity of higher education can provide a means to increase one's personal investment and render the individual more

productive and more highly recognized by employers. As a result, much of our modern educational policy is underpinned, whether explicitly or implicitly, by the human capital theory. Because of this theory, educational administrators now understand that the primary motivating factor in the demand for higher education is an individual's desire to achieve personal development that leads to enhanced economic and social status.

Similar factors were a focus of Wiswall's (2018) study of college choice, where the author explored whether demographic characteristics influenced the application of the human capital theory. Results indicated that the human capital theory, an econometric model, is the main theory that explains college choice. It is relevant to note that the econometric model of human capital, which explains college choice from a monetary point of view, is one of three recognized college choice models. College choice models are classified into three broad categories: (a) econometric (explains choice from a monetary point of view); (b) sociological (explains choice based on noneconomic factors such as influence of schools, parents, peers); and (c) a combination of the two (Long, 2004). In addition, the theory of human capital is found to be connected to the student's cost-benefit analysis when contemplating the higher education decision. Most-often noted in the analysis is consideration of the question of which college the individual believes will bring them the greatest financial gain upon graduation. As stated in a 2018 study by Wiswall, human capital theory is an econometric model, where the main theory explains college enrollment choice based on the association between education attainment and expected earnings and employment relations. Clearly, the theory of human capital informs the field of education, particularly in the area of student college choice.

Decision Theory

Decision theory focuses on the underlying reasoning that guides an individual's choices in all areas of life (Steele & Stefansson, 2016). Developed by the German statistician Erich Leo Lehmann, decision theory was originally a statistical theory that explained how individuals make choices based upon each option's statistical probability of success (Rojo, 2011). Decision theory has since become a popular theory for explaining how students make college selections. This use of decision theory as a method for making educational choices began in 1964 with John R. Hills, Director of Testing and Guidance for the Board of Regents of the University System of Georgia, in Atlanta, Georgia. Mr. Hills developed the use of this statistical method as a means for making college selections based upon a similar method as described in Chapter 1 of Schlaifer's (1959), *Probability and Statistics for Business Decisions* (Hills, 1964). As one of the original scholars to blend the statistical foundation of decision theory with an educational context, Hill outlined the theory in the following manner.

A student has several possible 'alternatives' or courses of action, *i.e.*, several colleges among which to choose. In each of them, certain "events" can occur. Each of these events has a 'value' for the student, a value that can be estimated through some variant of psychological scaling. Each event also has associated with it a probability of its occurrence, which can be estimated through actuarial prediction. If for each course of action (college), the value of each event (grade) is multiplied by its probability, and if these products are summed for each college, then the sound decision from this point of view would be for the student to choose the institution in which the sum of these 'expected values' is the greatest. (p. 17)

Although this explanation of decision theory clearly highlights its statistical approach, the theory remains useful to students when selecting a college. The outlined formula can be applied to various aspects of each higher education institution. Students can then assess their likelihood of success based upon all relevant factors. A student's college choice is one of the most important, yet basic, decisions in their educational journey, and decision-making is the most common form of problem solving (Jonassen, 2012). However, even when utilizing the principles of the decision theory, students might find it difficult to come to a decision and will need assistance in organizing the problem. Furthermore, students may struggle to balance their desire to attend an institution against their likelihood of survival in that organization's system – a concern that compounds the decision-making process for many individuals. As stated by Hill (1964),

Sometimes the student's heart will be set on a college where the probabilities of success are low compared with another college that is acceptable to him. It may be worthwhile for him then to consider how great his values for the former college would have to be in order for it to overbalance the academic difficulties likely to be met there. (p. 20)

The Use of Both Theories

Researchers have conducted countless studies concerning undergraduate students' college choice and decision-making factors. Utilizing the theory of human capital to understand why students attend college and the decision theory to inform an understanding of how students make a college selection, the purpose of this study was to explore the student's perception of institutional quality as related to these choices. As the following literature review demonstrates, institutional quality does not appear in any identified previously conducted college choice studies, nor is it explored directly as an aspect of the undergraduate student's educational

journey. Informed by both theories, this study was conducted to explore this important aspect of the higher education institution and the student's educational journey.

Related Literature

The following literature review explores the topic of institutional quality and the manner in which institutional accreditation addresses and ensures this expectation of quality, as well as the lack of student consideration of such quality when making a college choice. Upon review, a gap in the current body of literature reveals an area of needed study that will increase our understanding of the undergraduate student's perception of institutional quality and whether this perception changes or grows between the beginning and the end of the undergraduate journey.

The current body of literature reveals two known categorical assumptions concerning institutional quality. First, the pursuit of quality is a significant activity among higher education institutions (Flood, & Roberts, 2017). Secondly, students do not consider an institution's quality when enacting their college choice and making college selection decisions (Bergerson, Heiselt, & Aiken-Wisniewski, 2013; Galotti, 1995). What remains unknown, however, is whether institutional quality could become a consideration in college choice if students were aware of its role in higher education. The current study will add to the current body of literature regarding college choice by indicating whether student perceptions of institutional quality grow, change, or evolve between the first and the fourth year of undergraduate study. A deeper understanding of this phenomenon may inform educational administrators as to which aspects of institutional quality might be irrelevant to the undergraduate student's college decision at the inception of the program but become relevant and important in the mind of the student by the end of the educational journey. The following review of the relevant literature initially outlines and validates the importance of the concept of institutional quality, as established by the higher

education accreditation process, and concludes with a discussion of the unfortunate lack of consideration for such quality in undergraduate students' college choice process.

Institutional Quality as Indicated by Accreditation

Institutional accreditation represents the higher education organization's overall level of quality. It is a process that is conducted within our nation's higher education institutions for the purpose of assessing the extent to which the organization is meeting or exceeding the minimal level of expected quality. The federal government has no direct involvement in this process, no oversight of the effort, and no centralized federal authority to exercise control over the quality of our nation's postsecondary educational institutions. Instead, responsibility for this endeavor has been granted to various private-sector national and regional accrediting agencies. These agencies establish the minimum accepted criteria for institutional quality and develop the procedures for evaluating these organizations to determine whether the university meets that basic level of quality. Meeting or exceeding this expected level and being granted regional or national accreditation is highly impactful, as institutions are not permitted to participate in federal financial aid funding programs on behalf of their students if they do not achieve accredited status to demonstrate a mark of quality (U. S. Department of Education, 2018).

It is important to note that the peer-review aspect of the accreditation process can present a challenge to those who work in this area. As a representative of an institution seeking accreditation, one puts their best foot forward and offers their institution's best demonstration of quality with the hope that the accreditor, who is their peer, will find this level of quality worthy of accredited status. However, as accreditation is a peer-reviewed process, the accreditor is also a member of an institution that will in turn seek to establish and then maintain its own organization's accreditation. As a result of this system, the roles of the peers then become

reversed; presenting a challenge that requires a delicate balance. These interchangeable roles have become a point of concern among legal advisors who question the neutrality of this situation (Flood & Roberts, 2017). Senator Warren (D-MA) discussed this issue specifically at the US Senate Committee on Health, Education, Labor, and Pensions in 2013 where she labeled it an inherent conflict of interest that affects the outcomes of the accreditors' evaluations of member colleges. The concern is that the accreditor who is tough on its college members could face a request to be unseated by those members who are disgruntled with their evaluation outcomes. The implied danger is that accreditors are becoming soft on their member colleges to avoid this issue and therefore produce unreliable evaluations. Senator Warren's (2013) proposal was to create "bright lines in the sand" where colleges can maintain, or be denied, accreditation without further evaluation based upon a series of pass or fail metrics, including graduation rate and federal student loan default rate (4:59). Such a change to accreditation standards could carry significant implications for higher education institutions.

Despite its many flaws, the importance of institutional quality is well established. For these reasons, it is important that students understand a basic overview of accreditation so they might use this knowledge to gauge the quality of the institutions they are considering when making their college selection. Students and families make a considerable investment in higher education. It is critical that they make informed decisions regarding the quality of their investment. The institution's documented level of quality that led to its accreditation status is one tool that is available for use in surveying the quality of the institution.

An Overview of Accreditation and Its Process

The United States instituted the practice of accreditation as a means of ensuring a basic level of quality among American higher education institutions (U.S. Department of Education,

2018). As our nation's colleges and universities operate with a significant level of self-governance and independence from federal control over the quality of their educational offerings, the system of accreditation became necessary to ensure basic levels of quality (U.S. Department of Education, 2018). Accreditation is a voluntary, nongovernmental, peer evaluation process of higher education institutions and programs. This process is facilitated by private educational associations on either a regional or national level (U.S. Department of Education, 2018). These accrediting bodies establish the standards of quality but hold no legal authority over the institutions (U.S. Department of Education, 2018).

Accreditation is the voluntary, nongovernmental, peer-review process conducted within our nation's higher education institutions (Parker, 2018). The purpose of institutional accreditation is to ensure a minimum expected level of quality among our nation's colleges and universities (Wilkerson, 2016). As the federal government has no direct involvement in this process, no oversight of the effort, and no centralized federal authority to exercise control of the quality of our nation's postsecondary educational institutions, responsibility for this endeavor lies with various national and regional private sector accrediting agencies. These private educational associations determine and establish the minimally accepted criteria for quality among higher education institutions and develop the procedures for evaluating whether each university meets this basic expected level of quality.

Accrediting bodies impact institutions in several ways. They assess the quality of academic programs and create a culture of continuous improvement by raising the overall standards, comprehensively involving faculty and staff in evaluation and planning, and establishing criteria for professional certification and licensure (U.S. Department of Education, 2018). Beginning in 1965, Congress further expanded the role of accrediting agencies by

allowing these bodies to adopt criteria for outlining acceptable institutional and program quality, and to develop procedures for assessing this level of quality. With this expanded capacity, accrediting agencies became the determining voice in whether an institution met the minimal standards of quality required for participation in federal student aid fund programs. Upon satisfaction of accreditation standards, the institution or program is granted accreditation with the understanding that reevaluation will be periodically conducted to affirm continued accredited status.

Accreditation influences the institution as a whole, as well as its programs within. An institution or program's credibility is ultimately influenced by its accreditation, as is the employability and marketability of its graduates (Parker, 2018). Accreditation is categorized into two overall types: institutional and programmatic (also called specialized). Institutional accreditation pertains to the designation of quality granted by an approved accrediting body to the overall institution. In this case, this designation of accredited is in reference to the entire institution as a whole or the complete higher education body. Institutional accreditation seeks to ensure that all components of the organization are playing their proper role the way they are intended, and that all areas of the institution are contributing to the overall achievement of the institution's objectives (U.S. Department of Education, 2018). It is important to understand and remember that the U.S. Department of Education does not accredit educational institutions or their programs. Instead, this federal agency provides oversight of the overall accreditation system and the federally recognized accrediting agencies that are charged with directly ensuring the standards of quality among their subject institutions (NCAHLC, 2013).

Programmatic accreditation applies to programs, departments, or schools that function within a larger institution (U.S. Department of Education, 2018). This level of accreditation is

considered a specialized or professional accreditation. These programmatic accreditation credentials are granted by approximately 60 private, specialized agencies that manage their program disciplines on a national basis (Christe, Coker, & Yelton, 2016). The purpose of programmatic accreditation is to ensure that graduates of that discipline meet the required subject-specific standards. This type of accreditation also provides quality assurance through peer review (Parker, 2018). However, even with the many layers and processes in place, accreditation is an imperfect process. Issues and concerns exist at various levels of the process and accreditation reform is an ongoing conversation.

Federal level issues. The federal government has traditionally allowed accrediting bodies to assume responsibility for ensuring institutional quality through voluntary, peer-reviewed processes over which the government has exercised very limited control. However, this private-sector process began to experience increasing federal involvement (Eaton, 2010). This shift could be significant for institutions and faculty members in the form of lessened academic freedom and loss of authority or responsibility for critical academic decisions. Such judgments and decisions regarding curriculum, academic standards, and general education have fallen under the responsibility of institutions and faculty for decades. These areas, as well as an institution's core academic values, could be at risk if the role of federal government expands into accreditation.

Local level issues. One of the most significant issues surrounding regional accreditation is the topic of transfer credits. As students move between institutions, the ability to transfer their earned credits becomes an important consideration. Although each university establishes the learning requirements for earning full credit in their courses, accreditation also plays a role in whether courses can be viewed as equivalent. In general, regionally accredited institutions only

accept transferred credits from other institutions within their accreditation region. Currently, the United States is divided into six accreditation regions. This might pose an issue for students who want to move freely between regionally accredited institutions that are in different areas of the country, and therefore outside of the same region, because the institutions will be members of two different accrediting bodies. However, nationally accredited institutions are more likely to accept transferred credits from both regionally and nationally accredited institutions (EDsmart, 2018). Another issue surrounding regional accreditation is that each region is limited to only one accrediting body within that region. Therefore, universities seeking regional accreditation must use the regional accreditor that serves their region. For this reason, accreditors have been criticized for setting standards of quality that are lower than desired to permit some universities within the region to achieve accreditation. This criticism could be resolved if additional regional accrediting bodies were established (Kelchen, 2017).

National and regional accreditation. Both national and regional accreditors are involved in evaluating and monitoring universities for their institutional accreditation. Institutions may elect to choose either national or regional level accreditation, or they may choose to remain unaccredited. However, an institution cannot elect to be accredited at the institutional level by more than one accrediting body. If an institution selects a national accreditation, there are several accrediting bodies from which to select. National accrediting agencies primarily focus on institutions that are faith-based, career-related, or online education-based. However, if an institution selects regional accreditation, they must use the one appointed accrediting body assigned to their region (Higher Learning Commission of the North Central Association of Colleges and Schools, 2013).

Making the decision to use a national or a regional accrediting agency and making the selection between the various national accrediting bodies should the university choose that option has been a source of concern for many institutions. Wilkerson (2016) stated that many institutions struggle to understand and navigate the differences in accreditation standards across various accrediting bodies, and the process of combing through the agency's underlying rationales and requirements makes selection a cumbersome task. However, after examination of the multiple options available and their required processes, study results have indicated that the various national accrediting bodies ultimately drive the standards as applied by the regional bodies as well (Wilkerson, 2016).

Regardless of these various criticisms, accreditation remains the accepted means of assessing the quality of our nation's higher education institutions. Accreditation continues to be the main method of ensuring quality among our nation's institutions of higher learning. Regional and national accrediting bodies are called upon to conduct voluntary peer-reviewed assessments of institutions and to grant their stamp of approval to those who meet the minimum accepted standards. Accreditation influences institutions, faculty, and students in many ways including credibility, employability, and marketability. Furthermore, the use of federal financial aid funds at any institution is dependent upon this mark of quality. However, regardless of these positive efforts, concerns have surfaced in the area of accreditation, both nationally and regionally. For this reason, federal oversight of accreditation is beginning to expand.

Importance of Institutional Quality

Institutional quality and its accompanying mark of accreditation are very important pursuits for institutions of higher learning. These efforts require that significant time, resources, and money are invested by universities. More importantly, however, is the similar investment of

time, resources and money by countless students each academic year for attending the nation's higher education institutions. For this reason, it is important that students understand a basic overview of accreditation and use this insight to gauge the quality of the institutions they are considering. Students and families make a considerable investment in higher education. It is critical that they make informed decisions regarding this topic. Accreditation is one tool that is available for use in surveying the quality of various institutions.

Fortunately, the area of accreditation might be on the verge of evolution for the purpose of continuous improvement. According to Flood and Roberts (2017), legal considerations have begun to impact this historically voluntary process and have caused the U.S. Department of Education to consider changes to this process. In addition, several legal actions were brought concerning institutions who did not receive a favorable accreditation assessment from their peers that resulted in a denial of accreditation status. Although the federal government has allowed responsibility for accreditation to remain wholly with the accrediting bodies to this point in time, a shift toward an increased level of federal involvement is presently being considered (U.S. Department of Education, 2018). It is imperative that our nation's higher education accreditation system continues to foster oversight and continuous improvement among our institutions of higher learning. Accreditation is responsible for creating a culture of continuous improvement among our nation's educational providers. This is particularly important to the ongoing effort of overall quality standards, comprehensive involvement of faculty and staff in evaluation and planning of academic programs, and establishment of criteria for professional certification and licensure (U.S. Department of Education, 2018).

Meeting or exceeding the prescribed level of quality is required for achieving regional or national accreditation (Higher Learning Commission of the North Central Association of

Colleges and Schools, 2013). Securing an accredited status is imperative for most institutions, as participation in federal financial aid funding programs on behalf of their students is dependent upon achievement of accredited status (U. S. Department of Education, 2018). However, quality is a subjective entity and studies have demonstrated that the concept of quality, as associated with accreditation, can vary significantly (Lagrosen, 2017). For example, quality management as defined by the Total Quality Management (TQM) model focuses on a system's values, techniques, and tools including customer orientation, leadership commitment, and continuous improvement. The Malcolm Baldrige criteria of quality similarly lists leadership; however, this model also includes the core values of strategy and customers (American Society for Quality, 2020).

Regardless of the model and the factors, accreditation has become the accepted mark of approval demonstrating achievement of quality and the basic requirements for a credible and competitive institution of higher learning (Lagrosen, 2017). Nonetheless, regardless of the specifics, accreditation has become the accepted mark of approval that demonstrates achievement of quality and has become regarded as the basic requirement for a credible and competitive institution of higher learning.

The Ongoing Pursuit of Institutional Quality

The ongoing pursuit of quality will most certainly require an institutional commitment to continuous improvement, which often requires constant evolution and change. To support this initiative, Ionescu (2014) believed the fundamental purpose of effective leadership is to create and execute a flow of constant change within organizations. Such leadership is imperative to organizations because a culture of continuous improvement creates a competitive advantage for the business by forcing the organization to become accustomed to flexing and reacting on short-

term notice. The organization is then prepared to adjust to quickly changing market conditions since change is simply an ongoing and normal part of their operation. According to Ionescu (2014), this contrasts with the nature of change in many organizations where change only occurs as a planned and executed event rather than an ongoing method of operation. Such behavior can stifle an organization. Instead, to establish an environment of perpetual change, Ionescu suggested several leadership strategies including the triad of vision, motivation, and momentum; the blending of charismatic and architectural leadership roles; and methods for investing in the education and coaching of human resources. The result of such efforts is a change-adept organization with a future-oriented vision. An institution of higher learning that embraces a vision of increasing quality must realize many of these concepts and stand ready to implement such change-inducing strategies across time.

From a similar standpoint, Baesu (2013) informed us that organizations who do not possess the capacity for rapid response cannot survive in today's business environment. Therefore, effective leaders are charged with the task of creating change-ready organizational climates. However, even with the most effective leaders in place, transformational power lies in the employees' willingness to embrace the change. The concern is that individuals focus more on what they must give up when change occurs and not on what they might gain. Therefore, the key to successful organizational change is to customize the leader's persuasion style according to the features and behaviors of the employees. It is suggested that various techniques will accomplish this outcome including depersonalization of the change; a blend of transactional and transformation leadership approaches; and establishing an atmosphere where change is an accepted and expected constant. Most importantly, leaders must align the phases and main focuses of change with their leadership styles.

Ongoing concerns surrounding the evaluation of institutional quality. Criticism has begun to surface regarding accreditation procedures and accrediting bodies. One issue surrounding regional accreditation is the limited number of institutional accrediting bodies in each region. Universities may only use the regional accreditor that serves its area, and only one institutional accrediting body exists in each region. This is problematic because accreditors have been criticized for setting standards of quality that are lower than desired to permit institutions to achieve accreditation (Eaton, 2010). This practice comes at the cost of the students because some of the institutions that were able to become accredited might be lacking quality in many areas of the organization. This criticism could be resolved if additional regional accrediting bodies were established to create a sort of check-and-balance system.

As noted, another ongoing and significant issue surrounding institutional accreditation granted at the regional level is the concern regarding transfer credits. As students move from institution to institution, they discover that their ability to transfer their earned credits becomes a significant consideration. As a rule, regionally accredited institutions only accept transferred credits from other institutions within their accreditation region. However, nationally accredited institutions are more likely to accept transferred credits from both regionally and nationally accredited institutions. This might pose an issue for students who want to move freely between regionally accredited institutions (U.S. Department of Education, 2018). Of course, each university establishes its own standard for which credits offered at other institutions are considered comparable and equivalent, so this issue of accreditation and the lack of transferability of credits simply complicates matters for the student. This often is an issue discovered by the student after the fact. In any case, it is important that students investigate

these various issues, if even on the most fundamental levels, when they consider their higher education options.

Usefulness in college selection. Clearly, institutional accreditation is a significant indicator of institutional quality, and it plays a substantial role in creating a culture of continuous quality improvement among educational providers. Although a thorough understanding of all the issues surrounding institutional quality and accreditation might not be necessary, a basic understanding of this area of higher education could provide students and families with an additional dimension to consider. The accreditation process is in place to organize the many aspects of institutional quality and reveal each institutions' level of compliance. This information could certainly enhance the potential student's evaluation of the institutions they are considering in their college choice. It is important that students understand a basic overview of institutional accreditation as an overarching process and the way it drives institutional quality. Only then can our nation's students connect these concepts to the importance of considering institutional quality in their college choice.

College Choice

It is important that higher education administrators understand the college choice factors that incoming undergraduate students consider when making their selection of a higher education institution. Studies conducted throughout the years identified various college choice factors and the processes that students go through when considering their educational options. Across the previous 30 years, access to college has improved, particularly with the increased availability of financial aid programs. However, college choice factors among students have not significantly changed - with exception of the impact of cost, which has most noticeably lessened over the previous three decades (Long, 2004). This factor has become a less-impactful college choice

consideration, as students now report their understanding and acceptance of the fact that incurring debt is simply the tradeoff for securing a college degree. Therefore, rather than focusing on concerns for cost, the issues of distance from home, level of admissions difficulty, and college culture rose to the top of the list among college choice considerations in Long's study. It is widely understood that higher education institutions invest significant time, recourses, and money to achieve the expected levels of quality (Flood, & Roberts, 2017). More importantly, however, is the investment of similar time, resources, and money by countless students and families each academic year at our nation's higher education institutions. Although college debt is a means to a positive end, it is important that students and families understand their investment and make informed and smart choices regarding their selection of an institution into which they will invest their funds. To express the importance of this matter, it is necessary to address and understand the significance of college funding and debt.

College Funding and the College Choice Decision

Although the issue of college cost has become a less-impactful college choice consideration since students now report their understanding and acceptance of the fact that incurring debt is the tradeoff for securing a college degree, it remains a relevant topic in the long run. First year undergraduate students and their families will spend as much as \$32,000 for tuition and fees (The College Board, 2019). To support this expense, student loan funding has become the norm among today's college graduates. According to Smith (2013), student loans in the United States have cumulatively topped \$1 trillion. It is also important to recognize the issue of student loan debt and its connection to anxiety because so many of the nation's college graduates are incurring significant amounts of this type of debt.

The period of young adulthood that corresponds to college graduation is a time that is commonly associated with an increased risk of mental health concerns (Archuleta, Dale & Spann, 2013). This is also a period when individuals experience significant life transitions. One of those transitions is an increase in financial responsibility. This critical time in a young adult's life often accompanies the positive accomplishment of completion of a college degree, but also presents a mountain of student loan debt. It is important to understand how this burden affects these individuals who are already at risk for the onset of mental health concerns. Researchers have identified a link between the adverse financial situations of college students and a negative impact on mental health. Financial stressors have been positively associated with increased anxiety and depression levels among college students. Significant amounts of student loan debt is an area that could increase the financial stress and anxiety of young adults (Archuleta et al., 2013).

Although the United States is not currently experiencing a student loan crisis, higher education leaders and policymakers should be concerned about the significant amount of debt our nation's graduates are incurring. In addition to the difficulty that college graduates experience in repaying their student loans, it is the population of students who do not complete their degree that struggle the most to repay their student loan debt (Houle & Warner, 2017). Understanding this, academic leaders must strive to support their incoming undergraduate students and create the best possible chances for their students to graduate. According to Perna, Kvaal and Ruiz (2017), degree completion is a more important predictor of default than the amount of money a student borrows for college. In fact, default rates are inversely related to the amount that students borrow. Students who borrow \$10,000 or less are 20% more likely to default on their student loans than students who borrow over \$100,000. Understanding this

behavior among student borrowers might assist policy makers in establishing proper borrowing guidelines but more importantly it can assist universities in better preparing their incoming undergraduates to borrow responsibly.

Financial satisfaction is an integral component of overall life satisfaction and well-being. Researchers have demonstrated the role financial satisfaction plays, both directly and indirectly, on a variety of factors including marital stress, financial solvency, income, financial knowledge, and education. Understanding the role student loan debt plays in financial stress could provide insight into the occurrence of anxiety among young adults (Perna et al., 2017). Moritz and Freidman (2017) reminded us that “this tidal wave of unsecured debt could swamp the country's economic recovery” (p. 30). Even the smallest student loan balances can be burdensome to an entry-level career. Policymakers and university leaders must consider these factors when establishing student loan borrowing guidelines for schools of all sizes, as student loan debt has the potential to impact our economy on a broad basis in addition to the impact upon the individual.

Researchers found that students from mid- and low-resource schools had deep concerns and anxiety about borrowing to pay for school, seeing school loans as debt rather than an investment in future earnings (Archuleta et al., 2013). Additional studies have shown a connection between fear of debt and university selection – a factor that clearly ties this topic to the issue of college selection. This is a significant implication for the mid- and low-resource schools that may experience a decline in enrollment due to an increased need for student loans. Although the majority of students Archuleta and colleagues surveyed found it acceptable to borrow money to pay for school-related expenses, studies have found that high debt levels were associated with lower self-esteem and a decreased sense of ability to manage personal finances.

Furthermore, debt has been found to be related to lower overall perceived financial well-being and higher stress levels among college graduates.

Johnson, O'Neill, Worthy, Lown and Bowen (2016) determined that students carry three overarching opinions of student loan debt: student loans are upsetting, loans are necessary, and loans are an investment in the future. Graduates acknowledged the need for student loans but reported in the Johnson et al. study that their student loan debt makes them feel “worried, guilty, anxious, nervous, frustrated, uneasy, uncertain and stressed out” (p. 190). Many students expressed fear of the requirement of paying back their loans for “the rest of their lives” (p. 191).

Student loan borrowing has reached a significant level in our nation. Many students are borrowing staggering amounts of money. While many repay their debt throughout their careers, others become unable to meet their obligation and default on their loans. Although some students find that the tremendous debt simply accompanies the degree, for others the incurrence of this debt causes fear and anxiety. It is important that higher education professionals understand these feelings among their students and anticipate this belief among incoming undergraduates who are considering selecting their institution. Young adulthood is accompanied by many challenges, and anxiety often occurs at this point in life even in the absence of financial difficulties.

Clearly, researchers have established a connection between financial anxiety and student loan debt. Studies have also determined that students who do not complete their degree are at the highest risk of experiencing financial stress and anxiety and defaulting on their student debts. Therefore, higher education professionals must strive to support their students and assist them in persisting. Successful degree completion and feelings of adequacy in financial management skills empower graduates to obtain financial satisfaction to reduce anxiety and achieve overall

life satisfaction. Furthermore, the burden of student loan debt carries the capacity to impact our nation's overall economy as well as the individual debtor. Utilizing student loan funding programs is an important aspect of financing the college experience; however, students must be mindful of moderation. Unfortunately, anxiety will likely surround this process.

Non-Funding-Related Factors and the College Choice Decision

It is important that higher education administrators understand all factors that potential incoming undergraduate students consider when making their college selection. How students make their decisions about college carries significant implications for how universities engage and interact with these individuals. Previous studies identified college choice factors, as well as the processes students go through when considering their options. Across the previous 30 years, access to college has improved, particularly with the increased availability of financial aid programs. Notably, the impact of cost was found to have lessened over the previous three decades regarding college choice but non-funding-related college choice factors among students have not significantly changed (Long, 2004). Although students understand and accept the fact that incurring debt is the tradeoff for securing a college degree, Long's 2004 study found that other non-funding-related issues, such as distance from home, level of admissions difficulty, and college culture, rose to the top of the list among college choice considerations. Furthermore, the consideration of *whether* to enroll in college was as significant a consideration as the college selection factors identified by Long.

A study conducted by Skinner (2006) demonstrated that the local labor market conditions were the determining factor of whether to attend college; while cost, distance, and academic match determined where to attend (Skinner, 2016). These results are of interest to higher education administrators. First, institutions might be missing an opportunity to engage talented

applicants who simply did not apply due to real or perceived labor market conditions. To engage this group of potential applicants, universities must address with students the issue of the cost-benefit analysis of attending college in the immediate time and reserving employment for a later date. Secondly, if cost, distance, or academic match is of concern, the university must align with the student to assist in resolving these barriers to attendance. Often, additional resources can be made available.

In addition to the factors influencing college choice consideration, decision-making strategies and techniques are of interest when exploring student college selection. Galotti (1995) conducted a study of high school seniors to explore how their real-life decision-making strategies differed from the decision-making strategies generated by laboratory experiments. Galotti surveyed 322 high school students who were making their first real-life decision – the selection of a college. Students who were identified as being at a higher level in academic ability reported more decision-making criteria and school considerations. Those who were identified as middle and lower level in academic ability used fewer decision-making criteria. This information provided valuable insight into the way educators might engage potential students of differing academic levels when assisting them with college choice decisions. Administrators must engage students on their level to be of assistance in college choice decision. This premise was affirmed by Govan, Patrick, and Yen (2006) who conducted a study of high school seniors to examine how they constructed their decision-making strategies, as related to college selection. Controlling for race, gender, family income, and type of high school attended, results indicated that students with high academic achievement were more likely to use more complex decision-making strategies as associated with lower levels of bounded rationality, as compared to students with low academic achievement and higher levels of bounded rationality. Furthermore, results

indicated that students make their decision based upon the comparison of a set of institutions, rather than examining each institution individually. This information is important to higher education administrators, as it reveals that students are likely making their college choices based upon low levels of understanding, as well as the possibility that a university must only outshine its competition rather than standing independently.

To further comprehend the social factor of college choice, it is important to note one additional factor. Understanding that the concept of fitting in at a college is linked to persistence, Nora (2004) explored whether this concept appeared in students' precollege psychosocial factors as an influencing factor when selecting a university. Results of this study indicated that psychological factors do indeed play a very significant role in the final stage of college choice, regardless of ethnicity. Although the beginning stages of college choice focus on various admissions criteria, the final stage shifts the focus from head to heart as students realize that their selected institution will become a significant part of their personal and social lives. This information carries very important implications, as high school counselors and college administrators must be aware of this phenomenon and process this stage of college choice accordingly.

Additional Factors Influencing the College Choice Decision

Previous studies indicated that students do not make their college selections in a vacuum. Many environmental and cultural factors influence the college choices of incoming students. Hines, Borders, Gonzalez, Villalba, and Henderson (2014) explored this area of college choice as a means of assisting high school counselors in assisting African American students and their parents with college planning and the college choice process. The authors determined that school counselors must possess culturally specific knowledge of how African American parents

rear their children as a means to successfully assist them in navigating through the college planning and selection process (Hines et al., 2014). Furthermore, the Hines study informs us various aspects of the African American culture must be understood and considered, including the role of the church, opinions of extended family and kinships, racial socialization efforts (communicating positive messages about one's race), and the cost-to-benefit ratio of college attendance compared to other post-secondary options.

Myers and Myers (2012) provided further evidence of this external influence on college choice. In their 2012 study regarding the level of engagement in communication among parents and their children regarding college planning, the authors determined that college planning activities are as essential for success as is a rigorous and college-focused high school curriculum. Results of the data in their study indicated that, by the ninth grade, the majority of parents and students were discussing issues related to college type and academic requirements. However, less than one third were discussing the costs of college, the financial aid opportunities, or any plans to otherwise cover the cost. This is a very significant finding, as it reveals that families are discussing collegiate academic concerns and college choice but are not addressing financial planning or payment options.

To offer further clarification and understanding of the students' college choice and to bring this examination full circle, Bergerson, Heiselt, and Aiken-Wisniewski (2013) conducted a study of women who had attended college at least 10 years previously. The study required the female participants to reflect upon the various factors that caused them to develop their ideas about college choice. Results of the study determined that family culture, parental involvement, and community setting emerged as the most influential factors in college selection. In addition, exposure to these factors during their formative years predisposed the women to their ideas

surrounding college choices. The significance of this study was that it demonstrates how students' college choice factors have remained relatively stable and unchanging throughout time.

Summary

The theory of human capital assists educational administrators in understanding why students pursue a college education. This theory explains why individuals are willing to invest in themselves and increase their stock when a reward is available. This theory has become very relevant to the question of why individuals decide to pursue higher education and consider what they need to do to prepare for their future. Investment in human capital is the foundation for college choice and an individual's investment in higher education. Such an investment allows for creation of personal value, improvement of worth to employers, and an increase in potential future earnings. The decision theory further expands upon the concept of college choice by offering an understanding of the steps an individual will enact on their path toward a college selection and ultimately an increase in their human capital.

As students move toward their path of increased human capital and exercise their college choice decision, it is necessary to understand the importance of institutional quality to understand why students should consider it as a college choice factor. Institutional accreditation provides a substantial demonstration of the critical significance of quality within higher education. Regional and national accrediting bodies place great importance on this aspect of an institution's level of functionality, and institutions invest significant resources in meeting this expectation. The process involves voluntary, peer-review assessment of the institution that seeks accreditation approval based upon the minimum accepted standards. Accreditation influences institutions, faculty, and students in many ways including credibility, employability, and marketability. Institutional quality, as indicated by accreditation, influences the credibility, employability, and

marketability of the graduates. Although quality is a subjective concept and follows many models, it is a widely accepted assumption that continuous improvement fosters an increase in organizational quality. Therefore, institutions of higher learning must strive for improvement and evolution of their operations, thereby increasing quality. In addition, use of federal financial aid funds at any institution is dependent upon the university's mark of quality as evidenced by their accredited status. Therefore, students should understand at least the basic concepts of accreditation and consider it as a college choice factor when making their college selection.

Students use various methods of decision-making and consider many factors when selecting an institution of higher learning. Cost, distance from home, level of academic difficulty, and social fit are all considerations when selecting a college. Many external factors also influence a student's college selection including family, friends, peers, church, and culture. Although college funding and debt remains very relevant in the long term, they have become less-significant factors in college choice within the previous three decades. However, nowhere does the issue of university accreditation surface in any documented study of college choice factors or college selection decision strategies. Students and their families continue to demonstrate concern regarding the financial aspect of higher education but do not at all consider the measure of quality surrounding that which they are financing. Rather than contemplating whether the institution is of acceptable quality to the student, the student is concerned with whether they are of acceptable quality to the admission team. Furthermore, students are not evaluating college options based upon accreditation and quality; they are comparing institutions on a sliding scale as compared to one another.

Clearly, a gap exists in the current body of literature regarding student perceptions of institutional quality - at the beginning of the educational journey as well as the end. This area

remains unexplored as an important aspect of making or reflecting upon the student's college choice. Concern for an institution's overall quality is absent at the beginning of an individual's educational journey as an undergraduate freshman. However, this perception could change across time. It is necessary to specifically explore and identify student perceptions of institutional quality so that educational administrators can understand what aspects of quality become important to students as they progress through their educational journey. A grasp of this information may allow administrators to identify any important factors surrounding institutional quality and engage students in discussion of these considerations, even when administrators understand that the student has not yet realized the importance of this area of the college choice and educational journey. One purpose of this study was to fill this gap in the current body of literature by exploring whether the issue of institutional quality becomes important to students between inception and completion of their four-year undergraduate degree program.

CHAPTER THREE: METHODS

Overview

This chapter presents the methods applied in this quantitative causal-comparative ex post facto study that was conducted to answer four research questions pertaining to student perceptions of institutional quality. The setting, population, and sample for this study are introduced and the NSSE survey instrument is outlined in detail. Procedures for selecting and organizing the test variables are highlighted. Data analysis is explained including descriptive statistics, assumptions testing, and the application of four independent samples *t*-tests. Finally, the application of a Bonferroni correction is explained.

Design

This quantitative study applied a causal-comparative ex post facto research design. The ex post facto study is a common substitute for true experimental research when the researcher seeks to test hypotheses about cause-and-effect relationships or in situations where it is not practical to implement a true experimental design. This type of study begins with the observation and examination of the events that occurred naturally and without interference, and then explores the causes behind these events that have been selected for analysis. The data are examined retrospectively to identify the possible relationships between the dependent variable and one or more independent variables (Salkind, 2010). This research method was selected as most appropriate for the current study because the purpose of this nonexperimental study was to compare the means of two groups using retrospective data and without manipulation of an independent variable. In this ex post facto design, there was no manipulation of the independent variable. Instead, this study relied on observation of the relationship between the naturally occurring variations of the independent and dependent variables (Gall et al., 2007). The

application of the ex post facto design was most appropriate for this study because it analyzed data that were previously collected by the Office of Institutional Research & Planning at a large midwestern university. Using the university's 2017 results from the NSSE, comparisons were made between freshman grade level and senior grade level students to determine whether any changes existed in their perception of college quality.

The causal-comparative design is a nonexperimental investigation of cause-and-effect that includes groups of individuals where the independent variable is present or absent, and then determines whether the groups differ on the dependent variable (Gall et al., 2007). A causal-comparative design "seeks to find relationships between independent and dependent variables after an action or event has already occurred" with a goal of determining "whether the independent variable affected the dependent variable (or outcome) by comparing two or more groups" (Salkind, 2010, p. 124). In the hypothesis or research question, the dependent variable is that which is being tested or measured and is subject to, or depends upon, the manipulation of other factors. The dependent variable is observed for any changes that occur as the independent variables or factors are implemented. The dependent variable is the presumed outcome.

In this study, the dependent variable was the perception of college quality, and the independent variable was grade level (freshman or senior). Perception of college quality was defined as the latent factors or attributes that students find important regarding a college or university's image, as specifically related to academics, social atmosphere, location of campus, and athletics (Kealy & Rockel, 1987). Grade level is defined by the U.S. Department of Education as the system of class-level ranking that categorizes undergraduate students into first-, second-, third-, and fourth-year designations. Grade level does not reference the number of years a student has attended college but instead refers to the student's number of program-

advancement-years toward completion of the degree or certificate (Federal Student Aid, 2020). For this study, freshman grade level was established by the host university as 0 to 29 completed credits and senior grade level as 90 or more completed credits.

Research Questions

The research questions for this study were the following:

RQ1: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for all quality variables in sum total as shown by the NSSE survey instrument?

RQ2: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as academic as shown by the NSSE survey instrument?

RQ3: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as social as shown by the NSSE survey instrument?

RQ4: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as locational as shown by the NSSE survey instrument?

Hypotheses

The null hypotheses for this study were the following:

H₀1: There is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for all quality variables in sum total as shown by the NSSE survey instrument.

H₀2: There is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as academic as shown by the NSSE survey instrument.

H₀3: There is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as social as shown by the NSSE survey instrument.

H₀4: There is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as locational as shown by the NSSE survey instrument.

Participants and Setting

Setting

The university that served as the setting for this study was a large public university in the midwestern region of the United States. It is located in a city of nearly 25,000 people. More than 30,000 students are enrolled across its more than 10 state-wide campuses and learning centers. The university houses nine colleges and offers more than 250 programs of study from which students may select a wide variety of majors, minors, and certificates. More than 600 student organizations exist within this university's system. This institution is rated a High Research Activity Institution by the Carnegie Foundation and its researchers hold more than 250 patents worldwide. It has been listed by The Chronicle of Higher Education as among the top producers of Fulbright Award-winning students in the nation and currently ranks among the top in its state for nationally competitive awards won by its students. This university was a good setting for this study because it encompasses a broad range of academic programs and degrees and enrolls a diverse range of individuals.

Population

Although the gender demographic of the university's student population is nearly evenly divided, with 55% of the undergraduate students being female and 45% being male, the overall undergraduate student census represents a diverse assortment of individuals regarding race/ethnicity, with representation from more than 100 countries. Gender and ethnicity information for the overall student population of the university is illustrated in Table 1.

Table 1

Demographic Information for Overall Student Population

| Factor | Percentage of Students |
|---------------|------------------------|
| Gender | |
| Female | 55.00 |
| Male | 45.00` |
| Ethnicity | |
| White | 82.00 |
| Black | 6.00 |
| Asian | 4.00 |
| Hispanic | 3.00 |
| Unknown | 2.00 |
| International | 2.00 |
| Asian | 1.00 |

Sample

The sample for this study consisted of all undergraduate freshman-level and all undergraduate senior-level students who were enrolled in and attending the university (all

locations) during the spring semester of 2017. The study sample of 1,162 total students was taken from the university's total population of more than 19,443 undergraduate students who were identified as either freshmen (5,819) or seniors (13,624) by the university's enrollment census. These 19,443 collective undergraduate freshmen and seniors were solicited electronically by the university in February 2017 to complete the National Survey of Student Engagement (NSSE). Students were contacted through their university email account and were invited to complete the 2017 NSSE survey and accept a small participation incentive. The survey was completed online exclusively. Students received their initial participant invitation in February 2017 and were permitted approximately 60 days to complete the survey. A total of four reminders were sent with three occurring in March and one in April. After the time allowable for completing the survey had closed to students, the Indiana University Bloomington Institutional Review Board (IUB IRB), owners of the instrument, gathered and analyzed all respondent data and forwarded all results and the datafile to the university for review. Of the 19,443 undergraduate students who were solicited, only 1,162 total students (606 freshmen and 566 seniors) responded with a survey submission. Therefore, the sample size for this study was the 1,162 respondent students, which exceeds the required minimum sample size of 100 total participants necessary to achieve a medium effect size with statistical power of .7 at the .05 α level (Gall et al., 2007).

Instrumentation

The instrument administered in this study was the National Survey of Student Engagement (NSSE). The NSSE is a survey, owned and managed by the Indiana University, Bloomington Institutional Review Board (IUB IRB). IUB IRB provides a partial sample of a copyrighted paper sample of the NSSE survey on their website for public view, free of charge, to

illustrate an example of the survey and its questions. Appendix A provides an image of this partial sample. These images are included only for the purpose of sharing an example of the instrument. This current study did not administer any part of the NSSE or any other instrument; but instead utilized archival data from a previously administered NSSE at selected participating university. Therefore, this study did not require access to the full instrument.

The NSSE examines and reports on all first year and senior-level bachelor's degree-seeking students. The instrument is designed for the researcher to collect information in five categories: (1) participation in dozens of educationally purposeful activities, (2) institutional requirements and the challenging nature of coursework, (3) perceptions of the college environment, (4) estimates of educational and personal growth since starting college, and (5) background and demographic information. Participating institutions administer this instrument to assess the extent to which their students engage in various educational practices that are associated with high levels of learning and development (National Survey of Student Engagement, 2018).

NSSE significantly emphasizes ensuring the reliability and validity of their instrument. To address the issue of validity, NSSE has conducted in-depth cognitive research testing several times since the survey's inception in 1999. NSSE's most recent series of cognitive tests, which included cognitive interviews and focus groups, resulted in the updated NSSE instrument that participating institutions started using in 2013. Results from these cognitive interviews and focus groups demonstrated that students generally interpreted survey items as intended by NSSE staff and largely confirmed past evaluations of the survey. This was true even for more complex items that involved calculating the time, frequency, or number of occurrences of various activities (National Survey of Student Engagement, 2018).

To confirm the reliability of the instrument, creators of the survey regularly assess the extent to which the survey items within a scale are internally consistent or homogenous, and the extent to which the results are similar across periods of time or the different forms of the NSSE survey (NSSE, 2018). Results indicated that the findings of the NSEE instrument reflect Cronbach's alpha ranges between .76 to .89 across each of the four themes and ten indicators. See Table 2 for Cronbach's alpha.

Table 2

Cronbach's Alpha

| Theme | Engagement Indicator | Freshmen | Seniors |
|--------------------------|-----------------------------------|----------|---------|
| Academic Challenge | Higher-Order Learning | .83 | .85 |
| | Reflective & Integrative Learning | .85 | .86 |
| | Learning Strategies | .76 | .78 |
| | Quantitative Reasoning | .82 | .83 |
| Learning with Peers | Collaborative Learning | .83 | .85 |
| | Discussions with Diverse Others | .87 | .89 |
| Experiences with Faculty | Student-Faculty Interaction | .81 | .84 |
| | Effective Teaching Practices | .84 | .85 |
| Campus Environment | Quality of Interactions | .85 | .83 |
| | Supportive Environment | .88 | .88 |

Note. (NSSE, 2018)

Cronbach's alpha reliability coefficients of .7 or higher are considered robust measures of scale reliability, but lower coefficients ($\alpha \geq .5$) are often referred to as 'strong' and acceptable in applied research (Fuller, Wilson, & Tobin, 2011). Therefore, evidence indicates that the NSSE instrument is within the appropriate range to indicate reliability.

Several previous studies have administered the NSSE instrument. In some cases, researchers extracted subsets of variables from the survey, while maintaining reliability and validity of the instrument. For example, Fuller, Wilson, and Tobin (2011) administered the

NSSE instrument to ascertain potential predictors of undergraduate GPA in a cross-sectional and longitudinal examination where only approximately one-half of the survey's 85 questions were extracted and examined. In another example, Popkess and McDaniel (2011) conducted a study to evaluate undergraduate nursing students' level of engagement in college, as compared with other majors, for the purpose of determining if differences existed between levels of nursing students' engagement and those of education and other health professions. In that study, the researchers conducted a secondary analysis that extracted only five subscales with a total of 41 items. The NSSE survey instrument is intended to be used in this manner - in part or in whole - depending upon the needs of the university. Although the NSSE survey captures data in many areas, not all schools will find all parts of the survey to be relevant. Therefore, by design, extracting individual questions, or groups of questions, for analysis does not alter the integrity of the instrument (National Survey of Student Engagement, 2018). Du (2016) applied the instrument in this manner by extracting the cocurricular and advising components of the survey for a study focused on the first-year seminar experience. Pike, Kuh, and McCormick (2011) also employed the instrument in a similar manner by selecting only 11 survey questions that indicated academic effort for a study focused on student participation and engagement in the learning community.

The NSSE project is governed by the Indiana University Bloomington Institutional Review Board (IUB IRB). The NSSE survey was launched in 2000 and updated in 2013. NSSE handles various aspects of survey administration, data collection, and analysis. However, the intent is for students to recognize that it is their university who is soliciting their feedback rather than an external entity. To achieve this, recruitment messages are designed to appear sent from the student's university, even though the communication and data gathering processes are truly

executed by NSSE. Nearly 300,000 students from 531 participating institutions in the United States, Canada, and eight other countries completed the NSSE survey in 2018 and more than 600 universities were on track to use the instrument in 2020 (National Survey of Student Engagement, 2018).

The university that served as the site location for this study has administered the NSSE survey instrument since 2000. The university's Office of Institutional Effectiveness & Analytics participates in the NSSE on a three-year cycle. The data are, then, employed by the university for the purpose of identifying any aspects of the undergraduate experience that could be improved through future changes to policies and practices.

Procedures

As this is an ex post facto study, it is an after-the-fact research design that occurs after the event. Therefore, none of the procedural steps for this study involved any pre-study measurement, interference, or manipulation by the researcher. The first step was to secure IRB approval (See Appendix B for IRB approval letter). Following IRB approval, an official request was submitted via email to the Office of Institutional Effectiveness & Analytics within the site location for a copy of their 2017 NSSE SPSS case-level datafile. The site location de-identified all data by removing all demographic fields prior to release of the file, leaving only the grade level ranking for the purpose of dividing respondents into freshman and senior-level groups.

The NSSE instrument comprises a total of 88 questions that address four areas of the college experience: (1) participation in educationally purposeful activities, (2) institutional requirements and the challenging nature of coursework, (3) perceptions of the college environment, and (4) estimates of educational and personal growth since starting college. An additional fifth section includes various respondent demographic information but was removed

in the process of de-identifying the file. The next procedural step involved a line-by-line assessment of the 88 NSSE questions across the four areas of the college experience for determining which questions should be included or excluded from this study, as not all questions were relevant or necessary. To understand this process of inclusion or exclusion of questions, it is necessary to first understand Kealy and Rockel's (1987) model of student perceptions, as this is the standard by which the 88 NSSE questions were compared. Kealy and Rockel's study of student perceptions of college quality sought to identify the influence of college recruitment policies on undergraduate applicants by identifying the factors that influence college students' perceptions of a university's quality. Studying undergraduate applicants who were recently accepted for admission, their 1987 study identified a list of four latent factors that measure student perceptions of college quality: academics, social atmosphere, location of campus, and athletics. Each factor was then further expanded through discussion of various attributes to provide descriptive details. This model has been referenced in other studies that investigated student perceptions including Hwang and Choi's (2019) study of service quality, student satisfaction, and institutional image, as well as Schafer, Lee, Burruss, and Giblin's (2018) study concerning student perceptions of campus safety initiatives. Table 3 outlines the Kealy and Rockel (1987) model of student perceptions with factors and attributes.

Table 3

Kealy and Rockel Factors Measuring Perceptions

| Factor | Attributes |
|---------------------|--|
| Academic reputation | College faculty Quality of the student body Reputation of Alumni |

Table 3 (continued)

| Factor | Attributes |
|--------------------|--|
| | Post graduate employment opportunities |
| | Variety of courses |
| | Student/faculty ratio |
| | Reputation for research |
| | Male/female ratio |
| | Honors program/advanced placement |
| Social life | Social activities |
| | Fraternities/sororities |
| Location of campus | Location of campus |
| | Distance from home |
| Athletic quality | Athletic programs |
| | Athletic facilities |

Note. (Kealy & Rockel, 1987)

To execute this process of including or excluding questions based upon the Kealy and Rockel (1987) model of student perceptions, the researcher assessed each of the 88 NSSE questions in sections one through four, identifying all questions that touched upon any of Kealy and Rockel's (1987) list of factors that measure student perceptions of college quality. Any question that related to any of the four factors was included and entered in a Microsoft Excel spreadsheet along with the respondent's answer and grade level. Any question that did not relate to one of the four factors was excluded and not entered on the spreadsheet. A total of 22 questions were identified as relating to the four factors and were entered on the spreadsheet

along with the respondents' corresponding answers and grade level. Sixty-six questions were identified as unrelated and were not entered on the spreadsheet. These 22 related items became the study's test variables. They were renamed to preserve the NSSE item name but to also to include a code that identified the appropriate Kealy and Rockel factor category. Data from the Microsoft Excel spreadsheet were then transferred to the SPSS program for analysis.

Table 4 outlines the 22 test variables, highlighting the coding assigned to each and designating the corresponding factor that ascribed its relevancy to the survey question. Since the Kealy and Rockel's (1987) model was categorized by factor, this study also explored the variables in a categorical manner in addition to sum total. Table 4 displays the 22 test variables with identifying coding, as organized into the three categories of academic reputation, social life, and location. Table 5 then defines each variable, matching the variable's assigned coding with its corresponding survey question.

Table 4

Factors, Attributes, and Coding of 22 Selected Test Variables

| Factor | Attributes | Coding |
|--|------------|--|
| Academic reputation | | |
| College faculty | | Ac1draft, Ac1faculty, Ac1feedback, Ac1example, Ac1goals, Ac1organize |
| Quality of the student body | | Ac2askhelp, Ac2project, Ac2student, Ac2study |
| Post-graduate employment opportunities | | Ac4career, Ac4intern |
| Variety of courses | | Ac5abroad, Ac5capstone, Ac5servcourse |
| Reputation for research | | Ac7research |

Table 4 (continued)

| Factor | Attributes | Coding |
|-------------|-------------------------|--|
| Social life | Social activities | So1activities, So1attendart, So1social, So1tmrelax |
| | Fraternities/sororities | So2tmcocurrhrs |
| Location | Distance from home | Lo2tmcommutehrs |

Note. (Kealy & Rockel, 1987)

Table 5

Coding and Survey Questions for 22 Selected Test Variables

| Coding | Corresponding Survey Question |
|-------------|---|
| Ac1draftfb | During the current school year, to what extent have your instructors provided feedback on a draft or work in progress? |
| Ac1example | During the current school year, to what extent have your instructors used examples or illustrations to explain difficult points? |
| A1cfaculty | Indicate the quality of your interactions with faculty at your institution. |
| Ac1feedback | During the current school year, to what extent have your instructors provided prompt and detailed feedback on tests or completed assignments? |
| Ac1goals | During the current school year, to what extent have your instructors clearly explained course goals and requirements? |
| Ac1organize | During the current school year, to what extent have your instructors taught course sessions in an organized way? |
| Ac2askhelp | During the current school year, about how often have you asked another student to help you understand course material? |

Table 5 (continued)

| Coding | Corresponding Survey Question |
|---------------|---|
| Ac2project | During the current school year, about how often have you worked with other students on course projects or assignments? |
| Ac2student | Indicate the quality of your interactions with students at your institution. |
| Ac2study | During the current school year, about how often have you prepared for exams by discussing or working through course material with other students? |
| Ac4career | During the current school year, about how often have you talked about career plans with a faculty member? |
| Ac4intern | Which of the following have you done, or do you plan to do, before you graduate? (Participate in an internship, co-op, field experience, student teaching, or clinical placement)? |
| Ac5abroad | Which of the following have you done, or do you plan to do, before you graduate? (Participate in a study abroad program)? |
| Ac5capstone | Which of the following have you done, or do you plan to do, before you graduate? (Complete a culminating senior experience {capstone course, senior project or thesis, comprehensive exam, portfolio, etc.})? |
| Ac5servcourse | About how many of your courses at this institution have included a community-based project (service-learning)? |
| Ac7research | Which of the following have you done, or do you plan to do, before you graduate? (Work with a faculty member on a research project)? |
| So1activities | How much does your institution emphasize attending campus activities and events (performing arts, athletic events, etc.)? |
| So1attendart | During the current school year, about how often have you attended an art exhibit, play, or other arts performance (dance, music, etc.)? |
| So1social | How much does your institution emphasize providing opportunities to be involved socially? |

Table 5 (continued)

| Coding | Corresponding Survey Question |
|-----------------|---|
| So1tmrelax | About how many hours do you spend in a typical 7-day week relaxing and socializing (time with friends, video games, TV or videos, keeping up with friends online, etc.)? |
| So2tmcocurrhrs | About how many hours do you spend in a typical 7-day week participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)? |
| Lo2tmcommutehrs | About how many hours do you spend in a typical 7-day week commuting to campus (driving, walking, etc.)? |

Note. (NSSE, 2013)

Data Analysis

Four independent samples *t*-tests were conducted to evaluate the difference between the means of two independent groups (freshmen and seniors) on a sum total and three-categorical basis. Gauer and Jackson (2017) applied an independent samples *t*-test in a similar manner when exploring the difference in Medical College Admission Test (MCAT) scores between students who were elected to Alpha Omega Alpha medical honors society and those who were not. Milman et al. (2018) also employed the independent samples *t*-test when exploring the difference in demographic variables between two bilingual groups of adults being screened for cognitive status.

Before conducting the four *t*-tests, several assumptions tests were applied to the dataset. These tests included a box and whisker plot to observe any extreme outliers, a Kolmogorov-Smirnov test for assumption of normality or normal distribution of data, and a Levene's test for equality of error variance (Warner, 2013). Using grade level as a grouping variable for all tests, the four *t*-tests were then conducted. First, all data points were analyzed in total to determine

whether the means differed between freshmen and seniors in sum total. Next, the data were analyzed categorically using the Kealey and Rockel (1987) factors of academic, social, and location to evaluate the difference between the means of the groups across these three factorial categories. SPSS was employed to calculate the significance, mean difference, standard error difference, upper and lower confidence intervals, and effect size. Since four *t*-tests were conducted, a Bonferroni calculation determined a corrected α value to limit Type I error (Warner, 2013). The calculation for a Bonferroni correction typically applies an α level of .05 and then divides by the number of hypothesis tests conducted. For that reason, the α level for this study is calculated thus: $.05/4 = .0125$, rounded to .013. Therefore, α level was established at $p < .013$. Effect size was then interpreted via Cohen's *d*.

Summary

In this quantitative study, a causal-comparative ex post facto research design applying the independent-samples *t*-test procedure was conducted to answer four research questions and test four corresponding hypothesis. Twenty-two factors identifying student perceptions of college quality were established using Kealy and Rockel's (1987) model of student perceptions. Using SPSS, data from more than 1100 student respondents to the 2017 NSSE at a large midwestern university were analyzed to evaluate the difference between the means of two independent groups (freshmen and seniors) on a sum total and a three-categorical basis.

CHAPTER FOUR: FINDINGS

Overview

This chapter outlines the findings of the assumptions tests and the results of data analysis conducted on 22 NSSE test variables that were identified as relevant to the four latent factors measuring student perceptions of college quality as identified by Kealy and Rockel's (1987) model of student perceptions. Outcomes of the assumptions' tests are noted, as analyzed on the data as a whole dataset. Results are then outlined in four sections on a sum total and three-categorical basis, with each section highlighting descriptive statistics, *t*-test results, and effect sizes. Finally, this chapter addresses whether the researcher rejected or failed to reject each of the four null hypotheses.

Research Questions

The research questions for this study were the following:

RQ1: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for all quality variables in sum total as shown by the NSSE survey instrument?

RQ2: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as academic as shown by the NSSE survey instrument?

RQ3: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as social as shown by the NSSE survey instrument?

RQ4: Is there a difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as locational as shown by the NSSE survey instrument?

Null Hypotheses

The null hypotheses for this study were the following:

H₀1: There is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for all quality variables in sum total as shown by the NSSE survey instrument.

H₀2: There is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as academic as shown by the NSSE survey instrument.

H₀3: There is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as social as shown by the NSSE survey instrument.

H₀4: There is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as locational as shown by the NSSE survey instrument.

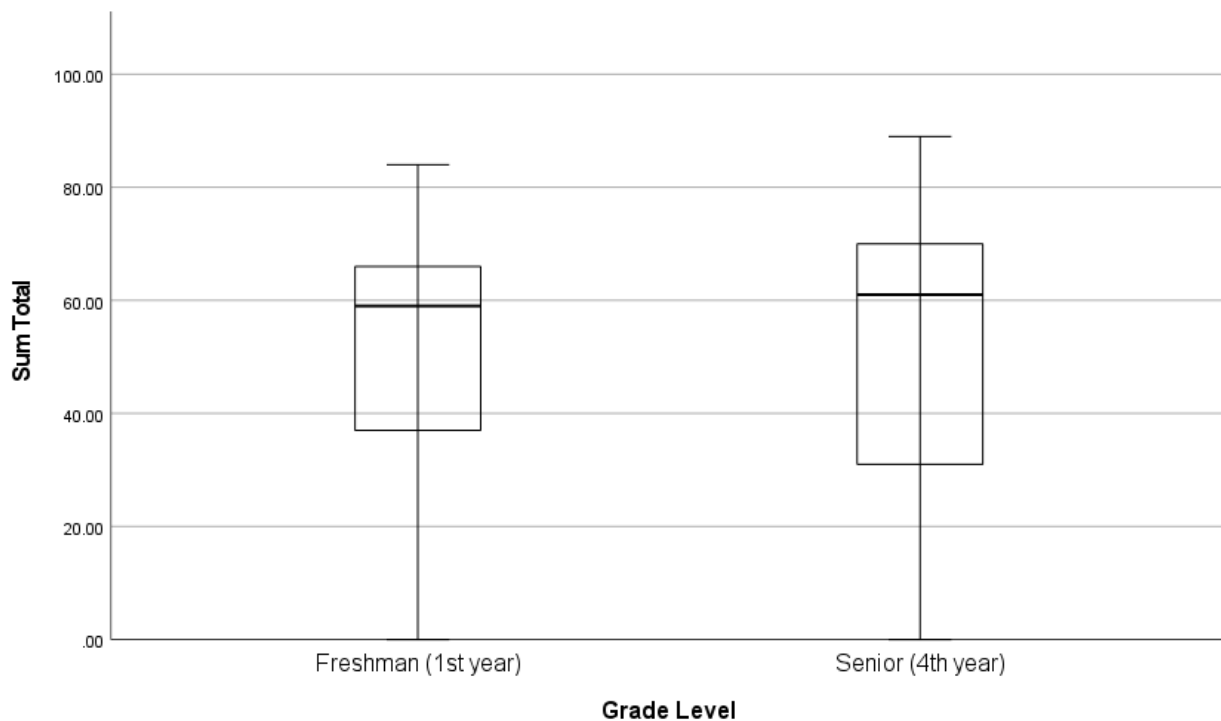
Assumption Tests

Several assumptions tests were conducted for this causal-comparative ex post facto study, including simple random sampling, independent observations, outliers, normal distribution of data, and homogeneity of variance (equal variance). This study meets the assumption of random sampling, as each student enrolled and attended the host university as an undergraduate freshman or undergraduate senior received an invitation to participate in the 2017 NSSE; thereby enjoying

an equal probability of being selected as a participant. This study also meets the assumption of independent observations, as the respondents were separated into the naturally occurring groups of 2017 freshmen and senior grade levels where members could qualify for inclusion in only one group or the other, rather than using the same respondents in both groups at two different times. Data outliers were examined using a box and whisker plot. No outliers were found. See Figure 1 for box and whisker plot.

Figure 1

Box and Whisker Plot



Normality was examined via the Kolmogorov-Smirnov test because N was greater than 50. Since the p value was $<.001$, it can be concluded that the data do not come from a normal distribution and the assumption of normality is violated. However, in a study that comprises a moderate to large sample, the independent samples t -test could still yield a reasonably accurate p

value, even if the assumption of normality is violated (Green & Salkind, 2017). See Table 6 for Kolmogorov-Smirnov test of normality and Figure 2 for histogram.

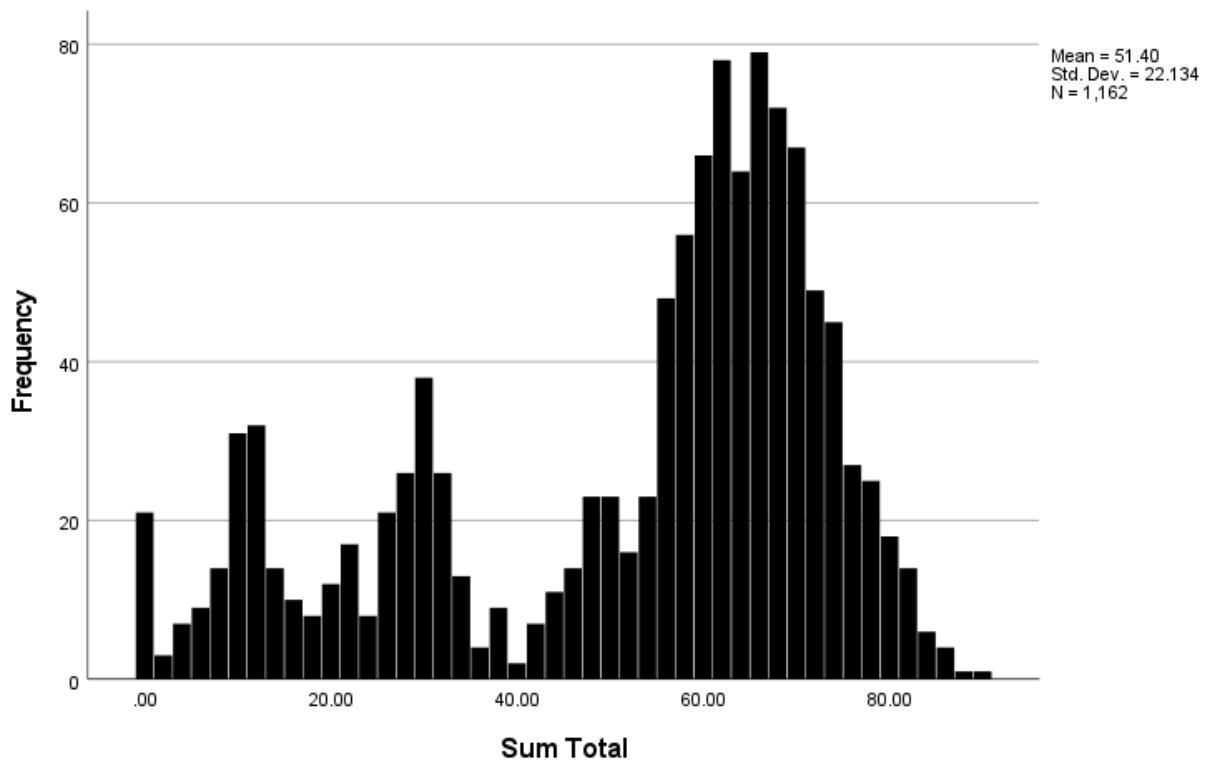
Table 6

Test of Normality

| Kolmogorov-Smirnov | | | |
|--------------------|-----------|-----------|--------------|
| | Statistic | <i>df</i> | Significance |
| Sum Total | 0.18 | 1162 | < .001 |

Figure 2

Histogram



Finally, Levene's Test of Equality of Variance was applied to determine homogeneity of variance. Since the p value was $< .001$, the assumption of homogeneity of variance was not met

and equal variance was not assumed. See Table 7 for Levene's Test for Assumption of Equality of Variance.

Table 7

Levene's Test for Assumption of Equality of Variance

| | <i>F</i> | <i>df1</i> | <i>df2</i> | <i>Significance</i> | <i>Met</i> |
|-----------|----------|------------|------------|---------------------|------------|
| Sum Total | 18.38 | 1 | 1160 | < .001 | N |

Results

A total of four independent samples *t*-tests were conducted to evaluate the difference between the means of two independent groups (freshmen and seniors). First, all data were analyzed as a sum total, inclusive of all factors at once, to explore whether the group means differed overall. Secondly, data were grouped into three categories according to the Kealey and Rockel (1987) factors of academic, social, and location, and were evaluated categorically to explore any difference in the categorical group means. Because this study analyzed the data in this manner through application of a total of four *t*-tests, a Bonferroni correction was necessary to adjust the α and reduce the risk of a type I error. The Bonferroni correction was calculated by dividing the α level of .05 by the number of *t*-tests (4) to establish the adjusted α value at $p = 0.013$ ($.05/4=.0125$, rounded to .013). It is this adjusted α value of $p = .013$ that will be applied to assess statistical significance for all four independent samples *t*-tests.

Total

Using grade level as a grouping variable, data points were analyzed as a sum total to determine whether the means differed between freshmen and seniors overall. The first independent samples *t*-test did not demonstrate a statistically significant difference between the

means of the two groups for the overall sum total of factors, with a result of Sum Total

$t(1110.30) = -.35, p = .73$. See Table 8 for total descriptive statistics and Table 9 for total t -test statistics.

Table 8

Total Descriptive Statistics

| | Year | <i>M</i> | <i>SD</i> | <i>N</i> |
|-----------|----------|----------|-----------|----------|
| Sum Total | Freshman | 51.18 | 20.75 | 606 |
| | Senior | 51.63 | 23.56 | 556 |

Table 9

Total t-test Statistics

| | <i>F</i> | <i>df</i> | <i>Sig.</i> (2-tailed) | <i>Mean</i> <i>Difference</i> | <i>Std.</i> <i>Error</i> | <i>95% CI</i> | |
|-----------|----------|-----------|---------------------------|----------------------------------|-----------------------------|---------------|--------------|
| | | | | | | <i>Lower</i> | <i>Upper</i> |
| Sum Total | -.35 | 1110.30 | .73 | -.45 | 1.31 | -3.02 | 2.11 |

Categorical

Using grade level as a grouping variable, data were then divided into three categories based upon the Kealey and Rockel (1987) factors of academic, social, and location, and were evaluated categorically to explore any difference in the group means. The second independent samples t -test did not demonstrate a statistically significant difference between the means of the two groups for the category of academic factors, with a result of AC Sum $t(1104.71) = -.86, p = .39$. The third independent samples t -test did not demonstrate a statistically significant difference between the means of the two groups for the category of social factors, with a result of SO Sum $t(1138.57), p = .12$.

However, the fourth independent samples *t*-test demonstrated a statistically significant difference between the means of the two groups for the category of location, with a result of LO Sum $t(1114.36)$, $p = .00$. However, this statistically significant result produced an effect size of $-.17$, which is considered very small. Therefore, although the difference in the group means for the categorical factor of location was statistically significant, the very small effect size does not indicate a significant meaningfulness in the difference, and consequently suggests little practical significance. See Table 10 for categorical descriptive statistics and Table 11 for categorical *t*-test statistics.

Table 10

Categorical Descriptive Statistics

| | Year | <i>M</i> | <i>SD</i> | <i>N</i> |
|--------|----------|----------|-----------|----------|
| AC Sum | Freshman | 39.43 | 14.96 | 606 |
| | Senior | 40.25 | 17.19 | 556 |
| SO Sum | Freshman | 10.59 | 6.26 | 606 |
| | Senior | 10.00 | 6.59 | 556 |
| LO Sum | Freshman | 1.16 | 1.26 | 606 |
| | Senior | 1.39 | 1.42 | 556 |

Table 11

Categorical t-test Statistics

| | <i>F</i> | <i>df</i> | <i>Sig.</i> (2-tailed) | <i>Mean</i> <i>Difference</i> | <i>Std.</i> <i>Error</i> | <i>95% CI</i> | |
|--------|----------|-----------|---------------------------|----------------------------------|-----------------------------|---------------|--------------|
| | | | | | | <i>Lower</i> | <i>Upper</i> |
| AC Sum | -.86 | 1104.71 | .39 | -.82 | .95 | -2.68 | 1.04 |
| SO Sum | 1.57 | 1138.57 | .12 | .59 | .38 | -.15 | 1.34 |
| LO Sum | -2.89 | 1114.36 | .00 | -.23 | .08 | -.38 | -.07 |

Hypotheses

The independent samples *t*-test for the sum total of all factors did not demonstrate a statistically significant difference between freshmen and senior perception of college quality as measured by the NSSE survey instrument. Therefore, it was necessary to fail to reject null hypothesis H_01 at a 95% confidence level, concluding that there is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for all quality variables in sum total as shown by the NSSE survey instrument.

The independent samples *t*-test for the academic category of factors did not demonstrate a statistically significant difference between freshmen and senior perception of college quality as measured by the NSSE survey instrument. Therefore, it was necessary to fail to reject null hypothesis H_02 at a 95% confidence level, concluding that there is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as academic as shown by the NSSE survey instrument.

The independent samples *t*-test for the social category of factors did not demonstrate a statistically significant difference between freshmen and senior perception of college quality as measured by the NSSE survey instrument. Therefore, it was necessary to fail to reject null hypothesis H_03 at a 95% confidence level, concluding that there is no statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as social as shown by the NSSE survey instrument.

The independent samples *t*-test for the location category of factors demonstrated a statistically significant difference between freshmen and senior perception of college quality as measured by the NSSE survey instrument. Therefore, it was necessary to reject null hypothesis H_04 at a 95% confidence level, concluding that there is a statistically significant difference in the perception of college quality between freshmen undergraduate students and senior undergraduate students for variables categorized as location as shown by the NSSE survey instrument.

CHAPTER FIVE: CONCLUSIONS

Overview

This chapter offers an overview of the study results and discusses these results in relation to the existing body of knowledge. The results of this study are discussed in terms of sum total and categorical and are compared and contrasted with previous studies and theories.

Implications are explored, including consumer behavior and the necessity of accreditation.

Limitations of the study are outlined and considered, and recommendations for future studies are identified.

Discussion

Results

The purpose of this quantitative causal-comparative ex post facto study was to determine whether a difference exists between undergraduate freshman and undergraduate seniors in their perception of college quality. Data were first analyzed in sum total to compare the two undergraduate groups of students, with results demonstrating no change in perception across the four-year course of study. Data were then compared categorically, also yielding a result that demonstrated no change in perception of the academic or social aspects of the institution and demonstrating only a very small change in perception of the location aspect. Overall, the only statistically significant change in perception was connected simply to the number of hours spent per week commuting to campus. However, this statistically significant result demonstrated only a small effect, calling into question the meaningfulness of the significance connected to the factor of location. These results support many previous studies that have explored similar topics and facets of the undergraduate experience. Several examples are discussed in the following section.

Literature Review and Other Studies

Review of the related literature has established that undergraduate students do not consider institutional quality as a factor in their college selection process. Several previous studies have clearly identified that students do not consider an institution's quality when enacting their college choice and making college selection decisions (Bergerson, Heiselt, & Aiken-Wisniewski, 2013; Galotti, 1995). The current study employed previous findings through exploration of whether this lack of consideration for college quality changes during the student's undergraduate experience. Results of this study filled a gap in the literature by demonstrating that students who did not initially consider institutional quality in their college selection process do not experience any significant change in their perception of college quality across the course of their undergraduate experience.

Students did, however, indicate a statistically significant difference, although small in effect, in their perception of college quality regarding the location of their college campus and their time spent making the commute. This statistically significant result supports previous research findings including Skinner's (2006) study, which demonstrated that distance was as important a determining factor in where to attend college as was cost and academic match. The result of the current study further supports Long's (2004) study, which cites distance from home as prominent among the list of college choice considerations with as much importance as level of admissions difficulty and college culture. Based upon this information, a concern for travel distance is a trend that has been connected to both college selection and perception of college quality for more than a decade.

The results of the current study underscore the necessity for continued institutional accreditation practices. Review of the related literature explains that the United States instituted

the practice of accreditation as a means of ensuring a basic level of quality among American higher education institutions (U.S. Department of Education, 2018). Its purpose is to ensure a minimum expected level of quality among the nation's colleges and universities (Wilkerson, 2016). Based upon the results of the current study, undergraduate students remain largely disinterested in most aspects of institutional quality. Perhaps this lack of concern among undergraduate students simply indicates that they find the aspect of quality within higher education to be an expected and embedded component of the university system, with responsibility for fulfilment of all quality requirements resting upon someone other than the student, thereby highlighting the critical importance of the accreditation system.

Theory

The results of this study support Schultz's (1961) theory of human capital, which states that humans are inclined to work harder and strive for improvement when there is an obtainable benefit present. Previous studies have concluded that undergraduate students do not demonstrate a concern for college quality when making their college selection, and the results of this study support that understanding by demonstrating a lack of change in that perception across the course of their undergraduate collegiate experience. Yet millions of students continue to enroll in public institutions of higher education each year (National Center for Education Statistics, 2021). This might be explained by Schultz's (1961) theory of human capital, indicating that these students might be motivated to strive for the obtainable benefit of an undergraduate degree without concern for the quality of the issuing institution, so long as that degree increases their value.

The results of this study also support the underlying premise of decision theory, which states that individuals make choices based upon each option's statistical probability of success

(Rojo, 2011). From the perspective of decision theory, this lack of concern for college quality could imply that students might, instead, base their college selection decision on their probability of academic success rather than overall quality of the institution. This, again, supports the possibility that institutional quality is just naturally assumed, and, therefore, the student need only be concerned with the college choice that best supports his or her chances of academic success.

Implications

This study implies that undergraduate students are not concerned with the issue of college quality at the beginning of their college experience, and they remain unconcerned with the quality of their chosen institution at the conclusion of their collegiate journey. However, even with this disregard for quality, undergraduate enrollment in four-year public institutions continues to remain strong, with over 14.6 million undergraduate students enrolled in public institutions in 2020 (National Center for Education Statistics, 2021). These college-enrolled undergraduate students and their families have chosen to apply a significant investment in higher education, yet there seems to be a lack of concern for the quality of that investment. Such consumer behavior prompts the question of why so many individuals are willing to purchase a service with little concern for the quality of the services rendered. Perhaps it be concluded that students are engaging in the four-year college experience with simply the belief that their achievement of an undergraduate degree will somehow entitle them to employment capacities that would be otherwise unattainable. This behavior supports Schultz's (1961) theory of human capital, which states that humans are inclined to work harder and strive for improvement when there is an obtainable benefit present. In this case, students are inclined to improve their educational background with the achievement of an undergraduate degree because the perceived

obtainable benefit of additional career selections becomes present. However, without concern for the quality of the institution that facilitates the achievement, the value seems to rest merely in the receipt of the undergraduate degree.

The results of this study also imply that undergraduate students must rely upon others to manage any necessary concerns related to college quality, as they do not appear to demonstrate concern individually. An institution's level of quality might not be a significant concern for the student, but it is certainly of significance to accrediting bodies. An institution's accreditation status is directly connected to its achieved level of quality, which is then reflected in its ability to confer degrees as an accredited institution. Therefore, it is understandable that an institution's ongoing pursuit of quality becomes an all-encompassing effort that engages every area of the institution. This seems to be because the ongoing pursuit of institutional quality appears to be a necessary effort, as the accrediting bodies seem to serve as a substitution for any student or consumer consideration of quality surrounding educational services.

Limitations

No threats to internal or external validity were identified. However, this study did experience limitations. One limitation of this study was the age of the NSSE survey data. The most current survey data available for this study from the site location were the 2017 NSSE datafile. Therefore, as the data in this study were four years old, it may not have revealed all the most current student trends, patterns, and preferences. An additional limitation as related to the dataset in this study was that the data did not demonstrate a normal distribution. However, in a study that comprises a moderate to large sample, the independent samples *t*-test could still yield a reasonably accurate *p* value, even if the assumption of normality is violated (Green & Salkind, 2017).

Another limitation of this study was the ex post facto research design. This design did not allow the researcher to control or manipulate the independent variable, allowing only for observation. In addition, the cross-sectional nature of this study captured the students' perceptions only at the time when they were categorized as either freshmen or seniors. A stronger approach would be a longitudinal study that would capture the students' perceptions as freshman, following them until again capturing their perceptions at a senior grade level. This could allow the study to focus on any changes in student perceptions at the individual level with less risk of confounding variables. The confounding or compounding variable that could have influenced this study was the influence of history as an extraneous variable. History is the opportunity for other events to occur or for something else to be introduced across the timeframe of the experiment, in addition to or instead of the experimental treatment (Gall et al., 2007).

History becomes quite relevant when the four-year time span of the undergraduate collegiate experience is analyzed in place of an experiment that is conducted at one specific moment in time. This is because, across the span of the undergraduate student's collegiate experience, various unanticipated events or changes could have occurred that changed the conditions of the study and influenced the outcome by causing an overall shift in the students' perspectives and, in turn, affecting their perceptions of the college experience. Examples of such events or changes that could occur within the short span of a student's four-year collegiate experience might include improvements to technology, a strengthening or weakening of the economy, social and environmental stressors such as the recent COVID-19 pandemic and quarantine, a shift in the political climate, or a change to the governmental structure such as a change of federal administration. Changes in the students' perceptions of college quality might

therefore have been influenced by these historical events that occurred during their collegiate journey, rather than factors directly connected to the quality of their selected institution.

Recommendations for Future Research

Additional Site Locations and Populations

Future studies are recommended at various additional collegiate locations to demonstrate a wider diversity in population compositions and environmental structures. The current study was set in a large, public research university in the midwestern United States, and although the institution's population was quite diverse, the study's generalizability was very narrow and limited to a small number of similarly structured institutions across the country. In future research efforts, studies that explore changes in student perceptions of college quality should also be conducted among smaller, public universities and among private institutions of various sizes. Only then might researchers and education administrators understand how differing populations experience changes in student perceptions of college quality from these various perspectives. This broader scope of population and ecology will also support a greater opportunity to generalize findings to other comparable institutions.

Study Design

Future researchers might consider a longitudinal study design to explore changes in student perception of college quality across the four-year collegiate experience. A longitudinal study would describe the changes or continuity of one sample population's perceptions of college quality at different points across a specific timespan (Gall et al., 2007). A panel study would be recommended, gathering data from one group of undergraduate freshmen at the outset of the study, using the same participant sample at all subsequent data-collection points throughout the four-year undergraduate experience, and then surveying the same group again at

the completion of their undergraduate senior year of study. This approach might reduce the effect of the confounding variables, as all participants will experience the same or vary similar exposure to extraneous events as they travel through their collegiate journey during the same timeframe.

Theoretical Construct

Ennew and Binks (1999) explained quality as an underlying component of the concept of consumer satisfaction as grounded in expectation theory. Future studies might consider exploring the topic of student perceptions of college quality from this additional theoretical construct of expectation theory. Expectation theory, also known as expectation-disconfirmation theory, is the most recognized and accepted theory of the customer satisfaction process. Expectation theory entails that a buyer's satisfaction or dissatisfaction is a result of their comparison between the product/service's performance and the predetermined standards or expectations of that performance (Oliver, 1996). Building upon the framework of expectation theory, student perceptions of college quality could be explored from the standpoint of buyer satisfaction. Approaching the topic from this angle, future studies could pose the research question of whether a student's college selection met their expectations of quality from a buyer's perspective. Of course, this is a topic that few researchers might want to approach because it suggests the possibility that higher education institutions could be missing the mark on buyer satisfaction and quality. Evidence of such could create difficulties for the subject institution in various areas, including accreditation.

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Appendix A

The National Survey of Student Engagement (NSSE)

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<https://nsse.indiana.edu/nsse/survey-instruments/index.html>

Appendix B

IRB Approval Letter

LIBERTY UNIVERSITY

INSTITUTIONAL REVIEW BOARD

May 15, 2020

Nancy Woodrow
Alan Wimberley

Re: IRB Application - IRB-FY19-20-374 A COMPARISON OF UNDERGRADUATE PERCEPTIONS OF INSTITUTIONAL QUALITY AT A PUBLIC INSTITUTION

Dear Nancy Woodrow, Alan Wimberley:

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research

Explanation: Your study does not classify as human subjects research because:

(1) it will not involve the collection of identifiable, private information.

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

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP

Administrative Chair of Institutional Research

Research Ethics Office